

Economic Review

3/2016



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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.

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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

In the third quarter of 2016 the global economic indicator increased, showing further moderate improvement in the global economic activity. The international environment improved both in developed and developing countries. The global inflation continued to slow down mainly due to declining international prices of major commodities on an annual basis, with the inflation decrease being stronger pronounced in developing countries compared with end-2015. The overall consumer price change in developed economic regions was insignificant but in some countries, such as Japan, inflation remained negative. Euro area economic and inflation developments matched to a large extent the ECB expectations. Therefore, no changes were made to reference interest rates and the parameters of the expanded asset purchase programme. The US Federal Reserve System also left the federal funds rate target unchanged.

Over the fourth quarter of 2016 and the first quarter of 2017 external demand for Bulgarian goods and services is expected to continue growing on an annual basis. However, the external environment will remain a source of uncertainty for the development of the Bulgarian economy. Risks to the economic activity of the euro area, which is Bulgaria's major economic partner, concern mostly slower growth rate that may have a negative effect on projected growth of external demand for Bulgarian goods and services in the fourth quarter of 2016 and the first quarter of 2017. If the expectations of international commodities price dynamics (pointing to a stabilisation of crude oil prices and an increase in food and metal prices) materialise, the terms of trade in Bulgaria would remain favourable until year-end and could possibly start worsening in early 2017.

Between January and August 2016 the total surplus of the current and capital account balance increased against the corresponding period of 2015. Major factors contributing to this effect were lower deficits on the primary income item and the trade balance, as well as the higher surplus of the balance on services. In the last quarter of 2016 and first quarter of 2017 the current and capital account surplus is expected to shrink as a share of GDP on an annual basis due to a lower capital account surplus and increasing outflows under the primary income item.

In the first eight months of 2016 non-government sector's deposits in the banking system continued to rise at a high rate, reaching in August 9.6 per cent on an annual basis. Bank actions toward balance sheet optimisation and maintenance of prudent lending policy had a dampening effect on the dynamics of loans to non-financial corporations and households (-0.5 per cent on an annual basis in August 2016). With the finalisation of the bank asset quality review, bank portfolio optimisation effects are expected to fade away, which in addition to projected retention of positive developments in new and regular loans will accelerate lending to non-financial corporations and households over the fourth quarter of 2016 and the first quarter of 2017. Anticipated growth in funds attracted by banks and limited investment alternatives will further drive a gradual downward trend in lending rates, and this process will be also influenced by the ECB policy on parameters of the expanded asset purchase programme. Over the projection horizon, declines in interest rates on new time deposits are expected to be slower than in the first half of 2016 due to attained low levels and relative stabilisation in recent months.

In the second quarter of 2016 real GDP increased by 0.9 per cent on a quarterly basis. Net exports and consumption had a positive effect on economic activity growth in Bulgaria, while investment in fixed capital contributed negatively.

Short-term economic indicators over the second and third quarters of 2016 give mostly positive signs about economic developments. The business climate indicator has improved since the beginning of the year. Expectations of the future economic activity for the total economy continued to increase gradually. Still low oil prices and positive developments in the labour market favoured creation of conditions for a further increase in consumption and investment activity of corporations which will offset lower government investment. Quarterly GDP growth is expected to continue increasing in the fourth quarter of 2016 and first quarter of 2017.

Over the first nine months of 2016 inflation in Bulgaria remained negative, reaching -1.1 per cent in September. The decrease in international prices of crude oil and its pass-through to domestic prices of fuels, transport services, natural gas and heating contributed to the retention of consumer price deflation in Bulgaria. The deflationary trend in core inflation strengthened in the January to September period, reflecting mainly cheaper telecommunication services and durable goods. Increased consumer demand of households and higher labour costs of corporations in the first half of 2016 exerted no upward pressure on consumer prices. Lower expenditure of firms on commodities contributed to retaining the downward trend in producer prices. As of September tobacco products and goods and services with administratively controlled prices had a positive contribution to inflation as a result mainly of higher excise duties on tobacco products and road fees since early 2016.

Consumer price deflation is expected to gradually decline in the fourth quarter of 2016. Reflecting the stabilisation in international fuel prices, a low inflation is anticipated over the first quarter of 2017.

1. External Environment

In the third quarter of 2016 the global economic indicator increased, with expectations of economic activity improving both in developed and developing economies. The global inflation continued to slow down mainly due to declining international prices of major commodities on an annual basis, with the inflation decrease being more pronounced in developing economies. The change in consumer prices in developed economic regions was insignificant as a whole but in some countries, such as Japan, inflation remained negative. Euro area economic and inflation developments matched to a large extent the ECB expectations. Therefore, no changes were made to reference interest rates and the parameters of the expanded asset purchase programme (APP). The US Federal Reserve System also left the federal funds rate target unchanged.

Current Business Situation

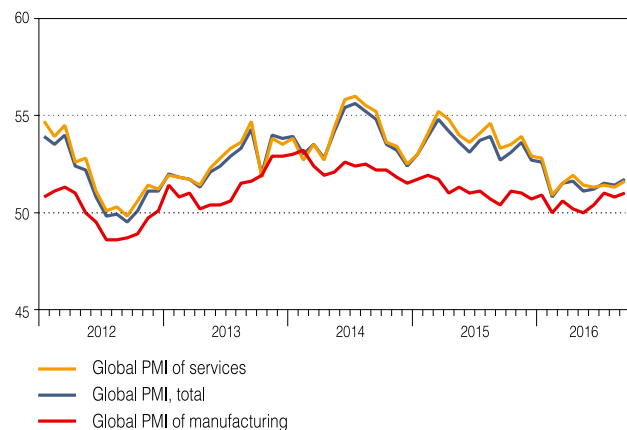
The global economic indicator (global PMI) increased slightly in September 2016 and the trend observed since the beginning of March in the services and industrial production sectors' indices to hover around a level of 51 continued. Expectations about future economic activity improved slightly both in developing and developed markets except in Japan where economic indicators continued to point to a moderate decline in economic activity. The result of the UK referendum had no lasting effect on the PMI indices in the country and in the euro area, and they remained above the neutral level of 50 in both economic regions.

Between January and July 2016 average world trade volumes remained unchanged as compared with the same period in 2015. While euro area trade volumes grew further, albeit at a moderate pace, the US ones declined in line with the weaker real growth in the first half of 2016.¹

Global inflation continued to ease due to the year-on-year decline in international commodity prices and in August 2016 stood at 1.1 per cent on an annual basis. Slower than end-2015 growth in price indices was reported mainly in developing countries while inflation in developed ones remained almost unchanged with the exception of Japan where the annual decline in consumer prices came to -5 per cent in August.

¹ CPB Netherlands Bureau for Economic Policy Analysis data from 21 September 2016.

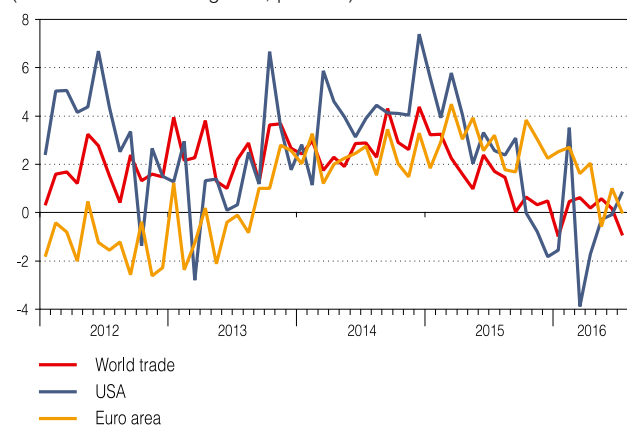
Global PMIs



Source: JP Morgan.

World Trade

(annual rate of volume growth, per cent)



Source: CPB Netherlands Bureau for Economic Policy Analysis.

Based on recent trends in the global economic activity, the International Monetary Fund (IMF) revised downwards its April projections of the global economic growth in October. According to the IMF, global economic growth will moderate to 3.1 per cent in 2016 from 3.2 per cent in 2015.² The downward revision reflected mainly the lower than expected US GDP growth and the deteriorating growth prospects for the economic activity in the EU after the UK referendum.

Over the fourth quarter of 2016 and the first quarter of 2017 external demand for Bulgarian goods and services is expected to continue growing on an annual basis. However, the external environment will remain a source of uncertainty to the development of Bulgarian economy. Risks to the economic activity of the euro area – Bulgaria's major economic partner – involve mostly slower growth which may have a negative effect on projected growth of external demand for Bulgarian goods and services in the fourth quarter of 2016 and the first quarter of 2017.

Euro Area

Euro area real GDP increased by 0.3 per cent, quarter on quarter, in the second quarter of 2016, after 0.5 per cent in the first quarter. A slowdown in real growth was observed in Germany (down to 0.4 per cent) and Italy (0 per cent), while in Spain GDP growth rate remained unchanged at 0.8 per cent. Real GDP in France fell by 0.1 per cent.

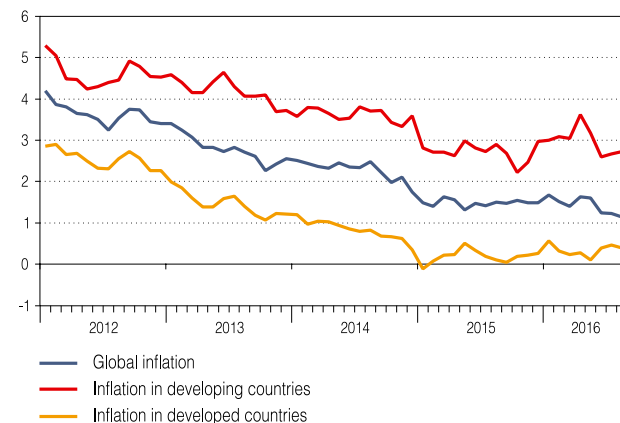
By GDP component, a positive contribution to quarterly growth had net exports (0.4 percentage points) and private consumption (0.1 percentage points). Changes in inventories contributed negatively to growth for a second consecutive quarter (-0.2 percentage points) while investment and government consumption had almost neutral effect on the change in real GDP.

In the third quarter of 2016 the dynamics of euro area leading economic indicators, including PMIs and EC indices, shows that euro area economic growth in the third quarter is likely to be similar to that of the previous quarter.

² IMF, World Economic Outlook, October 2016.

Inflation Measured through CPI

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

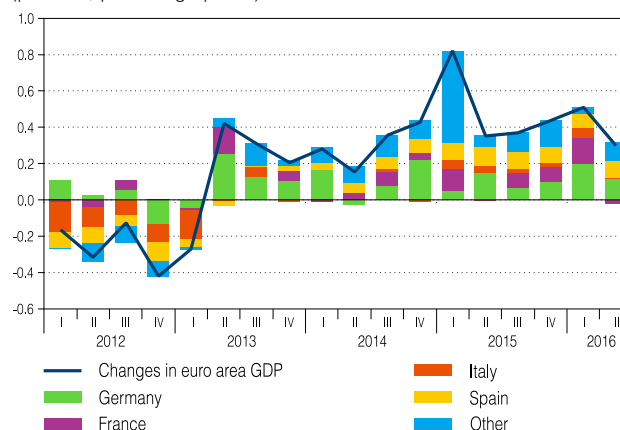


Note: The World Bank measures the change of CPI in individual groups as a weighted average of CPI changes in the countries of the group. For calculating the weights of the countries, real GDP based on purchasing power parity is used. Groups include only World Bank Member States classified by the World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

Source: World Bank.

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

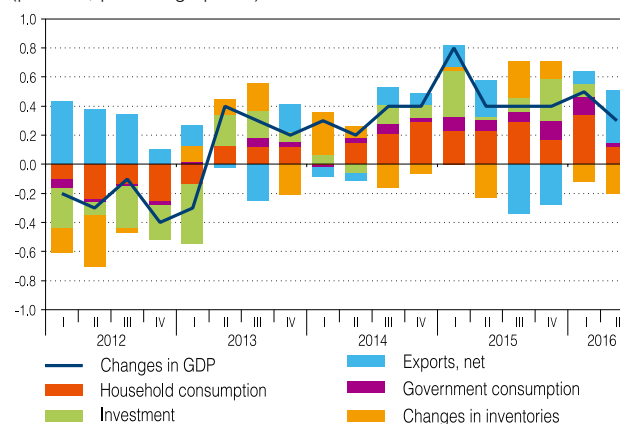
(per cent, percentage points)



Sources: Eurostat and BNB calculations.

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

(per cent, percentage points)



Source: Eurostat.

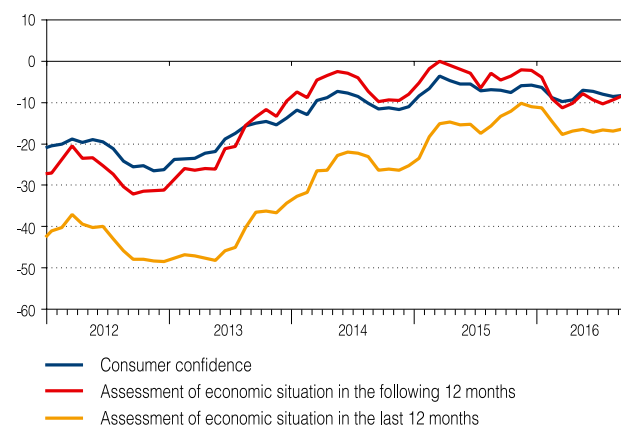
The situation in euro area labour market remained stable and the unemployment rate remained unchanged at 10.1 per cent in August 2016. The indicator of the expected unemployment rate over the next twelve months included in the EC consumer confidence index showed worsening consumer expectations about labour market developments. Over the recent months Greece and Spain continued to report the highest unemployment rates: 23.4 and 19.5 per cent respectively, with a moderate decline of this indicator observed in both countries. A slight increase in annual unemployment was observed in Austria, France and Portugal where the indicator rose between 0.1 and 0.2 percentage points in August. Germany continued to report the lowest unemployment rate of 4.2 per cent.

In September the ECB revised its 2016 projections for euro area GDP growth upwards and those for 2017 and 2018 slightly downwards. The most significant downward revision was made with regard to external demand which largely reflects the negative effects of the United Kingdom's decision to leave the EU.

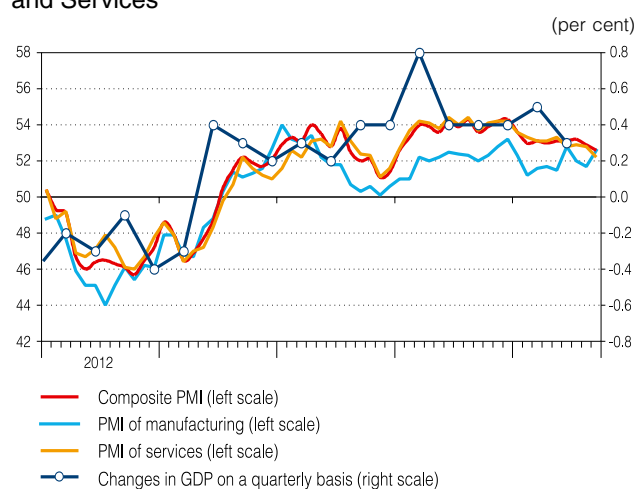
ECB inflation forecast remained broadly unchanged. In August the annual change in HICP was 0.2 per cent, unchanged from the previous month. The Eurostat flash estimate in September suggests an acceleration of inflation to 0.4 per cent on an annual basis, largely due to the subsiding base effect of the decrease in oil prices in 2015. According to the ECB, the energy component will continue to contribute negatively to the annual change of the HICP in the euro area throughout 2016 and will be -0.6 percentage points.

In the absence of substantial changes in inflation expectations at its monetary policy meetings of 21 July and 8 September 2016 the ECB Governing Council decided to keep the reference interest rates and the parameters of the expanded asset purchase programme (APP) unchanged. The forward monetary policy guidance also remained unchanged and interest rates in the euro area are expected to remain at current or lower levels for an extended period of time or even after the end of the APP.

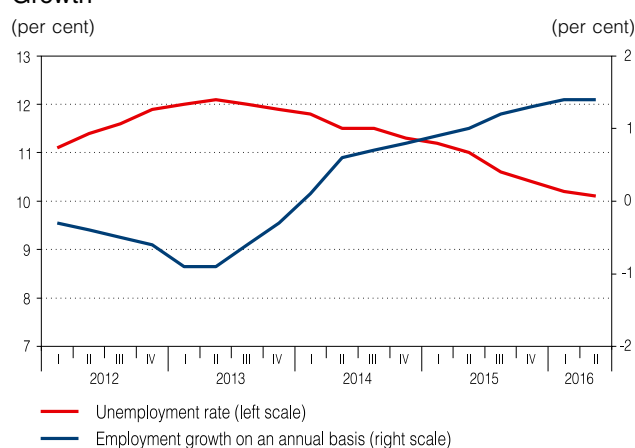
Euro Area Consumer Confidence Indices



Changes in GDP and PMIs of Manufacturing and Services



Euro Area Unemployment Rate and Employment Growth



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

Institution	Date of release	2016		2017		2018	
		latest	previous	latest	previous	latest	previous
ECB	IX.2016	1.7	1.6	1.6	1.7	1.6	1.7
EC	V.2016	1.6	1.7	1.8	1.9	-	-

Sources: ECB, EC.

Projections of Annual Inflation in the Euro Area

(per cent)

Institution	Date of release	2016		2017		2018	
		latest	previous	latest	previous	latest	previous
ECB	IX.2016	0.2	0.2	1.2	1.3	1.6	1.6
EC	V.2016	0.2	0.5	1.4	1.5	-	-

Sources: ECB, EC.

As of 30 September 2016 the cumulative amount of purchases under the APP totalled EUR 1305.9 billion of which EUR 1061.2 billion under the PSPP, EUR 194.3 billion under the CBPP3, EUR 20.7 billion under the ABSPP and EUR 29.8 billion under the CSPP. In addition, the ECB conducted the second operation of the second series of targeted longer-term refinancing operations (TLTRO2) in which EUR 45.3 billion were allotted between 249 banks. The net effect on banking system liquidity amounted to EUR 34.2 billion, as banks repaid ahead of the payment schedule EUR 11.0 billion of their participation in the first round of the targeted longer-term refinancing operations (TLTRO1). In the previous TLTRO2 operation EUR 399.3 billion were allocated between 514 banks (the net effect on banking system liquidity was EUR 38.2 billion).

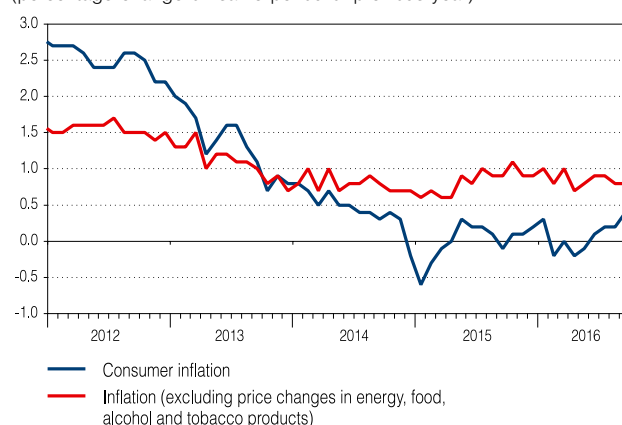
As a result of continuing APP purchases and the allocation of funds under TLTRO2, excess liquidity in the euro area banking system increased to EUR 1040.7 billion at the end of the third quarter from EUR 859.9 billion at the end of June 2016. The ECB balance sheet figure reached EUR 3.391 trillion.

The increase in the excess liquidity in the euro area banking system continued to contribute to the decline in EONIA and in the third quarter of 2016 it reached an average of -0.34 per cent. The volume of overnight deposits on the interbank market in the euro area also decreased slightly, with its daily average coming to EUR 10.2 billion in the third quarter of 2016 (EUR 11.9 billion in the second quarter of 2016).

The downward trend in deposit rates on the interbank market (EURIBOR) continued over the review quarter. As of 30 September 2016 one-month interest rates reached -0.37 per cent (-1 basis points from end-June 2016) and those with maturities of six and 12 months fell to -0.20 per cent and -0.06 per cent (down -2 and -1 basis point, respectively, *vis-à-vis* end-June).

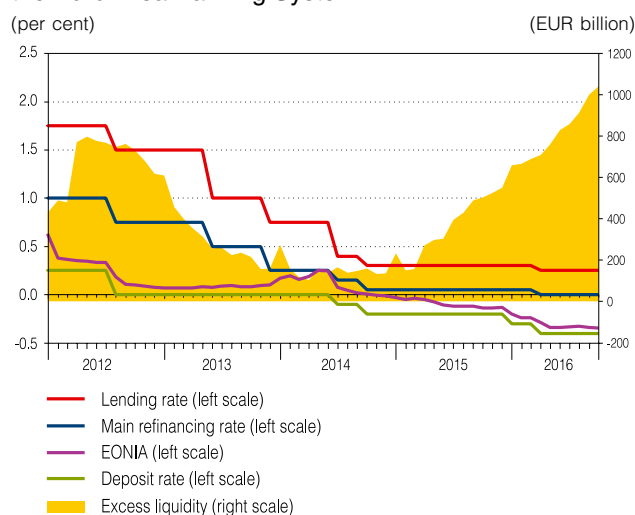
Euro Area Inflation Rate

(percentage change on same period of previous year)



Source: Eurostat.

ECB and EONIA Interest Rates and Excess Liquidity in the Euro Area Banking System

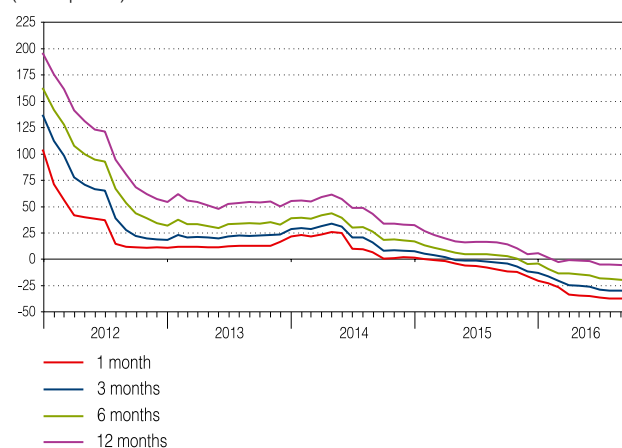


Notes: Average EONIA data are average for the month.

Source: ECB.

EURIBOR Dynamics

(basis points)



Source: ECB.

The United States

The annual US GDP growth rate moderated from 1.6 per cent in the first quarter to 1.3 per cent in the second quarter of 2016. On a quarter-on-quarter basis, GDP growth rate accelerated to 0.4 per cent in the second quarter from 0.2 per cent in the previous one driven mainly by the higher household consumption growth and the rebound in business investment.

In the third quarter of 2016 the changes in the US leading economic indicators signalled a slight acceleration of the quarterly GDP growth rate. The average level of the ISM-PMI indices for industrial production and services fell slightly in the third quarter, but consumer confidence indicators, including consumers' assessment of the economic situation in the following six months, increased significantly.

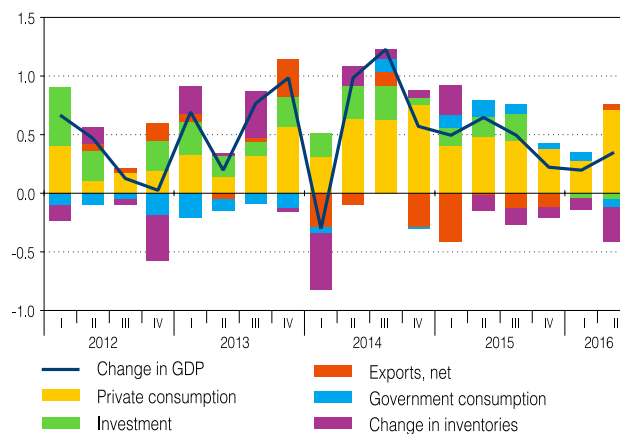
US inflation indicators saw hesitant, but mostly positive changes over the review quarter. In August the annual rate of change of the price index of personal consumer expenditure (PCE) increased to 1 per cent, with inflation acceleration reflecting mainly the slower annual decline in durable and non-durable goods. The annual growth rate of the core PCE price index (excluding food and energy prices) also rose to 1.7 per cent after being unchanged for five consecutive months at 1.6 per cent. August CPI data – the other key US inflation indicator, also point to an increase in the annual rate of overall inflation (from 0.8 per cent in July to 1.1 per cent) and in core inflation (from 2.2 per cent in July to 2.3 per cent).

September data on the expectations about the change in consumer prices in one to five year horizon, which are part of the consumer confidence index of the University of Michigan, showed a slight increase in long-term and a marginal decrease in short-term inflation expectations.

US labour market conditions improved in the third quarter of 2016. In September the change in the 3-month moving average number of employed in the US non-agricultural sector reached 192,000 compared to 230,000 in August and 182,000 in July. The US unemployment rate went up slightly to 5 per cent in September after three consecutive months

Contribution to US GDP Growth by Component (Quarterly)

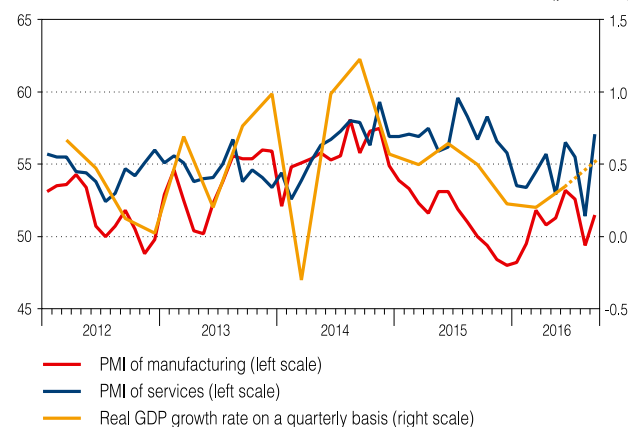
(per cent; percentage points)



Source: Bureau of Economic Analysis.

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

(per cent)

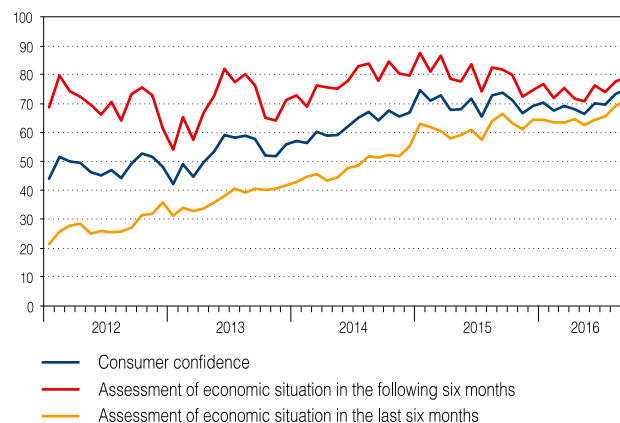


Notes: The dotted line shows the US economic growth forecast of the Federal Reserve Bank of Atlanta (GDPNow™).

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

US Consumer Confidence Indices

(2000 = 100)



Source: Conference Board.

at 4.9 per cent. The increase was mainly due to the higher number of persons in the labour force and the rise in the percentage of economically active population. Latest employment data of leading economic activity indicators show that US labour market conditions will remain favourable until the end of 2016.

At its 20–21 September 2016 meeting, the FOMC decided not to change its monetary policy stance and maintain the current target range for the federal funds rate at 0.25–0.50 per cent. However, three out of the ten members of the committee voted against as they deemed necessary to raise the range of the US reference rate to 0.50–0.75 per cent. Individual forecast releases of FOMC members about adequate federal funds rate levels published at the end of 2016 and 2017 and the long-run equilibrium level were revised downwards reflecting their expectations of slower economic growth rate compared with June and consequently, of a more gradual interest rate rise.

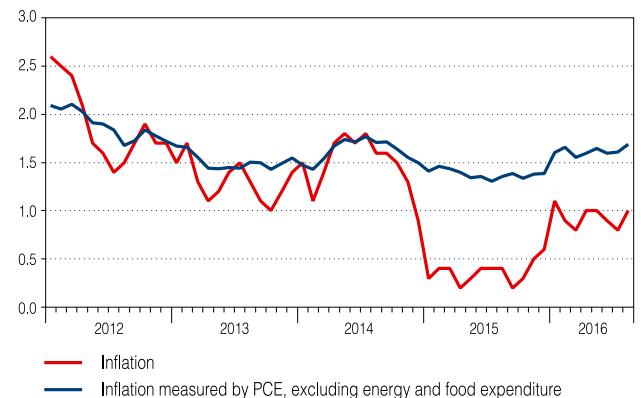
China

In the second quarter of 2016 China's real GDP advanced 6.7 per cent on an annual basis, the same pace as in the previous quarter. On a quarterly basis, economic growth increased to 1.8 per cent from 1.25 per cent in the first quarter of 2016. The accelerated quarter-on-quarter growth in the April to June period was driven largely by the stimulating effect of the fiscal and monetary policy measures on economic activity.

In the third quarter of 2016 the dynamics of China's leading economic indicators, including industrial production and services sector PMIs indicated that China's economic growth in the third quarter is likely to accelerate slightly compared with the previous period. Between July and September the average manufacturing PMI increased to 50.2: up 0.2 percentage points from the second quarter, with the new orders index being the only one of the composite sub-indices whose average dropped by 0.3 percentage points to 49.6. The average services PMI also went up reaching 53.7 from 53.4 in the previous quarter. The services sector, where real estates and financial sector services occupy the largest share, has the most sizeable contribution to real GDP growth in China.

US Inflation Rate

(per cent, on an annual basis)

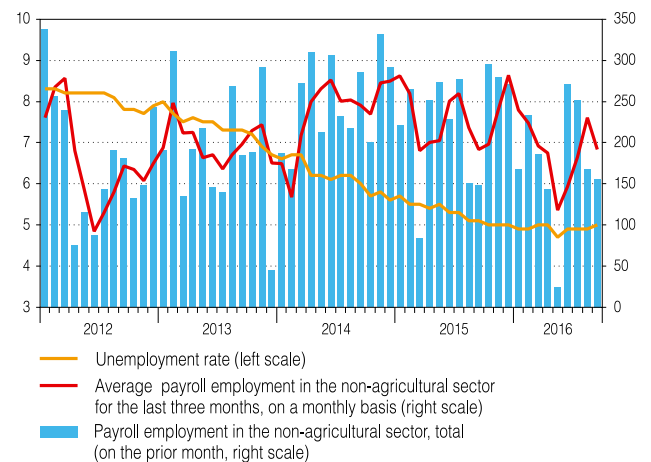


Notes: Inflation is measured by the personal consumption expenditure deflator.

Source: Bureau of Labor Statistics.

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

(%) (payroll employment, thousand)

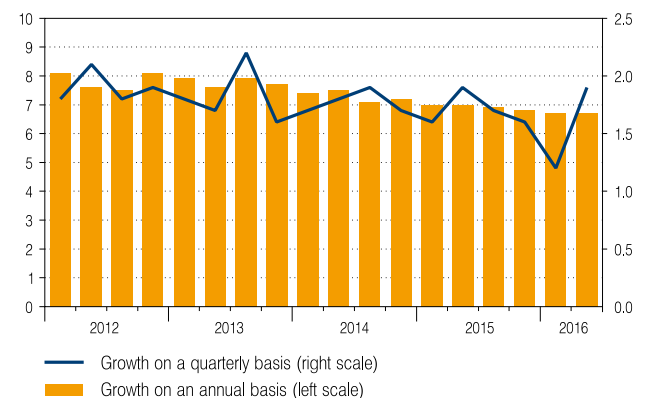


Source: Bureau of Labor Statistics.

China's Quarterly and Annual GDP Growth

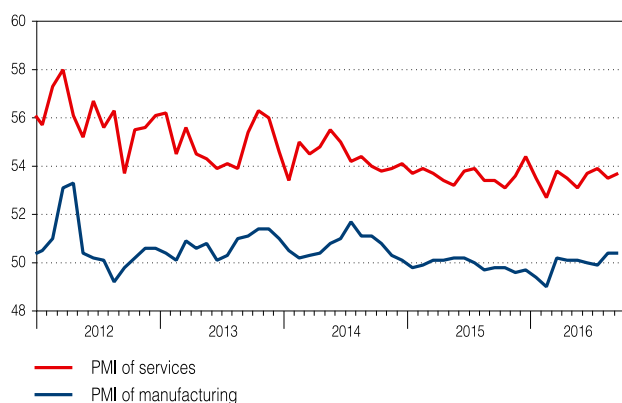
(per cent, on an annual basis)

(per cent, quarter-on-quarter)



Source: National Bureau of Statistics of China.

Manufacturing and Services PMIs in China



Source: China Federation of Logistics and Purchasing.

In July the annual growth of industrial production in China slowed down to 6 per cent reflecting the adverse effects of floods in the central parts of the country. In August and September it stabilised at 6.3 per cent following a significant increase in electricity production over this period.

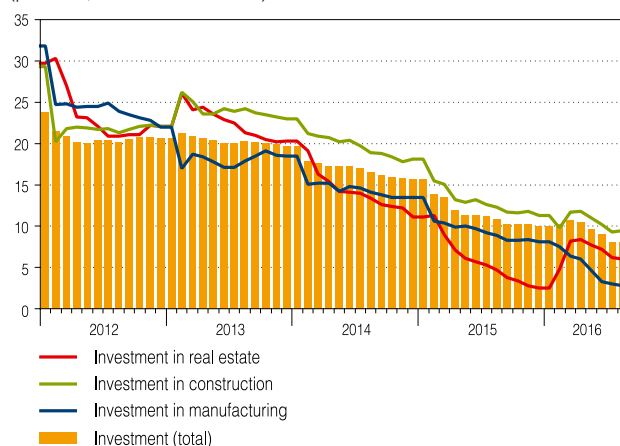
Annual growth in overall investment continued to moderate in the third quarter of 2016. Between January and August investment went up 8.1 per cent compared with 10.9 per cent over the same period in 2015. Weaker growth was mainly due to private investment. According to the latest IMF projections,³ China's economic growth will continue to slow down gradually. The rates are expected to reach to 6.6 per cent in 2016 and 6.2 per cent in 2017 from 6.9 in 2015, mainly due to the delayed restructuring process in some inefficient state-owned enterprises. Therefore, in September the Chinese government announced the establishment of a special restructuring fund: China State-owned Enterprises Restructuring Fund aimed at improving the competitiveness of inefficient state-owned enterprises.

In the third quarter of 2016 inflation in China continued to decline, reaching 1.3 per cent in August. The deflationary pressure of falling producer prices continued to weaken and the annual decline in the producer price index decelerated from -5.3 per cent in January to -0.8 per cent in August.

³ IMF, World Economic Outlook, October 2016.

Total Investment in Fixed Capital and in Selected Sectors in China

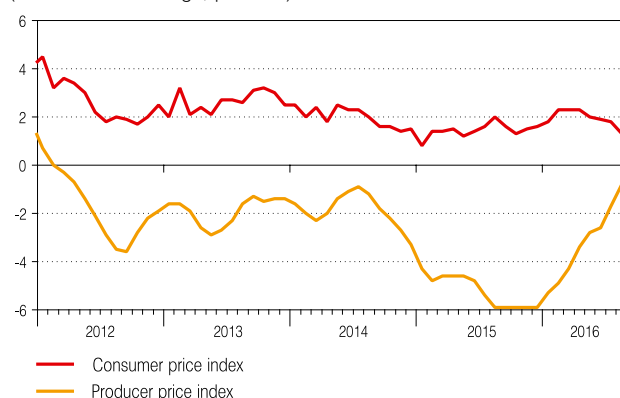
(per cent, on an annual basis)



Source: National Bureau of Statistics of China.

Inflation Indices in China

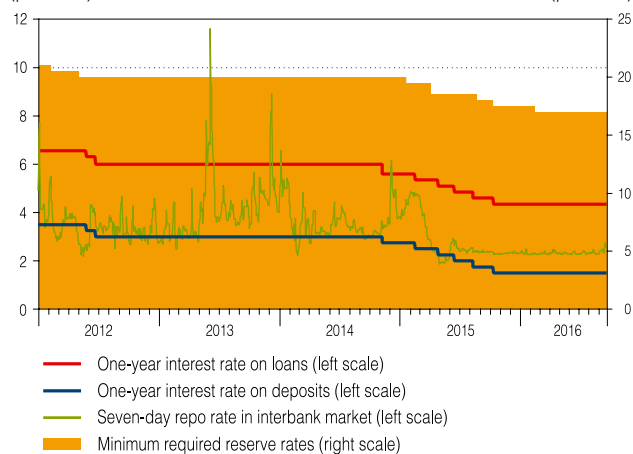
(annual rate of change, per cent)



Source: National Bureau of Statistics of China.

Banking Market Interest Rates and Minimum Required Reserve Rates in China

(per cent)



Source: People's Bank of China.

In the third quarter of 2016 the People's Bank of China did not change its monetary policy stance. The central bank continued to actively intervene in the interbank market aiming to maintain the interbank interest rate in the 2.0 to 2.5 per cent range. The Chinese yuan continued to depreciate against the US dollar⁴ (down 0.3 per cent) while the nominal effective exchange rate of the yuan against the basket of 13 currencies (CFETS)⁵ fell significantly (by 0.8 per cent).

On 1 October the Chinese yuan became a reserve currency as part of the IMF's SDR basket.

International Commodity Prices

Crude Oil

In the third quarter of 2016 crude oil prices stabilised at USD 46 *per* barrel. Oil supply continued to exceed demand despite the contraction in excess oil supply observed since the beginning of 2016. The temporary cuts in oil production in Nigeria, Libya and Canada during the first half-year and the declining production in the US where low oil prices resulted in closure of oilfields and limited investment in the energy sector were the main factors behind the supply constraints. At the same time, production in OPEC countries increased further reaching historical highs in Saudi Arabia, Kuwait and the UAE. On 28 September 2016 at its meeting in Algeria OPEC reached a provisional agreement on reduction of oil production to a target range of between 32.5 and 33 million barrels a day and OPEC will decide on the production-cut quotas for individual members at its next November meeting.⁶ This decision led to a sharp rise in oil prices and is likely to accelerate global supply and demand rebalancing.

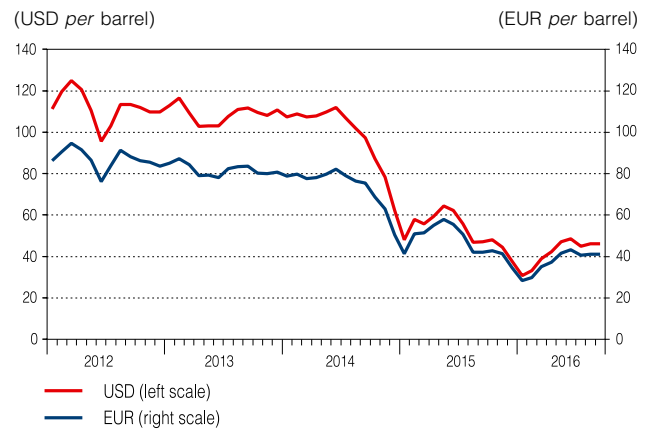
Oil price expectations about the fourth quarter of 2016 and the first quarter of 2017, based on crude oil futures prices in September remained close to the expected ones in June, ranging between USD 45–55 *per* barrel.

⁴ 'Dollars' shall hereinafter refer to the currency of legal tender in the United States of America.

⁵ China Foreign Exchange Trade System

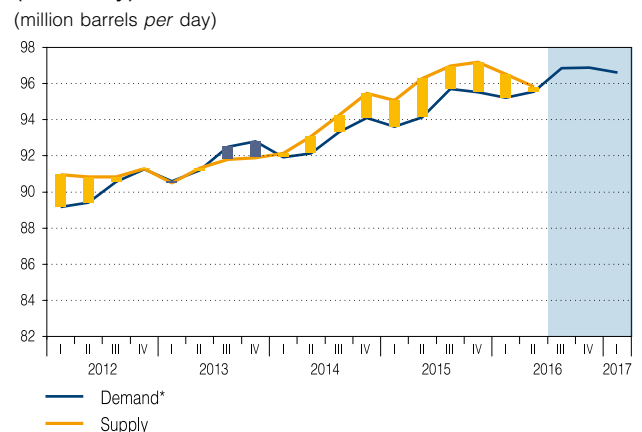
⁶ OPEC website, press release of 28 September 2016: http://www.opec.org/opec_web/en/press_room/3706.htm

Brent Crude Oil Prices



Source: World Bank.

World Crude Oil Supply and Demand* (Quarterly)

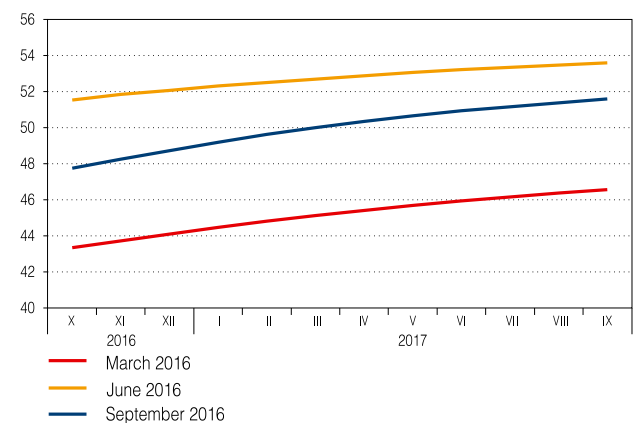


* Including the July 2016 IAE latest available data about crude oil demand.

Source: IEA.

Brent Crude Oil Futures Prices

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



Source: JP Morgan.

Major Raw Material and Food Prices

Metal prices in euro and US dollars followed an upward trend on a quarterly basis since the beginning of 2016. The average metal price went up by 4.0 per cent in the third quarter of 2016 compared with the second one (5.2 per cent increase in euro). The main factors underlying the increase in metal prices were China's temporarily enhanced demand related to the higher government investment expenditure and reduced production capacity and investment in certain metals' mining reflecting the decrease in their prices. The price of copper, which is of key importance to Bulgarian exports of goods, continued to decline on a quarter-on-quarter basis. This is explained by the weak demand for this raw material and expectations of stronger supply over the following year as a result of the expansion of existing production capacity in the sector.⁷ The supply and demand rebalancing on the market of metals is expected to continue at the end of 2016 and in early 2017 which will result in an increase in their prices in euro and US dollars on an annual basis.

Over the third quarter of 2016 food prices in US dollars dropped 2.2 per cent on average compared with the second quarter of the year (a decline of 1.0 per cent in euro). Price falls were observed in major sub-components such as cereals and meat. As regards cereals, current data suggest that a very good harvest can be expected worldwide.⁸ These expectations influenced the prices of wheat, which is of key importance to Bulgaria's exports of goods. In the third quarter of 2016 the price of wheat in US dollars dropped by 13.3 per cent on a quarter-on-quarter basis. Despite the expected fall in the prices of a number of cereals, market expectations point to an increase in the overall food price index in euro and US dollars in the fourth quarter of 2016 and in the first quarter of 2017 due to the upward dynamics observed in the other sub-components.

If the expectations of international price dynamics of fuels, commodities and food materialise, the terms of trade in Bulgaria would remain favourable until the end of the year and would be likely to start worsening in early 2017.

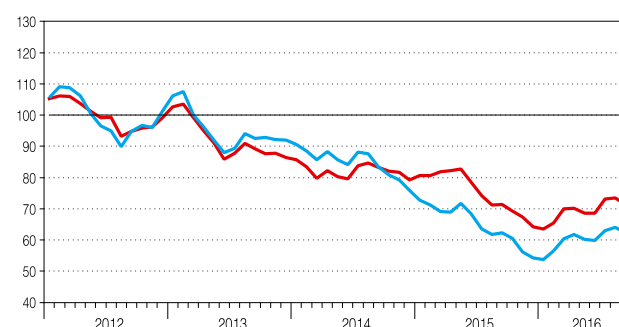
⁷ IMF, *Commodity Market Monthly*, 15 September 2016, p. 2.

⁸ According to *Wheat Outlook* of USDA, 14 September 2016, p. 7.

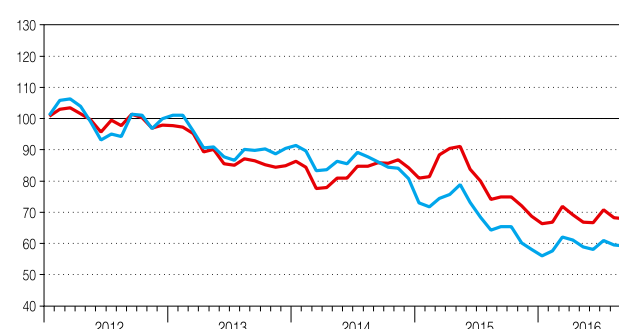
Price Indices of Major Raw Materials and Commodity Groups

(2012 = 100)

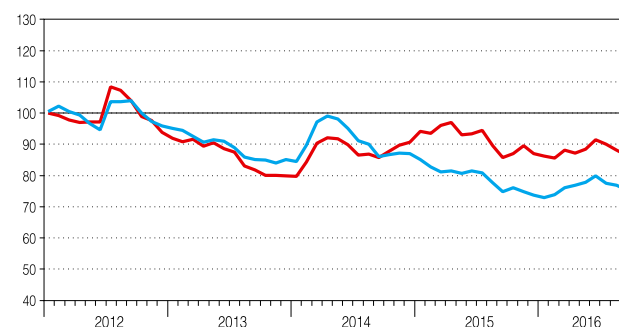
Metals



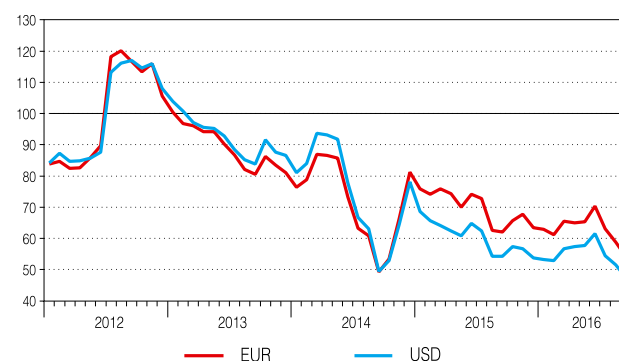
Copper



Food



Wheat



Sources: ECB and BNB calculations.

2. Financial Flows, Money and Credit

Between January and August 2016 the total surplus of the current and capital account balance increased against the corresponding period of 2015, reflecting lower deficits on the primary income item and the trade balance. In the last quarter of 2016 and first quarter of 2017 the current and capital account surplus is expected to shrink as a share of GDP on an annual basis due to the lower capital account surplus and increasing outflows under the primary income item.

Between January and August 2016 funds attracted by the non-government sector in the banking system continued to rise at a high rate. Bank actions toward balance sheet optimisation and maintenance of prudent lending policy had a dampening effect on the loan dynamics. With the finalisation of the bank asset quality review, bank portfolio optimisation effects are expected to fade away, which in addition to projected retention of positive developments in new and regular loans will accelerate lending to non-financial corporations and households over the fourth quarter of 2016 and the first quarter of 2017. Anticipated growth in funds attracted by banks and limited investment alternatives will further drive a gradual downward trend in lending rates, and this process will be also influenced by the ECB policy on parameters of the expanded asset purchase programme. Over the projection horizon, declines in interest rates on new time deposits are expected to be slower than in the first half of 2016 due to attained low levels and relative stabilisation in recent months.

External Financial Flows

Between January and August 2016 the overall current and capital account surplus increased significantly from the corresponding period of 2015, reflecting largely decreased deficits on both trade balance and primary income. The overall positive balance was also fuelled by the increased surplus on the services balance.

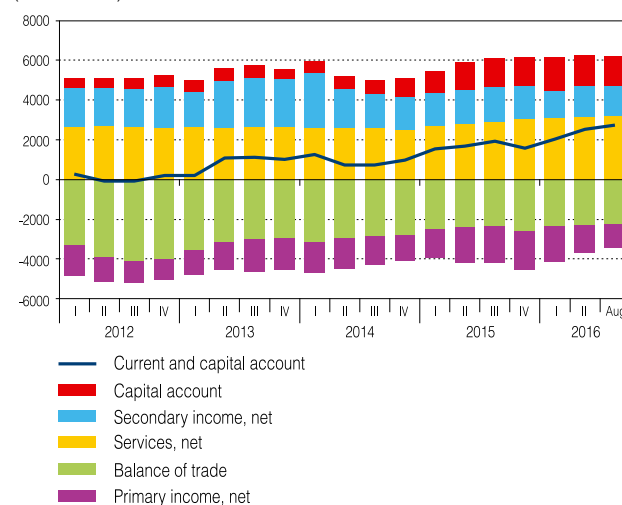
The trade deficit decrease from the corresponding period of 2015 was driven by both higher real growth in exports than in imports and favourable terms of trade in the first half of 2016. The significant year-on-year drop in the primary income deficit for the January to August period resulted from lower outflows under the dividend and distributed profit and reinvested profit items.

The positive contribution of the services balance to the increased surplus on the current and capital account was primarily due to higher earnings from tourism compared with the same period of 2015.⁹ Another contributor, though less essential, was the increase in the capital account surplus, reflecting mostly investment expenditure reimbursed by the European Commission for the 2007–2013 programme period.

⁹ For a more detailed analysis of exports and imports of goods and services, see Chapter 3.

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

(EUR million)



Source: BNB.

The year-on-year decline in the secondary income surplus between January and August 2016 resulted from lower revenue under EU operational programmes (including reimbursed current expenditure of 2015 for the 2007–2013 programme period and advance payments for the 2014–2020 period) and decreased year-on-year reimbursements of the European Commission under the Common Agricultural Policy.

At the end of 2016 and beginning of 2017 the current and capital account balance is expected to shrink year on year as a share of GDP compared with the first half-year, reflecting largely the lower capital account surplus and increasing outflows under the primary income item. Capital account flows will depend on still weak absorption of EU funds under the operational programmes for the 2014–2020 period, whereas the increased deficit under the primary income item is likely to match the anticipated growth of gross operating surplus.

Over the reviewed period, the financial account was positive as growth in foreign assets of Bulgarian residents was higher than that in their foreign liabilities. Increased foreign assets of the financial account over this period resulted mainly from transactions of banks which boosted their foreign assets by EUR 1662.8 million,¹⁰ mostly in the form of other investment (other than direct and portfolio investment). Rising financial account liabilities reflected primarily foreign funds attracted from other sectors,¹¹ notably in the form of direct investment and, to a lesser degree, portfolio investment. Growth in liabilities was also due to transactions of the government involving issuance of Eurobonds in international capital markets in March 2016.

Preliminary BOP data show that between January and August direct investment liabilities (reporting FDI inflows into Bulgaria) decreased from the same period of 2015 to EUR 1150.1 million¹² (against EUR 1385.3 million in the first eight months of 2015). The highest FDI inflow was again attracted from the Netherlands, followed by Luxembourg and United Kingdom.

¹⁰ Further details on bank operations are provided in the Monetary and Credit Aggregates Section of Chapter 2.

¹¹ Excluding other monetary financial institutions and general government sectors.

¹² Preliminary data subject to revision.

Flows on Major Balance of Payments Accounts

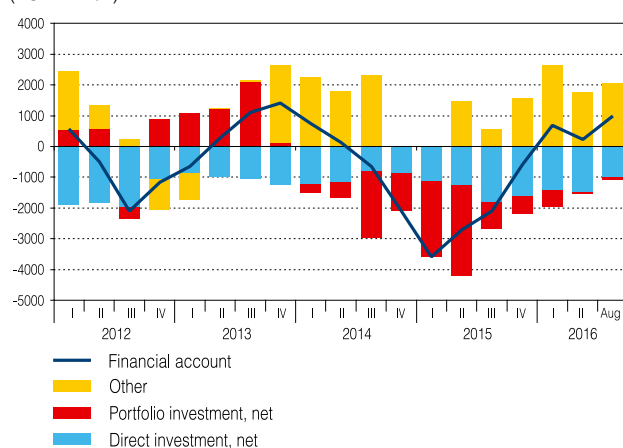
(EUR million)

	2014	2015	January–August 2016
Current account	35.1	172.4	1914.8
Trade balance	-2776.6	-2622.4	-1073.3
Services, net	2514.2	3082.6	2484.7
Primary income, net	-1318.3	-1929.6	-771.5
Secondary income, net	1615.8	1641.8	1274.9
Capital account	959.6	1421.6	936.1
Financial account	-2089.6	-583.3	418.6
Changes in reserves	1807.3	3729.7	2726.8

Source: BNB.

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

(EUR million)



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

(EUR million)

	2014	2015	January–August 2016
Direct Investment			
assets	27.9	0.4	10.5
liabilities	99.1	330.8	-63.1
Portfolio investment			
assets	-309.4	-785.9	155.5
liabilities	-50.6	1.4	2.5
Other investment			
assets	1064.6	-2022.4	1496.8
liabilities	-234.4	-1636.1	-336.3
Total assets	783.1	-2807.9	1662.8
Total liabilities	-185.9	-1303.9	-396.9
Net assets	969.0	-1504.1	2059.7

Source: BNB.

Positive net flows on the current and capital account for the January to August period compensated the financial account surplus (reporting the excess of outflows over inflows). This led to an increase in gross international reserves¹³ (BOP data: EUR 2726.8 million for the first eight months of 2016). As of August the international reserve coverage of the average nominal imports of goods and non-factor services reached 10 months over the last 12 months, posting a significant increase from the level in August 2015 (8.3 months).

In July Bulgaria's gross external debt increased from the end of 2015 mainly at the expense of the government debt. The share of long-term debt in Bulgaria's total gross external debt rose compared to the end of 2015, accounting for 78.3 per cent as of July.

While maintaining low interest rates in international financial markets, conditions for foreign debt assumption by Bulgarian residents remain favourable. It is evidenced by non-resident deposits and loans (EUR 3901.1 million in the January to July period) and the 42.1 per cent growth in financial credit transactions declared by non-residents. Concurrently, the share of long-term loans in total new loans increased further to 59.3 per cent (48.7 per cent in January–July 2015).

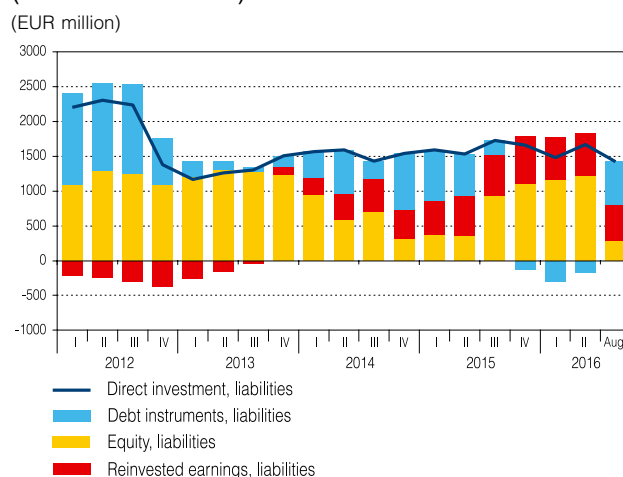
Monetary and Credit Aggregates

In the first eight months of 2016 developments in monetary aggregates continued to be driven by persistently high inflows of deposits in the banking system. At the same time, lending activity remained comparatively low.

The annual growth of M3 (broad money) was 8.9 per cent in August. Overnight deposits continued to make the strongest contribution to M3 growth, with money outside MFIs and deposits with an agreed maturity of up to two years preserving their lower contributions. Overnight deposit dynamics is most likely due to the continuing decline in deposit interest rates and economic agents' preferences for easier access to savings.

¹³ Valuation adjustments and price revaluation excluded.

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



Source: BNB.

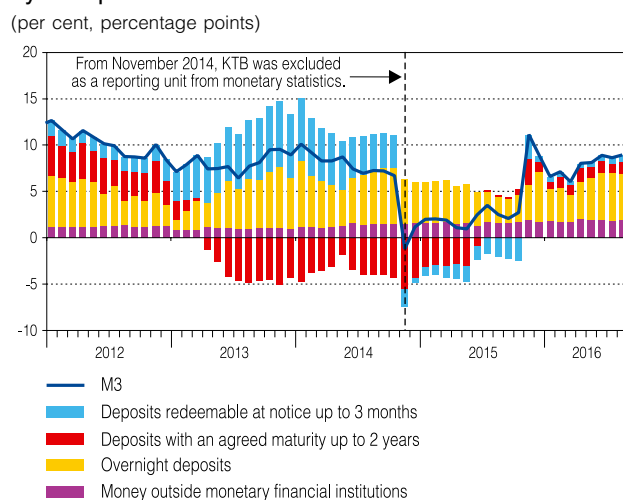
Gross External Debt in July 2016

(EUR million)

	Amount	Change	
		Since December 2015	For the last 12 months
General government	6 637.8	1 057.7	625.2
Central bank	0.0	0.0	0.0
Banks	3 860.6	-265.8	-341.7
Other sectors	11 574.0	-157.7	-278.3
FDI: intercompany loans	12 819.1	168.8	175.2
Total	34 891.5	803.1	180.4

Source: BNB.

Annual Rate of Change in M3 and Contribution by Component



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

Source: BNB.

The increase in non-government sector's deposits¹⁴ accelerated further to 9.6 per cent on an annual basis in August 2016. Household deposits continued to contribute most significantly to the growth in attracted funds. As of August funds attracted from households reached BGN 43.7 billion, posting growth of 6.9 per cent on an annual basis. Households preferred to deposit their free resources in overnight deposits, and in terms of currency, they continued to save primarily in national currency.

Non-financial corporations' deposits in the banking system also continued to grow over the first eight months, reaching BGN 18.8 billion in August (12.8 per cent growth on an annual basis). Similarly to households, corporations also preferred to save mostly in overnight deposits and in national currency.

With the increase of the share of residents' funds attracted in the banking system, the effective implicit rate of minimum required reserves rose to 9.42 per cent¹⁵ in August 2016 (9.28 per cent by end-2015). Commercial banks' deposits with the BNB comprised 8.27 percentage points in fulfilling minimum reserve requirements, with the remaining 1.15 percentage points forming recognised cash balances.¹⁶

The annual growth rate of reserve money continued its downward trend of end-2015, accounting for 11.9 per cent as of August (43.0 per cent as of December 2015). Monetary base developments were largely driven by the decline in funds maintained by banks with the BNB, especially the one-off decrease in excess reserves in the first quarter of 2016. Excess reserve dynamics reflected early 2016 amendments to BNB Ordinance No 21 on the Minimum Required Reserves

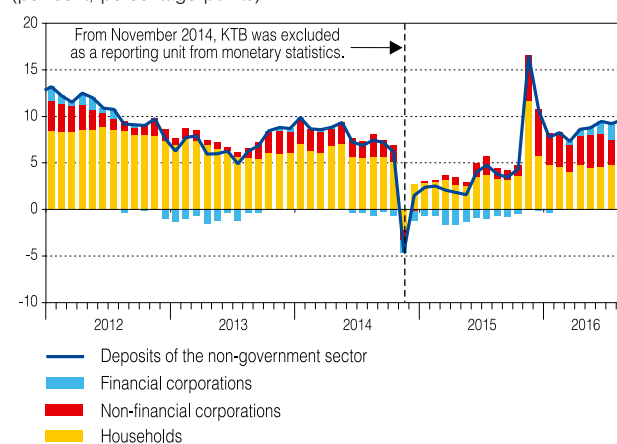
¹⁴ Non-government sector's deposits include deposits of households, non-financial corporations and financial corporations. Deposits of households and non-financial corporations comprise the largest share of all non-government sector's deposits (95 per cent on average for the last 12 months as of August), and therefore the analysis is focused on these two sectors.

¹⁵ According to Article 3 of the new BNB Ordinance No 21 on the Minimum Required Reserves Maintained with the BNB by Banks, effective as of 4 January 2016, the rate of minimum required reserves on funds attracted from residents remains 10 per cent of the deposit base, from non-residents 5 per cent and from the state and local government budgets 0 per cent.

¹⁶ Article 4 of the new BNB Ordinance No 21 (effective as of 4 January 2016) removes the recognition of banks' funds in the TARGET2-BNB national system component as reserve assets.

Annual Growth of Non-government Sector's Deposits and Contribution by Sector

(per cent, percentage points)

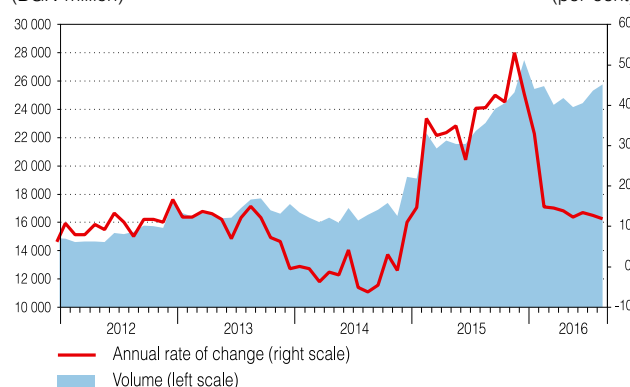


Source: BNB.

Reserve Money

(BGN million)

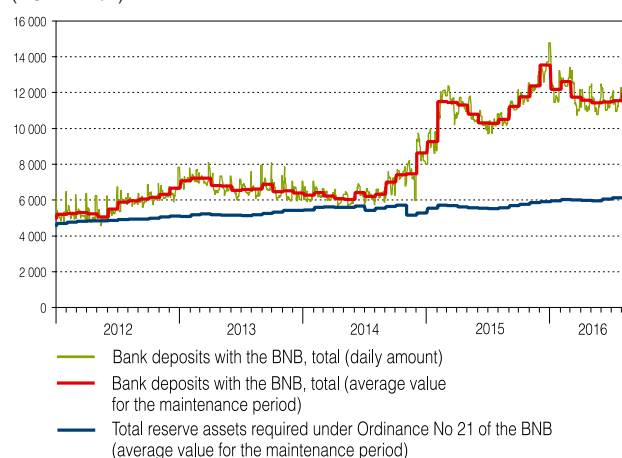
(per cent)



Source: BNB.

Bank Deposits with the BNB

(BGN million)



Source: BNB.

Maintained with the Bulgarian National Bank by Banks. These amendments introduced a definition of excess reserves and the ECB deposit facility rate applied on excess reserves where this rate is negative.¹⁷ Excess funds on banks' minimum reserve accounts with the BNB over the required minimum under Ordinance No 21 comprised 92.5 per cent on an average daily basis (127.8 per cent in December 2015).

At the same time, currency in circulation continued to exert positive influence on the change of the reserve base, posting 12.2 per cent annual growth in August (9.8 per cent by end-2015). Over the first half-year positive developments in private consumption and ongoing declines in deposit interest rates were the factors behind the upward dynamics of currency in circulation.

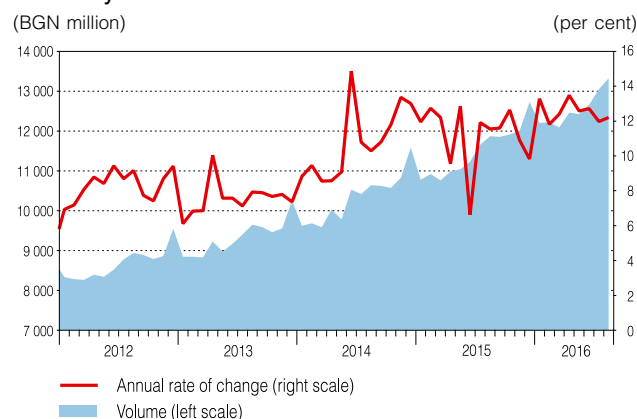
In the first eight months the banking sector retained its high liquidity position, with the liquid asset ratio accounting for 37.58 per cent in August (36.71 per cent in December 2015). In managing their financial resources, since early 2016 banks have sought to increase their foreign assets and Bulgarian government bond portfolios, unlike the previous year when they deposited the major portion of liquid funds into excess reserves with the BNB. Concurrently, banks continued to decrease their foreign liabilities which in combination with rising foreign assets contributed to the growth in net foreign assets of banks to BGN 6.6 billion in August 2016.

Foreign currency trade with the BNB was another tool to manage bank liquid resources. In the first eight months the BNB was a net purchaser of foreign currency from banks, unlike the previous three years when euro sales exceeded purchases. As of August BNB purchases (net) from banks accounted for EUR 0.6 billion for the last 12 months.

Lending activity in Bulgaria remained comparatively low over the first eight months, with the annual rate of change of the credit to non-financial corporations and households reaching -0.5 per cent in August (-1.6 per cent in Decem-

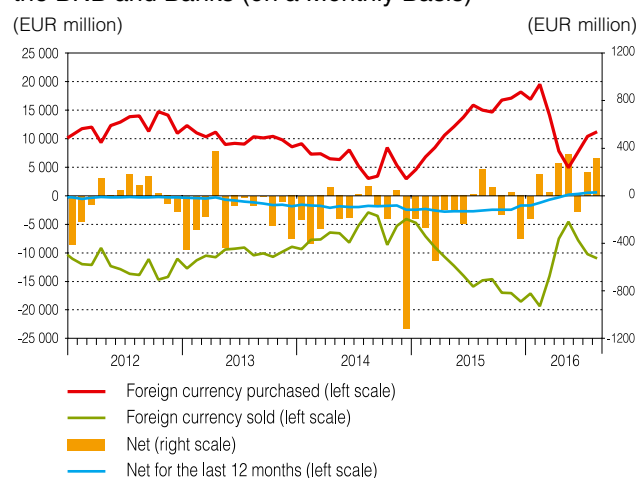
¹⁷ The new Ordinance applies a negative interest rate on excess reserves of banks where the ECB deposit facility rate is negative, and a zero rate where the ECB rate is positive or zero. Since early 2016, the BNB has applied the ECB deposit facility rate on banks' excess reserves: -0.30 per cent and from 16 March 2016 -0.40 per cent. As regards minimum reserve requirements, the BNB retained its zero interest-rate policy.

Currency in Circulation



Source: BNB.

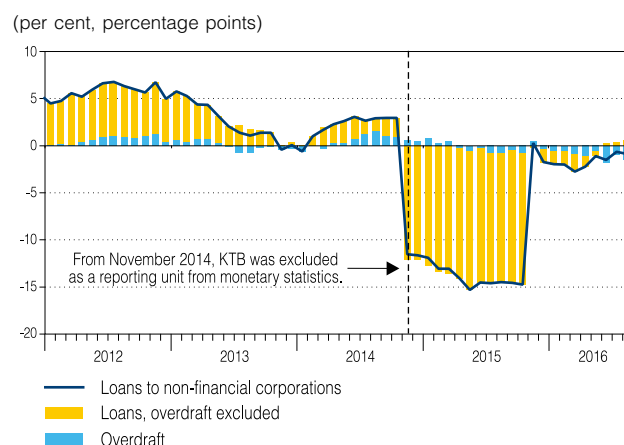
Foreign Currency Purchases and Sales between the BNB and Banks (on a Monthly Basis)



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.

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



Source: BNB.

ber 2015). Factors exerting a dampening effect on developments of the credit to the private sector involve mainly bank portfolio optimisation and maintenance of prudent lending policy. The continuing year-on-year decline in bad and restructured loans made the major negative contribution to the developments in loans extended to corporations and households. Overdraft also contributed negatively to the annual change in the credit. At the same time, regular loans to non-financial corporations and households and new loans¹⁸ have tended to grow since early 2016. These data indicate growth in demand, reflecting probably the continuous decline in interest rates under the current credit conditions.

In August the annual change in loans to non-financial corporations was -0.9 per cent (-1.7 per cent by end-2015). New corporate loans retained their upward trend which started at the end of 2015.¹⁹ In August the share of newly extended corporate loans in levs rose by 2.3 per cent for the last 12 months, reaching 48.3 per cent at the expense of the decreased share of new corporate loans in euro (48.5 per cent). The share of new corporate loans in US dollars remained low, reaching 3.2 per cent in August.

As of August the annual rate of change in loans to households was positive for the first time after November 2014 (0.1 per cent). This dynamics reflected mainly the contributions of housing loans and other loans, while consumer loans and overdraft continued to record annual declines. New household loans retained their upward trend in the first eight months of 2016, with consumer loans and, to a lesser extent, housing and other loans contributing positively.

Results of the BNB quarterly lending survey conducted in the second quarter show net tightening of bank standards²⁰ in approving corporate credit applications. Over the review quarter major

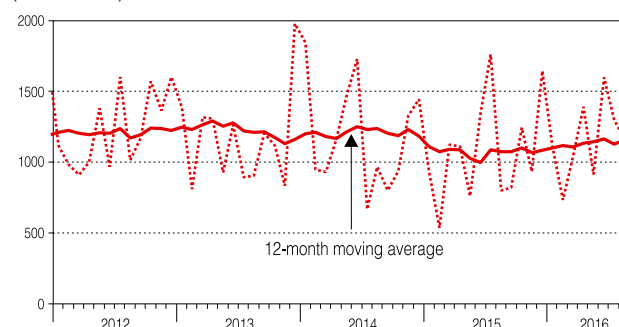
¹⁸ The terms "new" and "newly extended" hereinafter referred to as the statistical category "new business".

¹⁹ Based on 12-month moving average.

²⁰ Credit standards are understood as internal bank guidelines and criteria for loan approvals established prior to negotiating the terms of extended loans. Credit standards determine the type of the loan and collateral considered admissible by banks, taking into account specific priorities in individual sectors, *etc.* Credit standards specify also all relevant conditions to be met by a borrower.

New Loans to Non-financial Corporations (Monthly Volumes)

(BGN million)

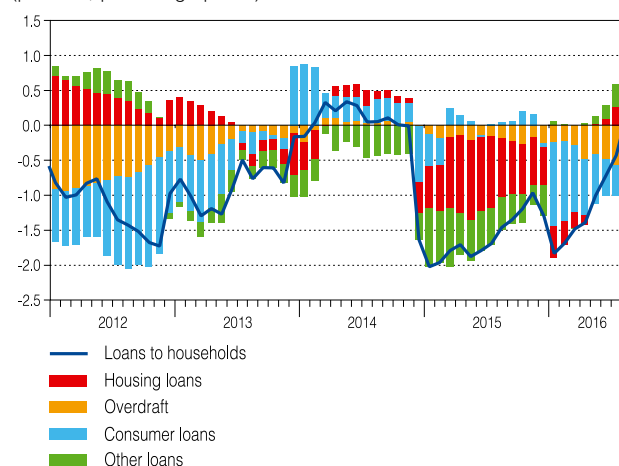


Note: For data characterised by significant volatility, additionally moving averages computed for suitably selected periods are provided, in order to smooth the fluctuations in corresponding time series and present the trends in their development.

Source: BNB.

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

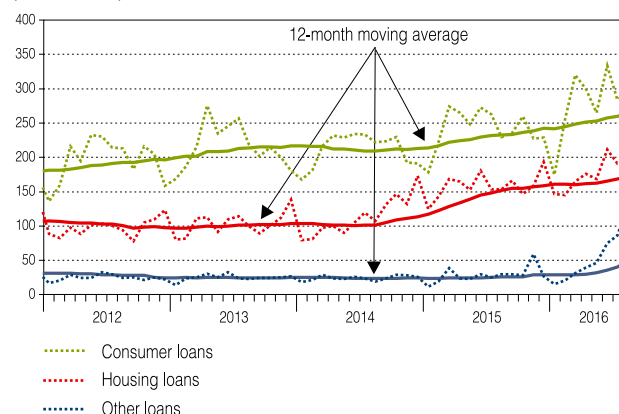
(per cent, percentage points)



Source: BNB.

New Loans to Households (Monthly Volumes)

(BGN million)



Source: BNB.

factors behind corporate credit policy tightening²¹ included lower risk appetite of banks and heightened collateral risk. As regards household loans, banks eased their standards, especially for consumer loans. Eased lending standards for households reflected primarily the increased competition within the banking sector, rising volumes and falling costs of attracted funds, high liquidity and lowered risk assessment. In particular, the risk assessment was positively influenced by the overall macroeconomic environment and favourable outlook in the housing market. Over the July to September period bank expectations show a slight net easing in extending corporate loans. Within household lending, more essential easing is anticipated in consumer loans.

In the second quarter of 2016 banks reported growing demand for loans by both corporations and households. This was broadly driven by the low level of interest rates. Other important factors behind the increased demand for corporate loans were associated with firms' needs for funds to ensure working capital and inventories, as well as for refinancing, restructuring or renegotiating debts. As regards consumer credit, its rising demand reflected also the intensified demand for durable goods and other goods intended for current consumption. Housing loan demand, however, was driven by the favourable outlook in the residential property market, as well as first home or additional property purchases or old debt refinancing. Bank expectations for July–September show that demand for loans by corporations and households will further increase, with more significant growth anticipated in household lending.

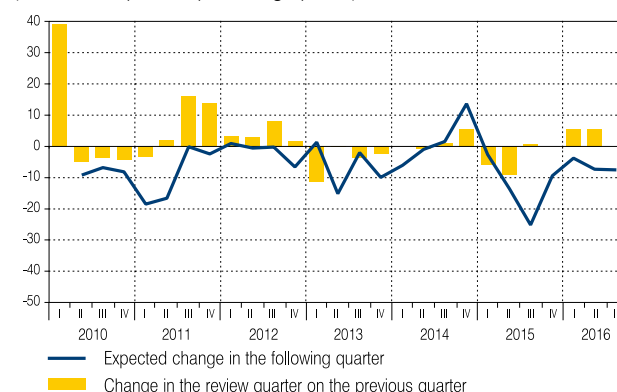
In the fourth quarter of 2016 and first quarter of 2017 non-government sector's deposits are expected to continue growing, albeit at lower rates. Projected dynamics will be driven by expectations of progressively rising private consumption and comparatively high demand for currency in circulation. With finalisation of the asset quality review, effects of bank portfolio optimisation are expected to fade away, which in addition to projected retention of positive developments in new and regular loans will result in

²¹ Credit policy refers to credit standards and credit conditions applied by banks in extending loans. Credit conditions typically involve the reference interest rate surcharge, the loan amount, conditions for its utilisation and other conditions, fees and commissions, collateral or guarantees to be provided by a borrower.

Changes in Credit Standards

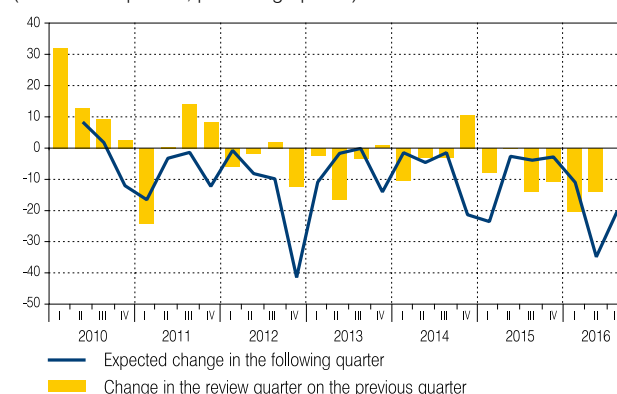
a) corporate loans

(balance of opinions; percentage points)



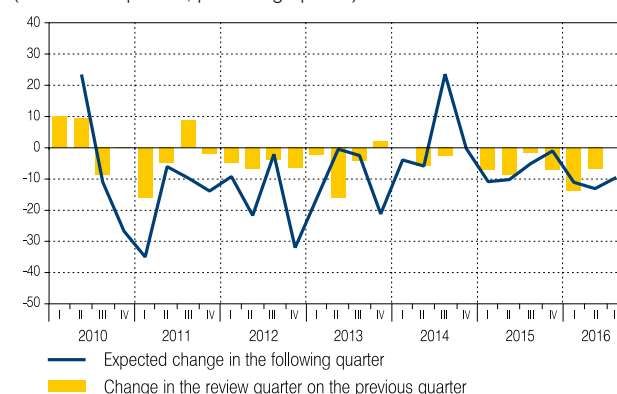
b) consumer loans

(balance of opinions; percentage points)



c) housing loans

(balance of opinions; percentage points)



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 data a quarter forward.

Source: BNB.

acceleration of lending to non-financial corporations and households over the following two quarters.

Interest Rates

After the strong decline in the first four months of 2016, interbank money market rates remained broadly unchanged between May and September.

The decrease in the January–April period was largely driven by Ordinance No 21 amendments under which the BNB applies the ECB deposit facility rate on excess reserves where this rate is negative. The amendments contributed to acceleration of the ECB monetary policy transmission to interbank money market rates in Bulgaria.²² As of September the decline in averaged values between bid and offer quotations of unsecured deposits was 33 basis points in three-month deposits and 59 basis points in 12-month deposits. As of September the averaged values between bid and offer quotations of unsecured deposits in the maturities of up to four months declined to a negative territory.

Changes in bank excess reserve remuneration reflected also in the spread between interbank three-month deposit rates in Bulgaria and the euro area. This spread declined significantly to 21 basis points in April (42 basis points in December 2015). In the following months it tended to increase slightly, reaching 26 basis points in September.

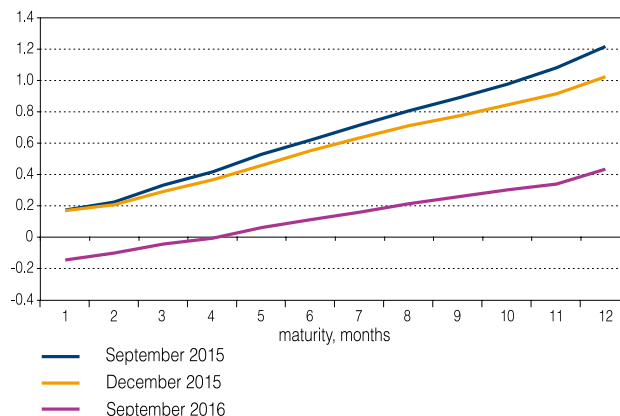
In addition to Ordinance No 21 amendments, LEONIA dynamics reflected also the small number and low volumes of interbank money market transactions. This led to strong fluctuations in the spread between LEONIA and EONIA since early 2016, with its value being positive at 28 basic points in September.

In the context of high bank liquidity and limited investment alternatives, over the first eight months the downward interest rate dynamics in new time deposits was retained, with stabilisation at achieved levels observed in the last two months of the period. The average weighted interest rate on new time deposits of non-financial corporations and households accounted

²² For more information, see the research topic on *The Effect of the ECB Monetary Policy on Interest Rates in Bulgaria*, Economic Review, 1/2016.

Yield Curve of Interbank Money Market Instruments

(per cent)

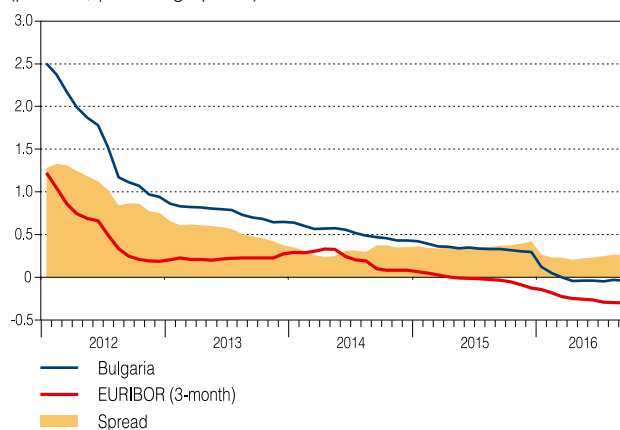


Note: This chart shows average values of SOFIBOR and SOFIBID quotes for unsecured three-month deposits in levs.

Source: BNB.

Interest Rates on Three-month Deposits

(per cent, percentage points)

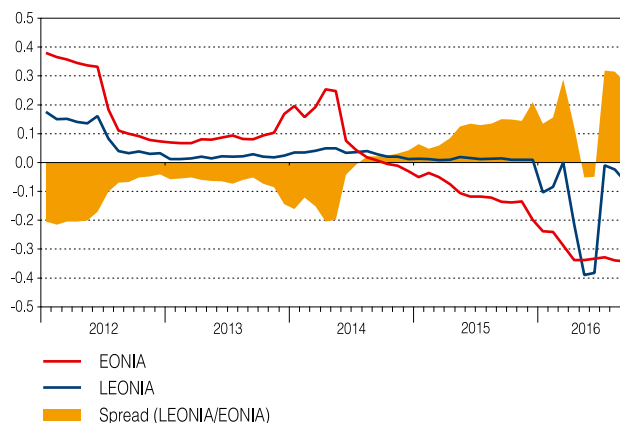


Note: Values for Bulgaria reflect the average value of SOFIBOR and SOFIBID quotes for unsecured three-month deposits in levs.

Sources: BNB, ECB.

Overnight Interbank Money Market Rates

(per cent, percentage points)



Source: BNB.

for 0.7 per cent in August (1.2 per cent in December 2015). Over the first six months the cost of funds attracted from households followed a downward trend, its level being stabilised in July and August, without any significant changes. Interest rates on deposits from non-financial corporations fluctuated somewhat, with a trend toward stabilisation recorded between June and August.

In August average weighted interest rates on new time deposits of non-financial corporations and households in levs and euro decreased from December 2015, unlike US dollar-denominated deposits whose remuneration increased slightly. The share of funds attracted from households and non-financial corporations in foreign currency, the bulk of them in euro, accounted for 40.5 per cent in August, retaining the tendency toward a gradual decline.

Between end-June and end-August the average interest rate at which banks attracted new lev time deposits from households remained broadly unchanged at 0.9 per cent. The decrease in the standard deviation by 4 basis points to 0.54 per cent shows reducing differences in bank interest rates on household lev deposits. The number of banks offering new time deposit rates between 0.5 and 1 per cent increased from June. Fewer banks offered rates between 1.5 and 2 per cent.

In the January to August period, interest rates on new loans continued to decline under the influence of low costs and rising volumes of attracted funds, as well as lack of investment alternatives. Competition within the banking sector also contributed to easing of lending standards.

Interest rates on new loans to non-financial corporations (denominated in levs, euro and US dollars) continued to decrease from December 2015. As of August the interest rate on new lev loans was 5.1 per cent, with the cost of borrowing in euro reaching 5.4 per cent, and in US dollars 6.6 per cent.²³

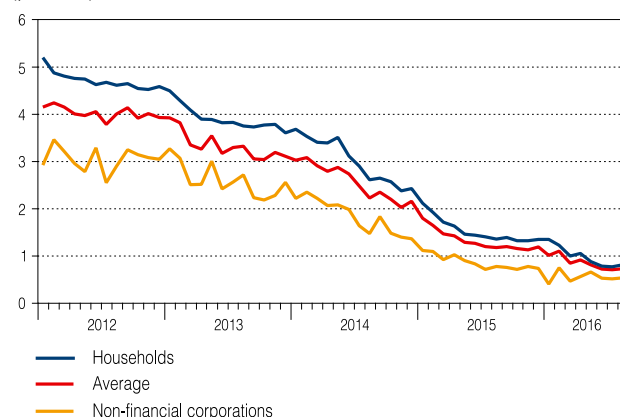
The annual percentage rate of charge (APRC) on household loans also retained its downward trend, with its August decrease in housing loans exceeding that in consumer loans *vis-à-vis* the end of the previous year. In August APRC

²³ The above values of interest rates on loans to non-financial corporations are weighted averages on a 12-month basis.

Interest Rates on New Time Deposits

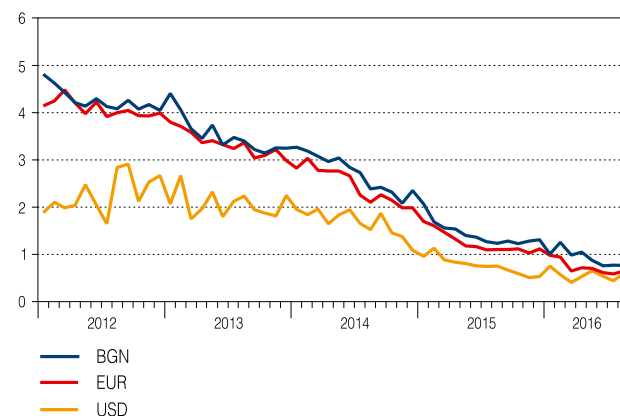
a) by sector

(per cent)



b) by currency

(per cent)

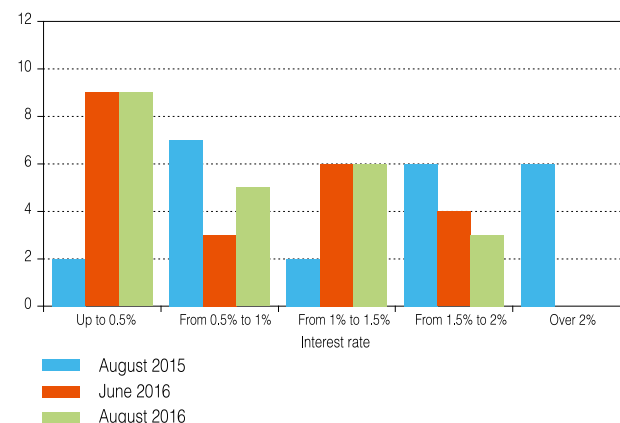


Note: The average interest rate is calculated for all sectors, maturities and currencies weighted by the relevant volumes of new deposits.

Source: BNB.

Distribution of Interest Rates on New Household Time Lev Deposits

(frequency – number of banks)



Note: In a context of continuing declines in interest rates on new time deposits and for better presentation of their distribution, intervals in the chart are moved downward starting from issue 1 of the Economic Review quarterly for 2016.

Source: BNB.

applied to housing loans was 5.8 per cent and that applied to consumer loans 11.1 per cent.²⁴ Both interest rate and non-interest rate components of the charges on housing loans contributed to this drop. Over the same period dynamics of APRC applied to consumer loans was mainly driven by interest rate declines and a slight increase in the implicit rate of non-interest service charges.

As of August the average interest rate on new housing euro loans went down 8 basis points from June to reach 5.67 per cent. The standard deviation fell by 11 basis points to 0.77 per cent. The number of banks offering lending rates of up to 5 per cent and between 7 and 8 per cent increased *vis-à-vis* June, unlike the decreased number of banks offering rates of 5 to 6 per cent and 6 to 7 per cent.

New time deposit and lending rates are expected to continue gradually declining in the fourth quarter of 2016 and first quarter of 2017. Declines in deposit interest rates are expected to be weaker than those in the first half of 2016, reflecting the attained low levels and relative stabilisation in recent months. Factors behind the downward trend in lending rates over the next two quarters will continue to be associated with the low costs and increasing volumes of attracted funds, as well as limited investment alternatives. Another factor will be the ECB policy with regard to parameters of the expanded asset purchase programme.

Given the accumulation of a significant budget surplus as of August (BGN 3317 million)²⁵ and the strong growth of deposits in the fiscal reserve, no primary market bond auctions were conducted between July and September.

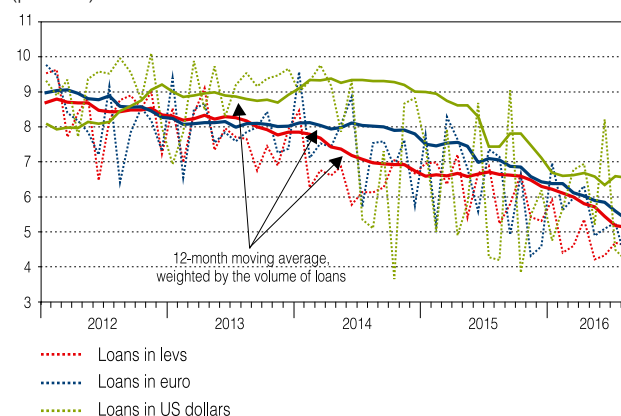
Over the third quarter almost all EU countries reported declines in long-term yields on the secondary government securities market, used to assess the degree of convergence. As of September the yield of the Bulgarian benchmark issue with a maturity of ten years and six months dropped by 25 basis points from the second quarter to reach 2.15 per cent. ECB's continued

²⁴ Values indicating APRC and interest rates are weighted averages of the interest rates on household consumer and housing loans on a 12-month basis.

²⁵ Preliminary MF data point to a surplus of BGN 3388.4 million under the consolidated fiscal programme as of September 2016.

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

(per cent)



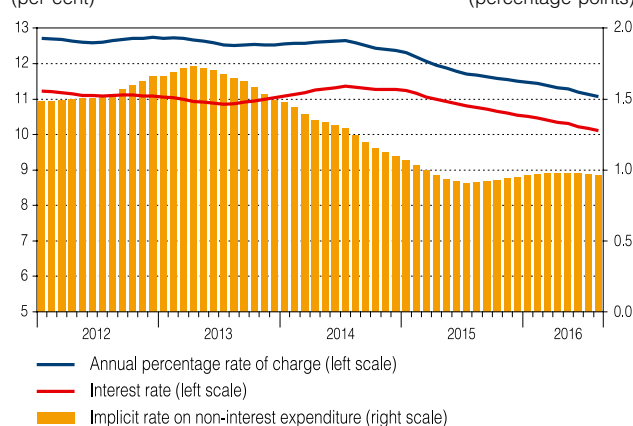
Source: BNB.

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

a) consumer loans

(per cent)

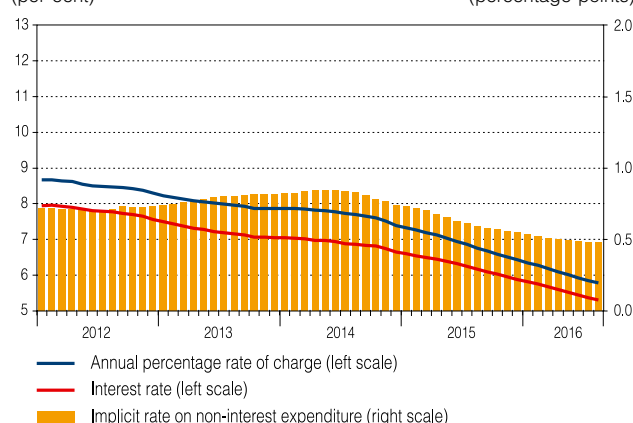
(percentage points)



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 APRC and relevant interest rates and reflects the approximate per cent of all non-interest service charges on loans (including fees and commissions).

Source: BNB.

policy toward asset purchases along with the emerging uncertainty in international financial markets stemming from UK referendum results led to an intense search for higher yields among global investors amid heightened risk appetite. These factors appeared to be the drivers for narrowing spreads of Bulgarian Eurobond yields and German government bond yields across all maturity sectors, as part of the overall decline in spreads of periphery EU countries.

Bulgarian government bond yields are expected to continue decreasing at the end of 2016 and in early 2017, reflecting largely domestic factors: retention of low government bond supply due to the significant increase in the fiscal reserve along with strong demand driven by the high liquidity in the banking system. Expectations of a decline in government bond yields reflect better budget implementation projections for 2016. These factors will affect both domestic government securities yields and Bulgarian Eurobonds yields given the significant share held by residents (48.1 per cent).²⁶

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

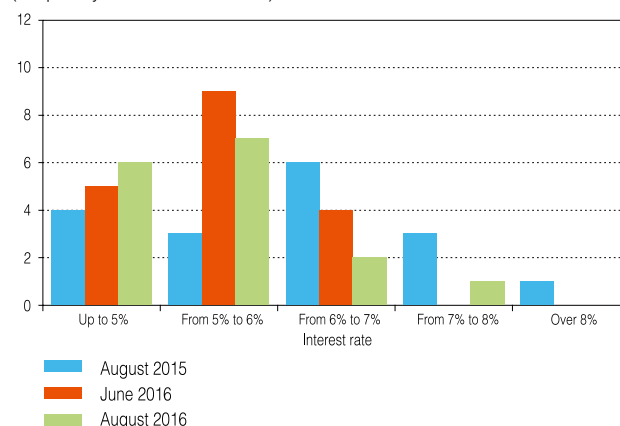
Government's revenue and expenditure policy and budget financing operations affect the allocation of liquidity between economic sectors.

Over the second quarter of 2016 the inflow of liquid resources from the external sector to the budget accounted for 4.8 per cent of GDP. It comprised mainly the refunded payments of BGN 735.1 million under the EU Common Agricultural Policy and EU grants of BGN 599.9 million. The inflow of funds from non-residents exceeded significantly outflows from the budget to the external sector, comprising largely the negative external debt financing (BGN 130.6 million) and the EU budget contribution (BGN 143.5 million).

The financial sector continued to be a net source of liquidity for the budget. In the second quarter net inflows from the banking sector comprised 2.2 per cent of GDP, reflecting two main factors: the redeemed residual portion of liquidity support to the First Investment Bank, provided by the government in June 2014, and the positive

Distribution of Interest Rates on New Housing Loans in Euro

(frequency – number of banks)

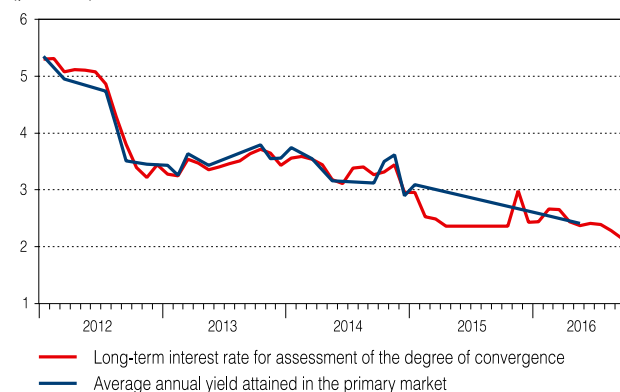


Note: In a context of continuing declines in interest rates on new loans and for better presentation of their distribution, intervals in the chart are moved downward starting from issue 1 of the Economic Review quarterly for 2016.

Source: BNB.

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

(per cent)



Source: BNB.

²⁶ Share of government securities issued in international capital markets and held by residents as of August 2016.

net government bond issue for the April to June period (BGN 100 million).²⁷ The excess of BNB revenue over expenditure deposited in favour of the budget in April was an additional source of liquidity accounting for 0.1 per cent of GDP for the second quarter.

Financial flows attracted from the external and financial sector (excluding the BNB) were primarily used to increase the government deposit with the BNB (up BGN 1428.6 million for the second quarter).

Net flows from the budget to the non-government non-bank sector were positive, albeit small, with outflows from the non-government non-bank sector in the form of tax and non-tax revenue recording lower volumes than budget expenditure on transfers and other payments.

Preliminary monthly data as of mid-October 2016 indicate that net liquidity flows from the external sector will continue to be positive, but limited in amount, over the third quarter. Decreased quarter-on-quarter grants received under the EU Structural and Cohesion Funds (BGN 312 million) and refunded payments under the EU Common Agricultural Policy are expected to slightly exceed the outflows. Projected outflows will comprise mainly the EU budget contribution and interest payments to non-residents, the bulk of which paid on benchmark bonds maturing in 2017 and 2024. Reflecting largely the negative net issue of government bonds in the domestic market for the third quarter,²⁸ the banking sector, excluding the BNB, is expected to be a net beneficiary of liquidity from the budget. Most of the increase in the government deposit with the BNB over the third quarter (up BGN 201.9 million) could be explained by inflows from the non-government non-bank sector as a result of the excess of tax and non-tax revenue over non-interest budget expenditure made in this period.

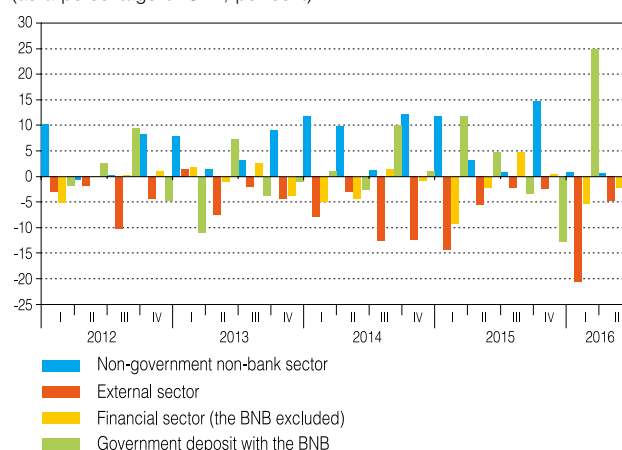
Developments in the financial flows generated in the process of external and internal economic factor interaction contributed to the growth in international foreign exchange reserves. By end-September 2016 the market value of international reserves (assets on the Issue Department

²⁷ During the review period, no payments were made on matured government securities.

²⁸ In the third quarter no government bonds were issued in the primary market, and repayments by end-September amounted to BGN 205 million.

Consolidated Budget Effect on Other Sectors' Liquidity (Quarterly)

(as a percentage of GDP, per cent)



Sources: MF, BNB.

balance sheet) rose from the end of the previous year by EUR 3.2 billion to EUR 23.5 billion (BGN 45.9 billion). According to the currency board principles, the increase in international reserves corresponds to the increase in the Issue Department balance sheet liabilities. In the first nine months, dynamics in liabilities was largely driven by the increase of the government deposit with the BNB *vis-à-vis* December 2015, reflecting Eurobonds proceeds in March and accumulation of a large surplus on the consolidated fiscal programme. Concurrently, reduced liabilities to banks *vis-à-vis* the end of the prior year limited the growth in Issue Department's liabilities.

Over the fourth quarter of 2016 and first quarter of 2017 bank funds with the BNB are expected to match the levels observed in the third quarter. A decline is projected in the government deposit with the BNB over the fourth quarter as a result mainly of anticipated growth in budget expenditure.²⁹ In the first quarter of 2017 government deposit with the BNB is expected to increase due mainly to the projected budget surplus for the period. Over the projection horizon demand for money is expected to remain high and currency in circulation to grow further at comparatively high rates on an annual basis.

²⁹ For details on projected budget balance, see Chapter 3, *Fiscal Policy Effects on the Economy* section.

3. Economic Activity

In the second quarter of 2016 real GDP increased by 0.9 per cent on a quarterly basis. Net exports and consumption had a positive effect on economic activity growth in Bulgaria, while investment in fixed capital contributed negatively.

Short-term economic indicators over the second and third quarters of 2016 give mostly positive signs about the economic development. Still low oil prices and positive developments in the labour market favoured creation of conditions for further growth in consumption and investment activity of corporations which will offset lower government investment. The external environment, in turn, remains a source of uncertainty. Quarterly GDP growth is expected to continue increasing in the fourth quarter of 2016 and the first quarter of 2017.

Current Economic Environment

In the second quarter of 2016 real GDP increased by 0.9 per cent on a quarterly basis.³⁰ Net exports had the main positive contribution to overall GDP growth as a result of the stronger increase in exports of goods and services compared with imports. As in the previous quarter net exports retained their high positive contribution on an annual basis. Government and private consumption also contributed to quarterly growth of GDP, while investment in fixed assets decreased in real terms.

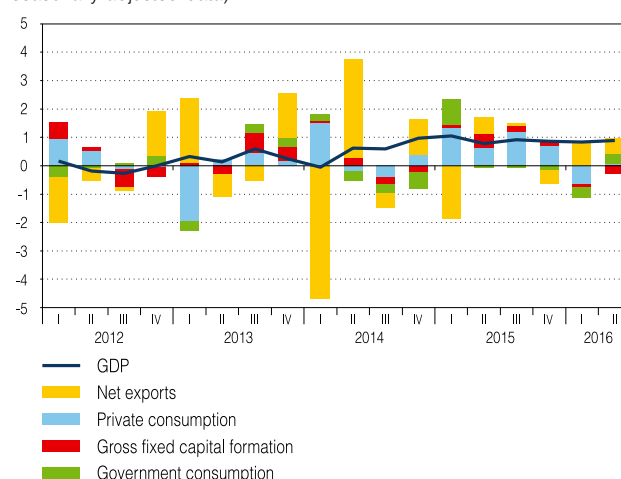
Indicators tracking firms and households' sentiment (NSI business climate and consumer confidence surveys) remained at high levels in the third quarter of 2016. The business climate indicator has improved since the beginning of the year. Expectations of the future economic activity for the total economy continued to increase gradually.

In the fourth quarter of 2016 and the first quarter of 2017 the improving labour market, growing labour income of households and optimistic consumer sentiment are expected to have a positive effect on private consumption. Government consumption is foreseen to have a positive contribution to GDP growth until end-2016 and a

³⁰ The quarter-on-quarter analysis in this Chapter 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

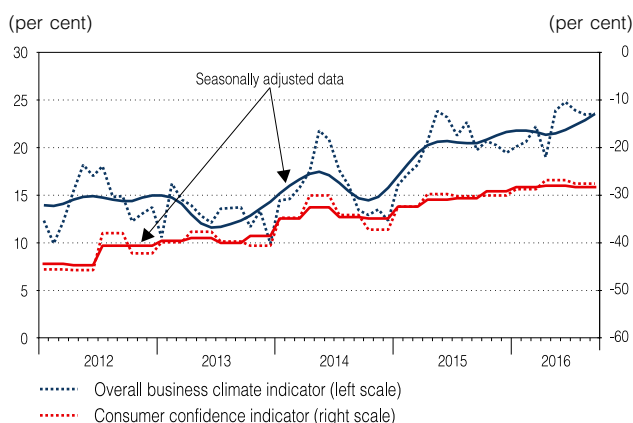
(per cent, percentage points, quarter-on-quarter; seasonally adjusted data)



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

Sources: NSI, BNB calculations.

Business Climate and Consumer Confidence



Sources: NSI, BNB calculations.

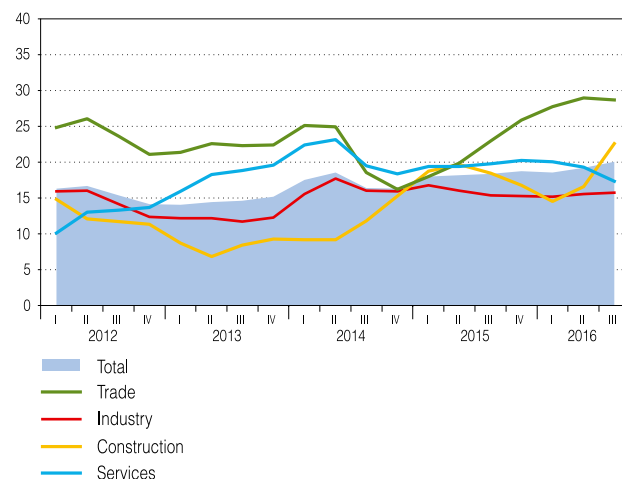
neutral contribution to growth in the first quarter of 2017.

Improving economic indicators and high levels of capacity utilisation create conditions for an increase in private investment. By the end of 2016 public investments may strongly grow on a quarterly basis. However, this growth will be insufficient to offset their fall in the first half of the year. In early 2017 the government investment activity is expected to be weaker compared with the previous quarter.

Net exports are anticipated to have a positive contribution to economic growth in the fourth quarter of 2016 and the first quarter of 2017. Exports of goods and services are projected to grow on a quarterly basis driven by increasing external demand, while imports are expected to increase at a slower rate.

Expectations about Future Economic Activity

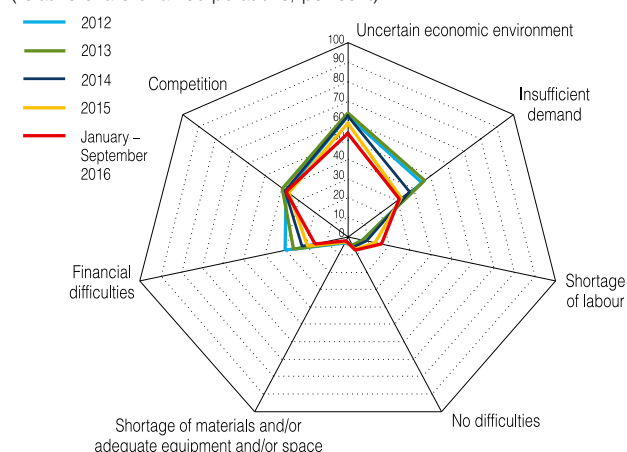
(balance of opinions, per cent; seasonally adjusted data)



Sources: NSI, BNB calculations.

Factors Limiting Economic Activity of Corporations

(relative share of all corporations, per cent)



Note: Average data for the respective period calculated as sector-weighted (industry, construction, trade and services).

Sources: NSI, BNB calculations.

Real GDP Growth by Component of Final Use

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

	2013				2014				2015				2016	
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
Consumption incl.	-2.9	0.3	1.0	0.6	2.3	-0.7	-1.1	-0.3	2.9	0.7	1.5	0.7	-1.5	0.5
Households consumption	-2.9	0.3	0.8	0.2	2.4	-0.3	-0.7	0.6	2.0	1.0	1.8	1.1	-0.9	0.1
Government final consumption expenditure	-0.9	-0.6	-0.6	2.1	2.7	-2.4	1.2	-5.3	2.7	2.2	-1.6	-0.1	0.1	0.9
Collective consumption	-0.4	1.0	2.6	1.2	-0.4	-0.8	-2.6	-0.9	3.2	-0.9	0.0	-0.5	-2.7	1.1
Gross fixed capital formation	0.5	-1.4	3.3	2.4	0.4	1.3	-0.9	-1.1	0.6	2.3	0.9	0.9	-0.4	-1.4
Exports of goods and non-factor services	5.7	0.6	6.3	-3.4	-2.8	5.1	1.6	3.8	1.4	-0.6	-1.7	3.0	1.8	1.4
Imports of goods and non-factor services	1.6	1.9	7.0	-5.7	4.7	-0.7	2.4	1.8	4.2	-1.4	-1.8	3.7	0.5	0.5
GDP	0.3	0.2	0.6	0.2	0.0	0.6	0.6	1.0	1.1	0.8	0.9	0.9	0.8	0.9

Source: NSI.

A positive effect on GDP growth would have still low petroleum prices and high levels of consumer confidence, which are expected to encourage private consumption and firms' investment policies reducing their production costs. Despite the improvement in the current economic activity of EU major trading partners, the external environment remained a source of uncertainty. Risks associated with the external environment involve primarily slower growth in the euro area which may prompt a slowdown in real growth in Bulgaria. Real GDP is expected to continue growing until the end of 2016 and early 2017 on both a quarterly and annual basis.

Household Behaviour

The improving labour market in the second quarter of 2016 continued to have a favourable effect on household consumption, while the household savings rate remained at relatively high levels. Employment (national accounts data) accelerated its growth in the second quarter of 2016 on both an annual and quarterly basis. Corporations' expectations about the number of personnel reflect the continuous recovery of labour demand by firms in almost all sectors of the economy. Household income from remuneration continued to increase over the review period (both annually according to non-seasonally adjusted data on wage bill and average wage per employee and quarterly according to seasonally adjusted national accounts data). These factors had a positive effect on labour income and supported consumer demand growth.³¹

According to the NSI Labour Force Survey in the second quarter of 2016 labour supply by households, measured by the labour force dynamics,³² remained low. The labour force participation rate³³ slightly increased on the previous quarter as a result of the decrease in labour force and in the number of working-age persons.

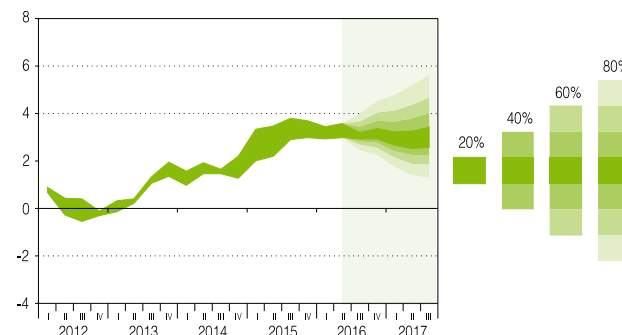
³¹ The increase in the minimum wage as of 1 January 2017 will also contribute to households' income growth. According to the government's medium-term budget forecast for the 2017–2019 period as of 1 January 2017 the minimum wage will be raised to BGN 460 and the amount will be sustained over 2018 and 2019.

³² The labour force (currently economically active population) comprises persons aged 15 and older who provide the supply of labour for the production of goods or services. The labour force includes both employed and unemployed persons.

³³ The labour force participation rate is the proportion between economically active persons (labour force) and the population of the same age.

Fan Chart of the Expected Annual Rate of Change in Real GDP

(per cent)

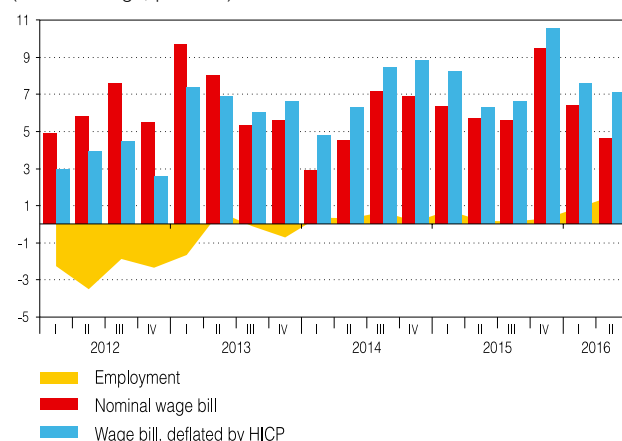


Note: The fan chart shows the expert views of the forecasters on the uncertainty surrounding the projected value based on a probability distribution. The reporting period shows revisions of GDP growth estimates. The middle band of the chart, depicted in the darkest colour, includes the central projection 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.

Employment and Nominal Wage Bill

(annual change, per cent)

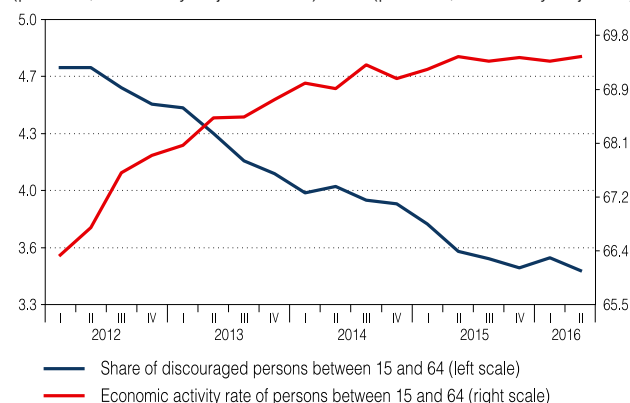


Sources: NSI – SNA, BNB calculations.

Economic Activity and Share of Discouraged Persons

(per cent; seasonally adjusted data)

(per cent; seasonally adjusted)



Sources: NSI – Labour Force Survey, BNB calculations.

The number of long-term unemployed persons went down in the second quarter of 2016 (according to seasonally adjusted data). The Labour Force Survey shows that in the second quarter of 2016 the unemployment rate³⁴ continued to decrease, reaching 7.8 per cent (according to non-seasonally adjusted data: 8.1 per cent), with the number of unemployed of over one year contributing most significantly to this decrease. The seasonally adjusted unemployment rate,³⁵ calculated using the Employment Agency data, also decreased in 2016, reaching 8.3 per cent in September (7.8 per cent according to non-seasonally adjusted data).

Seasonally adjusted national accounts data show that household consumption in the second quarter of 2016 increased by 0.1 per cent on a quarterly basis. Retail trade volumes also increased from the previous quarter, with the reported data for the July–August period indicating further acceleration of the rate of growth. In line with the increased consumer demand in recent months the upward trend in new consumer loans was sustained. Concurrently, the NSI consumer survey³⁶ shows that July 2016 expectations of households for their major costs continued to improve, while the consumer confidence indicator slightly decreased over the same period due to worsened expectations of households as to their economic and financial position.

The household savings rate increased slightly in the second quarter of 2016 and remained comparatively high. The NSI Household Budget Survey data show that the share of savings in household disposable income continued to increase. The share of households, which intend to increase their savings in the follow-

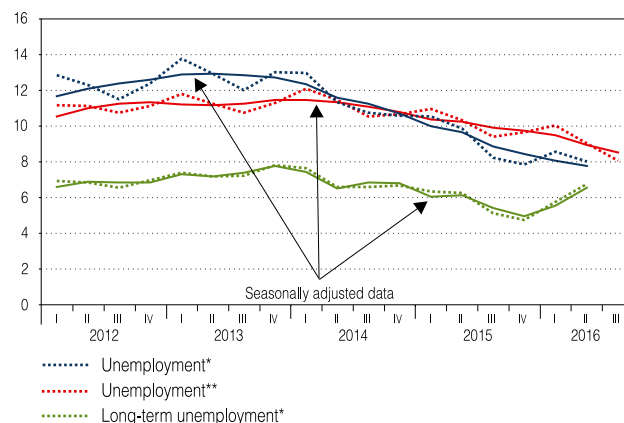
³⁴ The unemployment rate is the proportion between the number of unemployed and the labour force based on Labour Force Survey data.

³⁵ The definition of the unemployment rate according to the Employment Agency corresponds to that referred to in footnote 33, 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.

³⁶ 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).

Unemployment Rate

(per cent, share of labour force)



* NSI data.

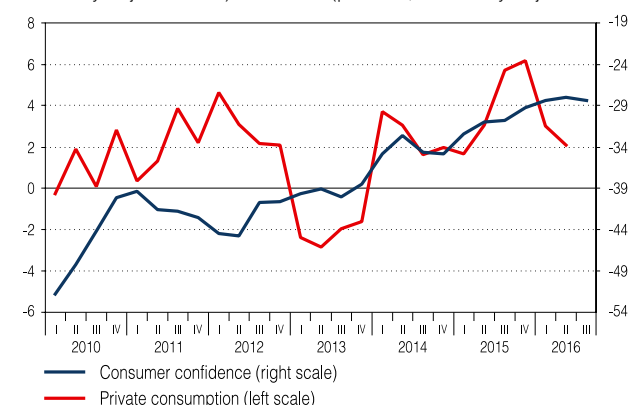
** Employment Agency data.

Sources: NSI – Labour Force Survey, Employment Agency, BNB calculations.

Private Consumption and Consumer Confidence

(annual change, per cent;
seasonally adjusted data)

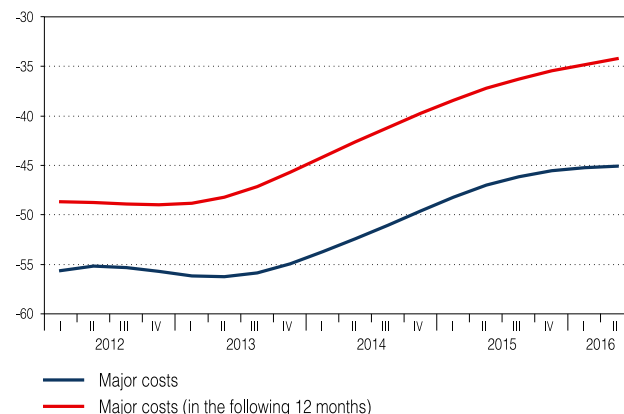
(per cent; seasonally adjusted data)



Sources: NSI – Consumer Survey, BNB calculations.

Expectations of Households about Their Major Costs

(per cent; seasonally adjusted data)



Source: NSI – Consumer Survey.

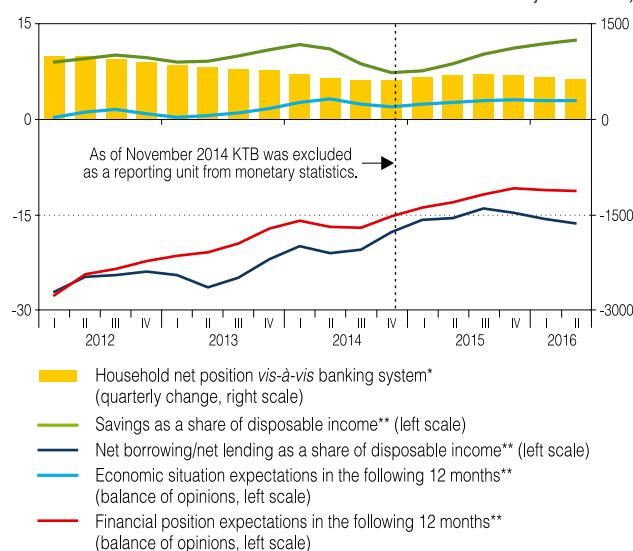
ing 12 months, remained also high (according to the Consumer Survey of July 2016). Households' net assets measured by their net position in the banking system (BNB monetary statistics) remained at relatively high levels.

At the end of 2016 and in early 2017 growth in labour income and employment are expected to continue to contribute favourably to a moderate increase in consumer demand. In the first quarter of 2017 higher income is expected to create conditions for the economic activity rate and the labour supply to rise slightly.

Household Propensity to Save and Expectations

(per cent; seasonally adjusted data)

(BGN million; seasonally adjusted data)



* BNB data.

** NSI data.

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

Employment and Income Dynamics

	2013				2014				2015				2016	
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
(per cent, quarter-on-quarter; seasonally adjusted data)														
Employed persons	-0.3	0.6	-0.5	0.1	0.3	0.2	0.2	-0.1	0.3	-0.1	0.1	0.1	0.3	0.5
Nominal wage <i>per employee</i> *	3.2	0.8	0.6	1.7	1.0	1.6	2.3	0.6	1.5	1.7	0.8	2.1	0.7	0.5
Real wage <i>per employee</i> **	2.7	1.4	1.1	1.5	1.9	2.3	2.3	1.6	0.7	1.9	1.8	2.3	1.5	0.3
Wage bill, nominal terms	3.1	0.7	0.4	1.7	0.8	1.9	2.1	0.6	2.2	1.8	1.2	2.3	0.8	1.2
Wage bill, real terms**	2.6	1.3	0.8	1.5	1.7	2.6	2.1	1.6	1.4	2.0	2.2	2.5	1.6	1.0
(per cent, on corresponding quarter of previous year, non-seasonally adjusted data)														
Employed persons	-1.7	0.7	-0.1	-0.7	0.3	0.3	0.7	0.1	0.8	0.2	0.2	0.3	0.9	1.5
Nominal wage <i>per employee</i> *	12.3	8.6	6.2	6.6	3.5	4.3	7.3	7.3	5.5	5.1	4.2	8.1	4.8	2.5
Real wage <i>per employee</i> **	9.9	7.4	6.9	7.7	5.4	6.1	8.5	9.2	7.4	5.8	5.2	9.2	5.9	5.0
Wage bill, nominal terms	9.7	8.0	5.3	5.6	2.9	4.5	7.2	6.9	6.4	5.7	5.6	9.5	6.4	4.6
Wage bill, real terms**	7.4	6.9	6.0	6.7	4.8	6.3	8.5	8.8	8.3	6.3	6.6	10.6	7.6	7.1

* 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.

Retail Trade Turnover

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

	2013				2014				2015				2016		
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	July – August
Retail trade, excluding motor vehicles and motorcycles	0.9	4.2	0.1	1.1	7.4	0.8	1.1	0.0	0.3	-0.1	-0.1	0.5	2.2	0.8	1.4
incl.															
Food, drinks and tobacco products	-4.6	3.7	3.3	-0.5	19.8	1.3	-1.0	-1.4	0.6	-0.3	-1.1	-0.6	16.6	-3.5	-1.8
Textile, clothing, footwear and leather	-0.3	7.4	6.0	-2.3	0.0	4.7	3.8	-2.6	-7.4	2.1	-0.3	2.4	7.5	-0.3	-0.8
Household appliances, furniture and other household goods	1.6	2.6	2.0	2.0	-0.9	0.7	0.4	2.1	2.4	-0.2	0.4	-1.1	0.4	1.0	-0.3
Computer and communication equipment	11.4	-0.8	-2.8	8.5	-3.6	-3.2	-1.3	-0.1	0.7	-0.6	-0.6	-0.7	-12.9	9.6	1.5
Pharmaceutical and medical goods, cosmetics and toiletries	5.7	5.6	4.5	2.4	3.8	1.0	1.6	3.5	2.6	0.7	1.3	1.7	0.4	1.9	3.6
Unspecialised shops with different kinds of goods	-4.9	13.5	-3.2	0.6	1.9	2.1	1.4	-2.9	2.0	1.3	-0.5	-1.9	-1.6	0.7	-0.4
Automobile fuels and lubricants	-4.2	5.6	-5.2	-1.3	5.8	-1.2	9.3	-3.0	5.2	-5.4	-2.9	7.1	-3.9	3.3	-0.5

Source: NSI – Short-term business statistics.

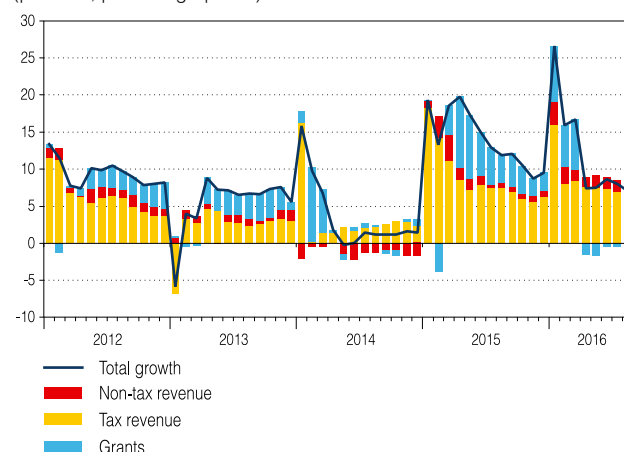
Impact of Fiscal Policy on the Economy

Between January and August 2016 the surplus on cash-based consolidated fiscal programme amounted to BGN 3317.0 million. The reported improvement of the fiscal position as compared with the corresponding period of 2015 (by BGN 2695.0 million) reflected both the good performance of tax and non-tax revenue and the significant decrease of capital expenditure under EU programmes due to the initial stage of implementing projects for the 2014–2020 programme period.

Tax revenue contributed most substantially to the 7.1 per cent annual growth in total government revenue and grants between January and August 2016 (a contribution of 6.3 percentage points) followed by non-tax revenue (a contribution of 1.6 percentage points). As a result of fading effects of one-off reported VAT revenue in early 2016 the growth rate of tax revenue continued to slow down (8.2 per cent for the January–August period), but remained at a level significantly exceeding GDP nominal growth for the first half-year (3.6 per cent). Indirect taxes had the highest contribution to growth of tax revenue, increasing by 8.8 per cent on an annual basis, mostly as a result of consumption growth, the measures intended to improve collectability and higher tobacco excise duties. The implementation of direct taxes and revenues from social and health contributions was positively influenced by

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.

the ongoing recovery of the labour market and the changes made to minimum insurance income and minimum wage in early 2016.

Revenue from grants decreased by 7.4 per cent compared with the same period of the previous year, including mostly funds refunded by the EC on expenditures made at the end of 2015 from the 2007–2013 programme period and to a lesser extent advance payments for the 2014–2020 programme period.

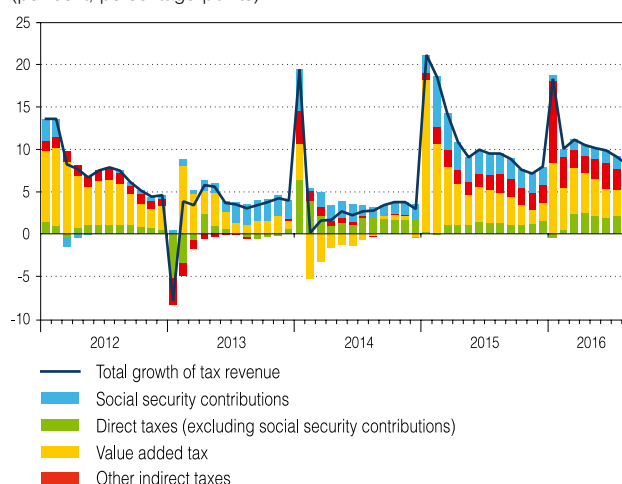
By August 2016 total expenditure on the consolidated fiscal programme showed a 5.6 per cent annual decline due mainly to the reduction of capital expenditure (-56.6 per cent), reflecting the weak absorption of funds under EU programmes since the beginning of the year.³⁷ Concurrently, current non-interest expenditure grew by 3.2 per cent due primarily to the increased social payments (4.1 per cent) and compensation of employees (3.2 per cent). Operating expenditure and Bulgaria's contribution to the EU budget decreased by 1.6 per cent and 10.1 per cent respectively.

In the second quarter of 2016 government consumption had a low positive contribution to GDP growth. The slight quarterly decline of health insurance expenditure in the second quarter of the year was entirely offset by higher operating and wage expenditure made over the same period.

According to preliminary data and MF estimates the accumulated budget surplus as of September 2016 came to BGN 3388.4 million (3.8 per cent of the projected GDP for the year). The implementation of budget expenditure in July and August and preliminary estimates on expenditure dynamics in September indicate a positive contribution of government consumption and investment to quarter-on-quarter GDP growth in the third quarter of the year.

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

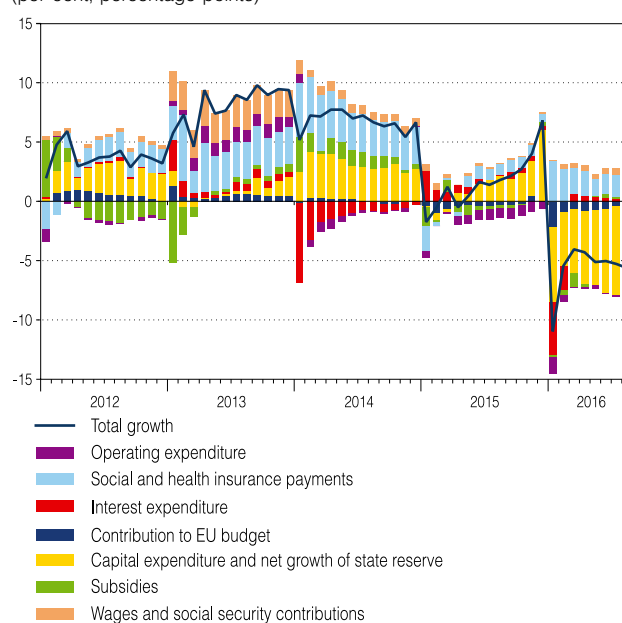
(per cent; percentage points)



Sources: MF, BNB calculations.

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

(per cent; percentage points)



Sources: MF, BNB calculations.

³⁷ In the MF report the cash-based performance of the consolidated fiscal programme for the 2016 first half-year the slower absorption of funds under EU programmes in the first half of the year may be explained by: administrative difficulties as a result of simultaneous preparation of documents associated with the completion of the 2007–2013 operational programmes and acceptance of documents for the new programming period; changes to the national legislation; restructuring of major beneficiaries.

Revenue, Expenditure and Budget Balance on the Consolidated Fiscal Programme for 2015–2016

Consolidated Fiscal Programme	2015								2015		2016				2015		2016	
	I		II		III		IV		January – December		I		II		January – August ¹		January – August ¹	
	BGN million	per cent ²	BGN million	per cent ²	BGN million	per cent ²	BGN million	per cent ²	BGN million	per cent ²	BGN million	per cent ²	BGN million	per cent ²	BGN million	per cent ²	BGN million	per cent ²
Total revenue and grants	7 795.1	18.5	8 508.4	12.0	7 858.7	6.4	8 051.1	2.5	32 213.4	9.5	9 096.7	16.7	8 612.7	1.2	21 490.9	11.8	23 015.1	7.1
Tax revenue	5 937.4	14.2	6 348.7	6.2	6 282.3	6.6	6 287.2	5.6	24 855.6	7.9	6 596.6	11.1	6 892.1	8.6	16 554.1	9.5	17 906.1	8.2
Corporate tax	463.8	2.4	544.6	9.8	230.3	5.0	621.7	21.6	1 860.4	10.8	555.3	19.7	540.1	-0.8	1 177.6	7.8	1 297.9	10.2
Income tax for individuals	621.2	-0.2	734.9	8.4	670.5	4.0	704.6	8.1	2 731.2	5.2	648.7	4.4	794.8	8.2	1 820.7	4.2	1 973.8	8.4
Value added tax	1 969.4	21.8	1 976.9	5.8	2 136.3	5.3	1 657.3	-5.2	7 740.0	6.5	2 293.8	16.5	2 061.8	4.3	5 387.4	11.2	5 834.9	8.3
Excise duties	949.8	11.1	1 056.9	7.9	1 325.9	15.1	1 192.4	13.4	4 525.0	12.0	1 069.2	12.6	1 311.4	24.1	2 895.2	12.7	3 164.4	9.3
Customs duties	39.4	12.5	36.1	2.8	37.8	-9.4	45.7	10.6	159.0	3.8	41.0	4.1	42.6	18.1	99.5	0.1	116.1	16.7
Social security and health insurance contributions	1 624.7	16.4	1 727.2	5.2	1 729.1	5.2	1 866.1	5.6	6 947.1	7.7	1 696.6	4.4	1 827.7	5.8	4 512.0	9.1	4 757.1	5.4
Other taxes	269.1	21.7	272.1	-3.0	152.4	-7.5	199.3	10.4	892.9	5.4	292.0	8.5	313.7	15.3	661.8	4.8	761.9	15.1
Non-tax revenue	1 079.8	25.8	939.1	-2.7	832.2	-4.8	859.0	12.8	3 710.1	7.2	1 199.6	11.1	1 088.6	15.9	2 543.3	5.1	2 891.8	13.7
Grants	777.9	50.3	1 220.6	87.9	744.2	20.8	904.9	-20.5	3 647.7	24.9	1 300.5	67.2	632.0	-48.2	2 393.5	43.2	2 217.1	-7.4
Total expenditure (including the contribution to EU budget)	7 539.2	1.2	7 874.8	2.1	8 115.6	3.1	11 167.9	18.2	34 697.6	6.8	7 234.4	-4.0	7 404.3	-6.0	20 868.9	1.8	19 698.1	-5.6
Wages and social security contributions	1 415.2	1.4	1 519.3	1.8	1 459.6	-0.8	1 688.9	1.8	6 083.0	1.1	1 448.6	2.4	1 563.0	2.9	3 908.2	0.8	4 033.1	3.2
Operating expenditure	1 004.8	-1.1	1 021.8	-10.8	958.6	-6.3	1 493.8	-3.1	4 479.0	-5.2	993.8	-1.1	1 029.4	0.7	2 686.8	-5.9	2 644.6	-1.6
Interest	262.8	31.8	46.8	15.2	320.6	18.4	68.2	-1.3	698.3	20.4	310.8	18.3	50.4	7.7	491.0	2.6	545.7	11.1
Social security, assistance and social care	3 388.3	0.4	3 503.6	4.2	3 472.1	2.5	3 577.3	-0.1	13 941.2	1.7	3 551.8	4.8	3 599.9	2.7	9 196.8	2.0	9 570.9	4.1
Subsidies	400.7	21.9	378.4	-25.8	287.9	-1.2	594.4	41.3	1 661.4	7.1	315.8	-21.2	511.9	35.3	987.9	-5.0	1 064.1	7.7
Capital expenditure and reserves of the general government sector	765.4	-2.6	1 201.6	26.3	1 497.8	16.6	3 423.4	78.3	6 888.2	39.4	359.7	-53.0	506.2	-57.9	3 002.0	17.3	1 303.3	-56.6
Contribution to general budget of the European Union	301.9	-13.4	203.4	-4.5	119.2	-14.1	321.9	26.5	946.4	-0.9	253.9	-15.9	143.5	-29.4	596.3	-10.0	536.4	-10.1
	BGN million	difference ³ (BGN million)	BGN million	difference ³ (BGN million)	BGN million	difference ³ (BGN million)	BGN million	difference ³ (BGN million)	BGN million	difference ³ (BGN million)	BGN million	difference ³ (BGN million)	BGN million	difference ³ (BGN million)	BGN million	difference ³ (BGN million)	BGN million	difference ³ (BGN million)
Budget balance, on a cash basis	255.9	1 130.6	633.6	755.3	-257.0	225.6	-3 116.8	-1 522.8	-2 484.2	588.7	1 862.3	1 606.4	1 208.4	574.8	622.0	1 897.6	3 317.0	2 695.0

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 The change of the budget balance on the same period of previous year.

Source: MF.

In the last quarter of 2016 a stronger increase may be expected in capital expenditure as a result of both higher investments from the national budget and increased payments to beneficiaries under operational programmes.³⁸ The acceleration of public investment by the end of the year will be insufficient to offset the weak absorption of funds under EU programmes in the first half of the year. Accordingly, over the year public investments may sizeably decrease, which is in line with government intentions to save a

³⁸ The MF report on the cash-based performance of the consolidated fiscal programme for the 2016 first half-year states that payments under EU programmes are expected to increase at the close of the year due to payments made at the year-end for the works done on infrastructure projects during the active construction season and the implemented electronic application system.

portion of projected expenditure and to reduce the cash-based deficit under 1 per cent of GDP in 2016.³⁹ The gradual acceleration of absorbing funds under EU programmes will be the major factor determining public investment dynamics in 2017. In the beginning of the year investment activity is expected to be weaker, while by the close of the year it is anticipated to accelerate.

Based on the expected acceleration of current non-interest expenditure growth in the fourth quarter of 2016 the positive contribution of government consumption to GDP growth is expected to be higher compared with the first half-year, while in the first quarter of 2017 government consumption is expected to have a neutral contribution to GDP growth on a quarterly basis.

Behaviour of Firms and Competitiveness

In the second quarter of 2016 real value added for the total economy retained its upward trend posting quarter-on-quarter growth of 0.7 per cent. The services sector, reporting an increase of 1.0 per cent on the first quarter of 2016, contributed most substantially to growth. The growth in services was mostly attributable to the increase in the trade sector,⁴⁰ the information and communication sector⁴¹ and real estate operations. National accounts data were supported by data on enhanced demand in retail trade, trade of motor vehicles and motorcycles, transport, hotels and restaurants, measured by trade volumes of the corresponding sectors on a quarterly basis. The contribution of construction to the change in the value added over the second quarter of 2016 was almost neutral. A decline in the construction production index (at constant prices) was observed both in the building and civil construction. The number of issued building permits for construction of new buildings indicated a decline mostly in the number of administrative buildings, while the number of housing buildings increased somewhat. In the second quarter of 2016 the gross value added in industry decreased by 0.8 per cent on a quarterly basis, with the real industrial turnover

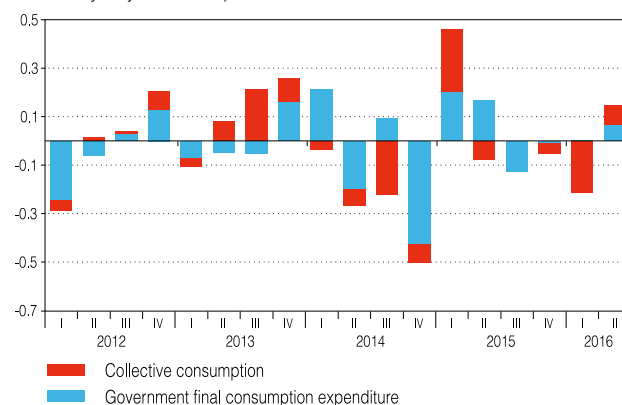
³⁹ See MF report on the cash-based performance of the consolidated fiscal programme for the first half of 2016.

⁴⁰ In this Chapter, it should read the trade, repair of motor vehicles and motorcycles, transport, storage and mail services, hotels and restaurants sector by A10 breakdown of economic activities.

⁴¹ In this Chapter, it should read the information and communication sector by A10 breakdown of economic activities.

Contribution of Government Consumption Components to Real GDP Growth

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

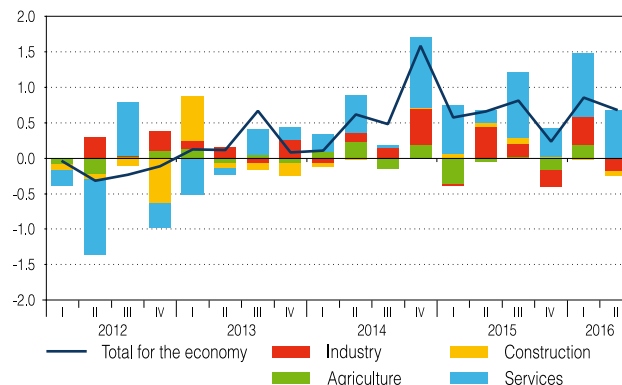


Note: Non-additive data on the government consumption (see the Chart Contribution to GDP Growth by Final Use Component on p. 31) and its components due to direct chain-linking and seasonal adjustment of GDP and its components.

Sources: NSI, BNB calculations.

Value Added Growth and Contribution by Sector

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

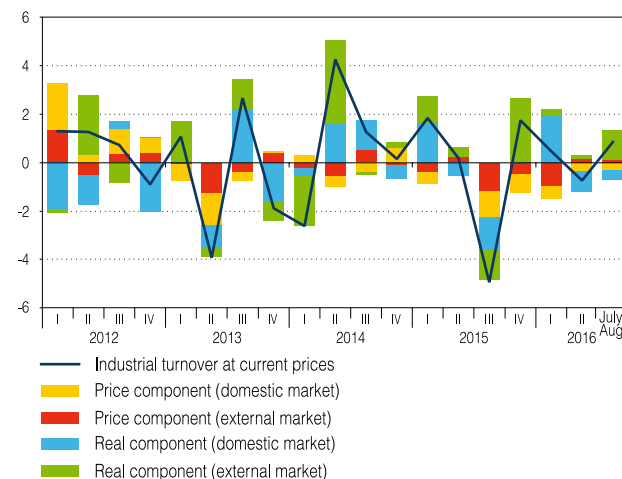


Note: Non-additive data on contributions due to direct seasonal adjustment of value added and its components.

Sources: NSI, BNB calculations.

Industrial Turnover Dynamics

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



Sources: NSI, BNB calculations.

component in the domestic market reporting a decline and that in the external market a further increase.

NSI data on short-term business statistics (turnover in industry, trade and construction) for July and August 2016 indicate an increase in gross value added in the respective sectors in the third quarter of 2016. In line with the increase in industrial output the volume of sales in industry between July and August went up compared with the average volume for the second quarter of 2016. The volume of external market sales increased while that of domestic market sales continued to decrease. Over the same period the retail trade volume⁴² both at current and constant prices accelerated its rate of growth on a quarterly basis. Despite the lower rate of decrease the construction production index continued its downward trend of the recent quarters.

Investment activity of corporations improved in the second quarter of 2016. According to national accounts data and BNB calculations (using quarterly non-financial accounts of the general government sector and reports on the performance of the consolidated fiscal programme published by the NSI and MF respectively) the quarter-on-quarter decrease in total fixed capital investment of 1.4 per cent in real terms was entirely due to government investments, while private investments posted a slight increase. The gross operating surplus, an important source of financial resources for corporations, indicated a quarter-on-quarter fall in the second quarter mainly in industry, agriculture and services (particularly in trade and financial and insurance activities), while construction and other sub-sectors exhibited an increase.

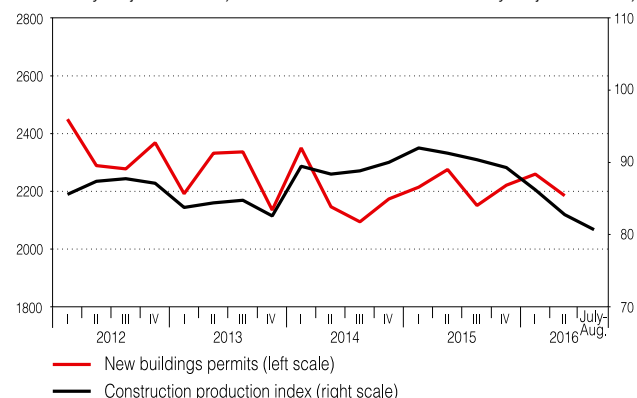
Improved economic activity in services contributed to employment growth in the economy since early 2016. Higher quarter-on-quarter employment over the second quarter of the year was reported in the trade and professional activities and scientific research sectors.⁴³ In the remaining economic sectors corporations' policy regarding the staff headcount remained prudent

⁴² For further details see the Household Behaviour Section in this Chapter.

⁴³ In this Chapter, it should read the professional and scientific activities, administrative and ancillary activities sector by A10 breakdown of economic activities.

Construction Production Dynamics and New Buildings Permits Issued

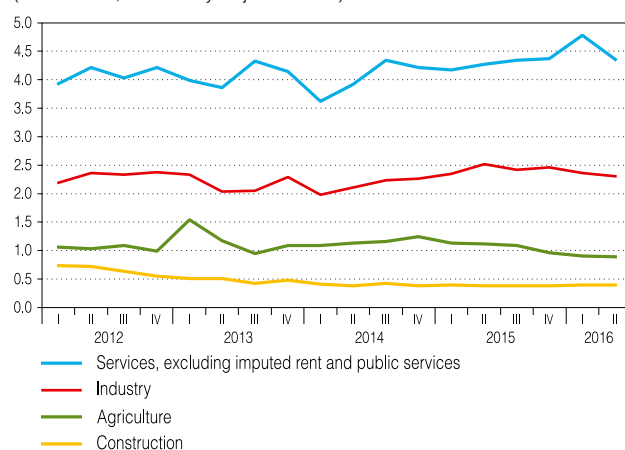
(number of buildings; seasonally adjusted data) (2010 = 100; seasonally adjusted data)



Sources: NSI, BNB calculations.

Gross Operating Surplus at Current Prices

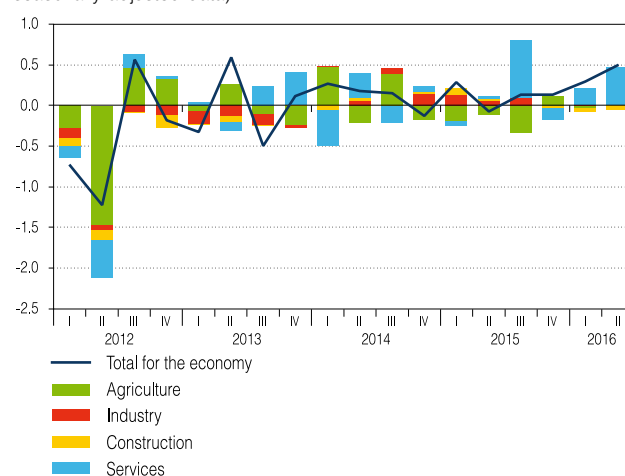
(BGN billion; seasonally adjusted data)



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.

due to sustained perceptions as to the current business situation of the levels attained and the assessment of high uncertainty surrounding the economic environment. Nevertheless, the improvement in the expected production activity in the economy and corporations' expectations on the staff headcount in the following three months are indicative of the ongoing employment recovery in 2016 and early 2017.

Labour productivity in the overall economy continued its upward trend on a quarterly basis in the second quarter of 2016 retaining its rate of growth. The indicator improved in all economic sectors with the exception of professional and scientific activities only.

The compensation per employee retained its nominal growth in the second quarter of 2016 on both a quarterly and annual basis. This was attributable to higher wages in most sectors of the economy. In the professional and scientific activities sector, where labour productivity went down on a quarterly basis, the compensation per employee also posted a decline.

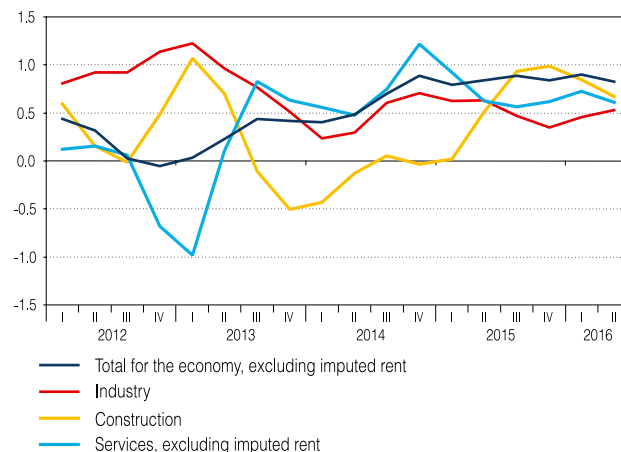
Consistent with the weaker labour productivity growth as compared with that in compensation per employee, nominal unit labour costs retained their upward trend both in industry and in the overall economy in the second quarter of 2016. The indicator exhibited an increase in real terms on both a quarterly and annual basis.

The significant contribution of total factor productivity to growth of real GDP in the breakdown by production factor was sustained as a trend in the second quarter of 2016 as the capacity utilisation remained high. The higher labour contribution over the quarter reflected the upward dynamics in employment.

The improved corporations' sentiment and expectations, and the positive dynamics in short-term indicators suggest that conditions for a longer-term trend toward real economic growth are in place. Private investment and employment are projected to contribute positively to this growth in the fourth quarter of 2016 and the first quarter of 2017, although the uncertain economic environment remains a factor limiting corporations' investment and expenditure policy.

Labour Productivity Developments (Value Added per Employed)

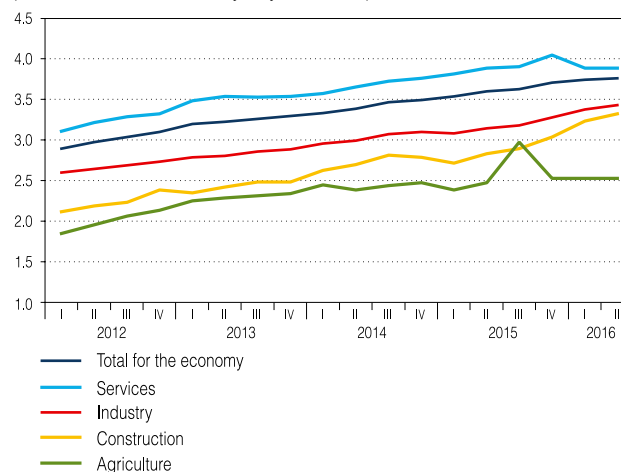
(per cent, quarter-on-quarter; seasonally adjusted data)



Sources: NSI, BNB calculations.

Compensation per Employee at Current Prices

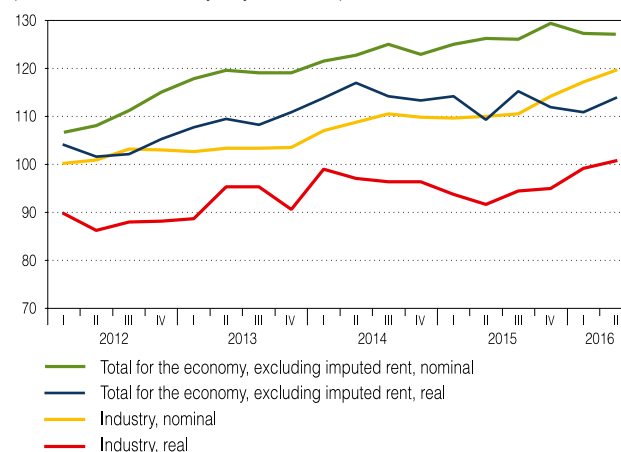
(BGN thousand; seasonally adjusted data)



Sources: NSI, BNB calculations.

Unit Labour Costs

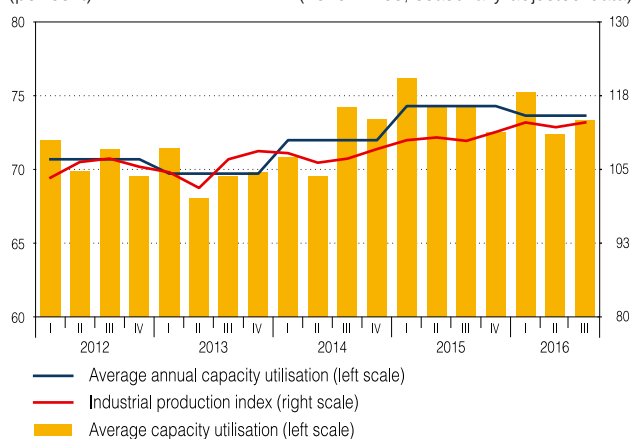
(2010 = 100; seasonally adjusted data)



Sources: NSI, BNB calculations.

Industrial Production Index and Production Capacity Utilisation in Industry

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

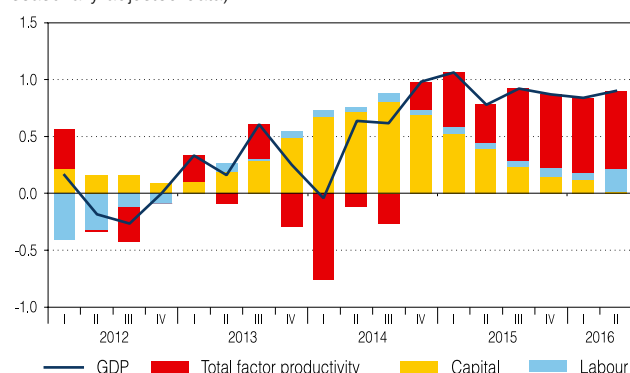


Data on the industrial production index for the third quarter of 2016 are averaged for the July–August period.

Sources: NSI, BNB calculations.

Contribution of Changes in Production Factors to GDP Growth

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



Sources: NSI, BNB calculations.

Gross Value Added Growth

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

	2013				2014				2015				2016	
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
Agriculture, forestry, hunting and fishing	2.8	-1.6	1.0	-1.5	2.0	4.8	-3.0	4.1	-7.6	-1.1	0.4	-3.8	4.4	-0.2
Mining and quarrying, manufacturing, production and distribution of electricity, gas and water	0.5	0.8	-0.3	1.3	-0.4	0.6	0.7	2.4	-0.1	2.0	0.9	-1.1	1.9	-0.8
Construction	10.6	-1.0	-1.3	-2.6	-0.7	-0.4	0.2	0.2	0.9	1.1	1.3	0.4	-0.3	-0.9
Trade, repair of motor vehicles and motorcycles, transport, storage and mail services, hotels and restaurants	1.2	0.2	1.2	0.3	-1.0	1.4	0.2	1.7	1.7	1.8	1.8	0.9	1.9	1.1
Creation and dissemination of information and author products; telecommunications	0.6	0.3	0.7	-0.5	0.1	0.3	0.6	1.5	-0.1	0.2	-0.4	1.0	2.9	3.5
Financial and insurance activities	-2.3	-4.4	1.7	-2.2	0.9	2.1	-3.3	0.3	1.2	-6.4	5.4	0.4	1.3	1.3
Real estate activities	-1.0	0.3	-0.7	-0.1	0.7	-0.9	1.4	1.9	0.6	1.3	1.1	0.1	1.2	1.1
Professional activities and scientific research; administrative and ancillary activities	-2.1	5.9	-3.8	4.0	1.7	-1.0	0.4	1.5	3.7	2.5	0.6	2.0	0.3	-1.5
Public administration, education, human health and social work activities	-3.0	-0.9	1.1	0.3	2.0	1.1	-0.1	1.4	-0.1	-0.3	0.3	-0.3	0.0	0.1
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	1.5	-0.3	3.4	3.3	-2.7	2.5	2.4	1.2	0.2	0.6	-0.8	2.0	2.6	3.6
Gross value added, total for the economy	0.1	0.1	0.7	0.1	0.1	0.6	0.5	1.6	0.6	0.7	0.8	0.2	0.9	0.7

Source: NSI.

Exports and Imports of Goods and Services

Between January and July 2016 nominal exports of goods decreased by 3.1 per cent on an annual basis, and nominal imports of goods by 6.4 per cent.⁴⁴ According to non-seasonally adjusted GDP data, in the first half of 2016 real annual growth in exports of goods came to 3.2 per cent on an annual basis, while real imports of goods increased by 1.0 per cent. Cross-checking the changes in exports and imports of goods in nominal and real terms suggests that the dynamics of global prices continued to limit

⁴⁴ Foreign trade data.

Net Exports of Commodity Groups by Use, January–July 2016

	Balance (EUR million)	Change* (EUR million)	GDP growth** (per cent)	Growth of imports** (per cent)
Consumer goods	344.1	-39.3	3.2	4.9
Raw materials	-195.5	-14.2	-10.1	-9.5
Investment goods	-734.4	224.6	12.3	3.4
Energy resources	-601.6	408.7	-20.6	-28.5
Other exports	-53.3	-4.3	12.3	9.9
Total	-1 240.8	575.6	-3.1	-6.4

* Balance change on same period of previous year.

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

Source: BNB.

nominal growth of international trade flows in the first seven months of 2016. The balance of payments data signalled a recovery in nominal growth of exports and imports of goods on an annual basis in the third quarter. In the July–August 2016 period nominal exports and imports of goods reached their highest values compared with the corresponding months in 2015.

In the fourth quarter of 2016 and first quarter of 2017 real exports of goods are expected to continue growing year on year mainly in line with the increasing external demand. Concurrently, the dynamics of imports of goods will be subdued due to still weak investment activity, which will additionally contribute to the decreasing the trade deficit as a share of GDP on an annual basis as compared with the first half of 2016. The expected hike in prices of major commodity groups in the international market at the end of 2016 and the beginning of 2017 will have a positive effect on nominal growth of exports and imports.

According to the balance of payments data for the January–August 2016 period exports and imports of services increased compared with the corresponding period of 2015. According to national accounts data for the first half of 2016 this was mainly due to increased real volumes and to a lesser extent to higher prices.

Over the projection horizon real exports of services are expected to increase on an annual basis in line with the anticipated increase in earnings from visits of foreign tourists in Bulgaria. Concurrently, the year-on-year growth rate of real imports of services is expected to stay close to zero.

In the first seven months of 2016 nominal exports of goods to EU Member States increased by 4.3 per cent on an annual basis in line with the improvement of EU economic activity. Exports to Spain, Romania and France contributed most markedly to growth. Exports of machines,⁴⁵ food products⁴⁶ and chemical products⁴⁷ contributed

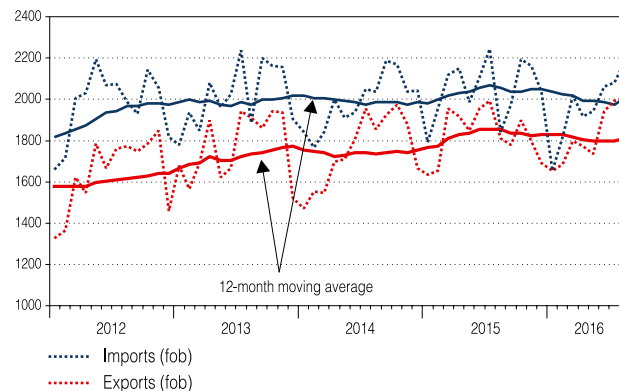
⁴⁵ In this chapter it should read the machines, vehicles, appliances, instruments and weapons group under the Combined Nomenclature.

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

⁴⁷ In this Chapter, it should read the chemical products, plastics and rubber group under the Combined Nomenclature.

Dynamics of Exports and Imports of Goods

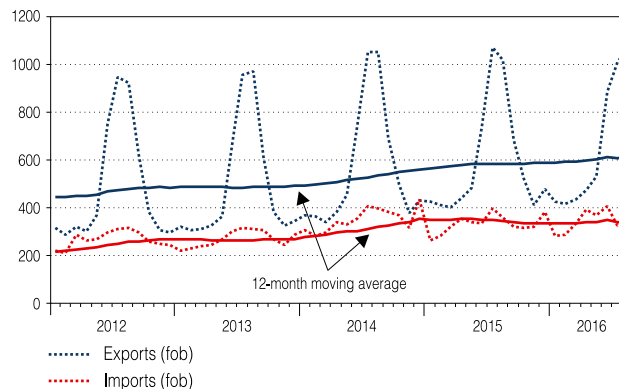
(EUR million)



Source: BNB.

Dynamics of Exports and Imports of Services

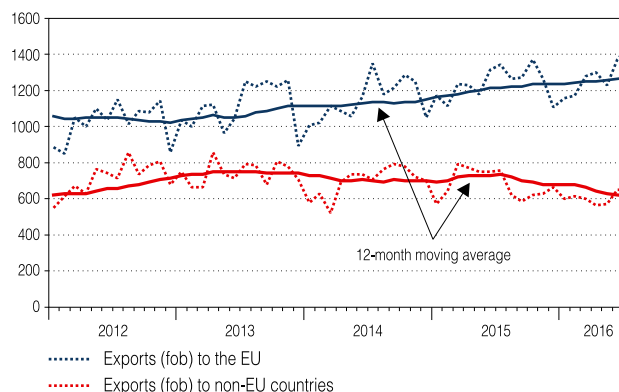
(EUR million)



Source: BNB.

Dynamics of Exports to EU and non-EU Countries

(EUR million)



Source: BNB.

most significantly to growth of exports to EU Member States by commodity group. Between January and July 2016 exports to non-EU countries decreased by 15.6 per cent on an annual basis, with the strongest fall observed in exports to Turkey and China. Energy products⁴⁸ and metals⁴⁹ had the largest negative contribution to annual growth of exports to non-EU countries in the January–July 2016 period. In the first seven months of 2016 the share of exports of goods to EU Member States increased at the expense of that to non-EU countries, a trend which has been observed in recent years.

Nominal exports of all commodity groups under the Combined Nomenclature grew year on year in the January–July 2016 period with the exception of metals and energy products. The year-on-year decline in exports of metals had the largest negative contribution to growth of total exports of goods in the first seven months of 2016.

Between January and July 2016 exports of machines increased markedly on an annual basis, reflecting both higher exported volumes and higher prices.⁵⁰ A sizeable increase in the nominal exports of this group was observed in exports both to EU and non-EU countries. Exports of machines is expected to continue steadily rising in the fourth quarter of 2016 and the first quarter of 2017 in line with the growing external demand.

In the first seven months of 2016 nominal exports of energy products posted a decrease on an annual basis due mainly to lower petroleum product prices in international markets and to a far lesser extent to lower exported physical volumes.⁵¹ The year-on-year decline in exports to non-EU countries was significantly stronger than that to EU Member States. In the fourth quarter of 2016 and the first quarter of 2017 exported physical volumes are expected to remain close

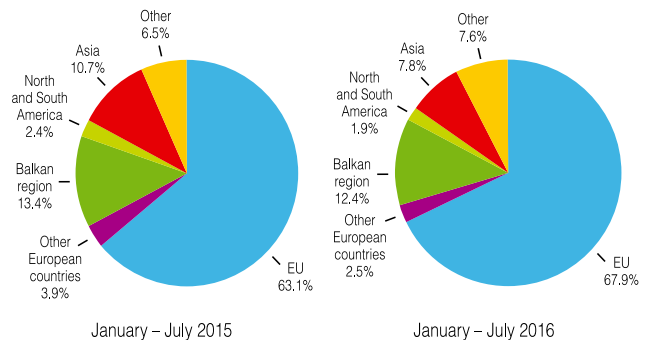
⁴⁸ In this Chapter, it should read mineral products and fuels group under the Combined Nomenclature.

⁴⁹ In this Chapter, it should read the base metals and their products group under the Combined Nomenclature.

⁵⁰ 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 and second quarters of 2016.

⁵¹ According to the Balance of Payments, October 2016, p. 52, and using the quarterly export deflators of the mineral fuels, oils and related products group under the SITC in the first and second quarters of 2016.

Exports of Goods: Geographical Breakdown



Source: BNB.

Exports by Commodity Group, January–July 2016

	EUR million	Change* (EUR million)	Growth** (per cent)	Contribution (percentage points)
Wood products, paper, ceramics and glass	726.7	13.7	1.9	0.1
Machines, vehicles, appliances, instruments and weapons	3 610.6	343.3	10.5	2.5
Mineral products and fuels	1 463.9	-428.9	-22.7	-3.2
Base metals and related products	1 674.7	-638.9	-27.6	-4.7
Animal and vegetable products, foods, drinks and tobacco	2 087.2	91.8	4.6	0.7
Textiles, leather, clothing, footwear and other consumer goods	1 936.2	169.0	9.6	1.2
Chemical products, plastics and rubber	1 683.8	33.5	2.0	0.2
Total exports	13 183.1	-416.6	-3.1	–

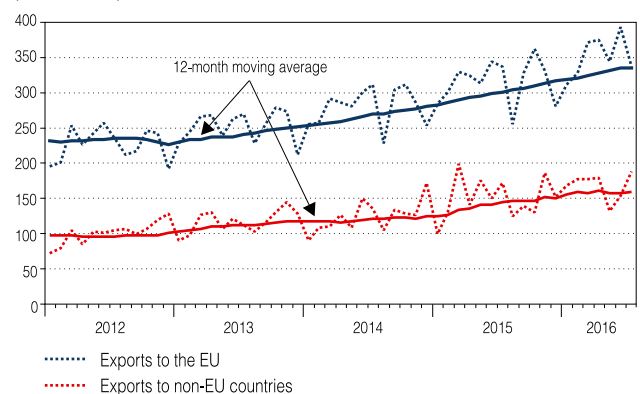
* Change on the corresponding period of previous year.

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

Source: BNB.

Exports of Machines, Vehicles, Appliances, Instruments and Weapons

(EUR million)



Source: BNB.

to those exported in the first half of the year, with the recovery of petroleum price growth on an annual basis contributing to the group's nominal exports growth.

Nominal exports of base metals posted a decline on an annual basis between January and July 2016 and added most strongly to the fall in total exports of goods. The decline in exports of base metals reflected both a price fall and lower exported physical volumes.⁵² The major reason behind the lower real exports in the group was the temporary decrease in production of copper products due to repair works and expansion of the production capacity of an enterprise of key importance for the sector.⁵³ Concurrently, the dynamics of nominal exports of metals was also affected by progressively decreasing international metal prices on an annual basis. By the end of 2016 and early 2017 nominal exports of metals are expected to go up on an annual basis due both to the anticipated increase in the physical volumes after the completion of repair works in the sector and the projected hike in metal prices on an annual basis.

In the first seven months of 2016 nominal exports of animal and plant products increased on an annual basis due entirely to higher exported physical volumes. Concurrently, lower year-on-year export prices had a dampening effect on the group's nominal exports.⁵⁴ By geographical breakdown, growth in exports of animal and plant products was due mainly to higher exports to EU countries. As a result of the expected good harvest⁵⁵ in the region and the projected increase in international food prices, the group's nominal exports are expected to continue growing on an annual basis in the fourth quarter of 2016 and the first quarter of 2017.

⁵² According to the Balance of Payments, October 2016, p. 52, and using the quarterly export deflators for the precious metals and other non-ferrous metals group under the SITC in the first and second quarters of 2016.

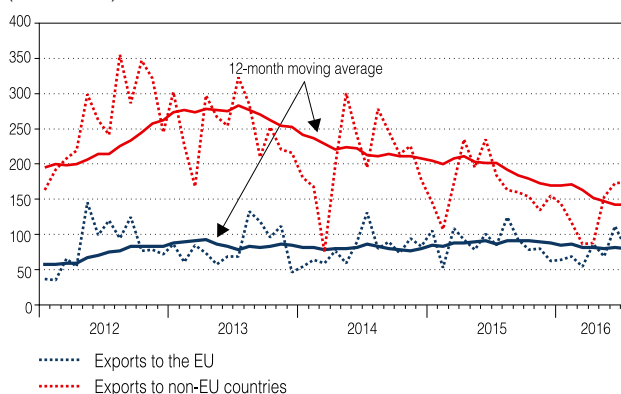
⁵³ According to the press release published on 10 May 2016 on the Aurubis web site: <http://bulgaria.aurubis.com/bg/novini-i-publikacii/sobshchenija-za-mediite/aurubis-otchita-dobri-rezultati-za-shestmesechieto/>

⁵⁴ The quarterly export deflators for the food and live animals group under SITC were used to estimate the price effect in the first and second quarters of 2016.

⁵⁵ According to *Wheat Outlook* of *USDA*, September 2016, p. 7.

Exports of Mineral Products and Fuels

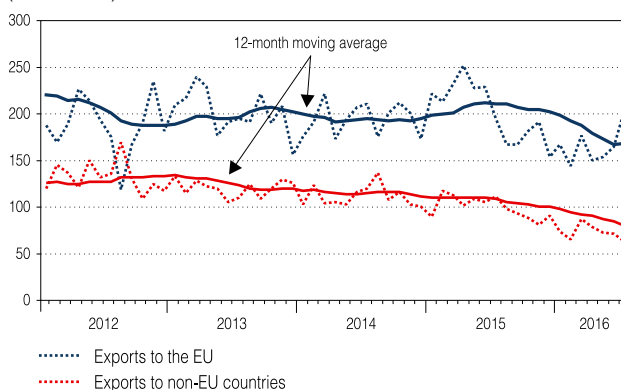
(EUR million)



Source: BNB.

Exports of Base Metals and Related Products

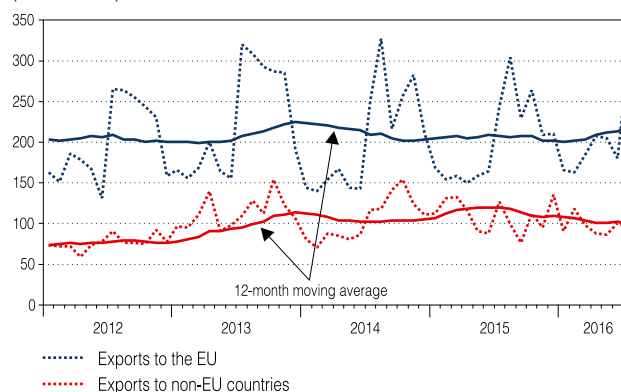
(EUR million)



Source: BNB.

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

(EUR million)



Source: BNB.

Exports of chemical products in the January–July 2016 period increased on an annual basis entirely due to higher exports to EU Member States. Growth registered in exports of chemical products was a result of higher export prices, while the exported physical volumes slightly decreased compared with the corresponding period of 2015.⁵⁶ Exports of pharmaceutical products had the strongest dampening effect on growth in nominal exports of chemical products. At the end of 2016 and in the first quarter of 2017 nominal exports in the group are expected to continue growing year on year supported by higher exported physical volumes and higher prices.

According to balance of payments data, exports of services rose by 5.1 per cent in the January–August 2016 period, with growth reflecting higher year-on-year earnings from visits of foreign tourists in Bulgaria. Between January and August 2016 travel earnings grew by 15.0 per cent on an annual basis, with NSI data showing an increase of 12.8 per cent in foreign tourists in Bulgaria (mainly from Romania, Germany and Poland) compared with the corresponding period of 2015.

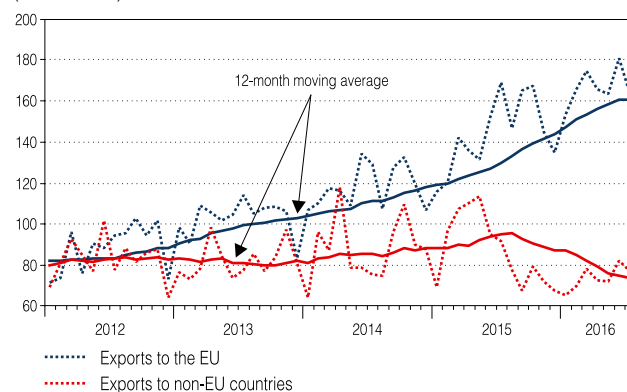
Nominal imports of goods posted a decline on an annual basis between January and July 2016 entirely due to lower prices. Energy resources followed by raw materials contributed most markedly to the nominal decline in imports by end-use.

Imports of goods from EU Member States slightly increased on an annual basis over the January to July 2016 period, the strongest growth reported in imports from Poland and Italy. Concurrently, imports from non-EU countries remained lower compared with the corresponding period of 2015. Imports from Russia, which is constituted almost entirely of crude oil, contributed most significantly to the decline and the fall reflected the decreasing international petroleum prices. In the first seven months of 2016 the share of imports from the EU increased compared with the corresponding period of 2015 and reached 56.1 per cent.

⁵⁶ The quarterly export deflators for the chemicals and chemical products group under the SITC were used to estimate the price effect in the first and second quarters of 2016.

Exports of Chemical Products, Plastics and Rubber

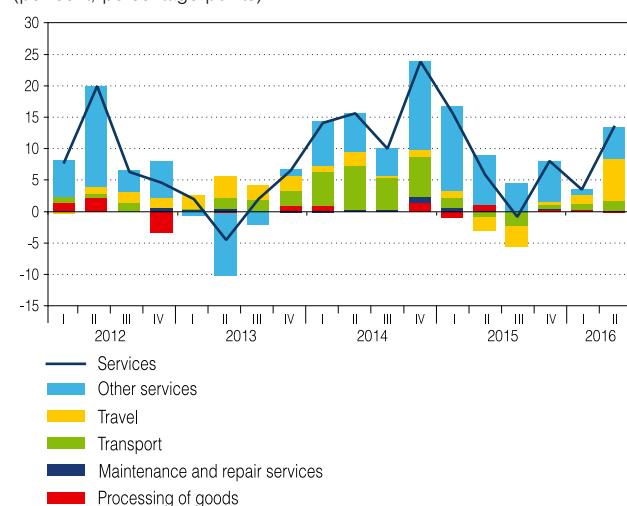
(EUR million)



Source: BNB.

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

(per cent, percentage points)



Source: BNB.

Imports of Commodity Groups by Use, January–July 2016

	EUR million	Change* (EUR million)	Growth** (per cent)	Contribution** (percentage points)
Consumer goods	3 273.8	151.4	4.9	1.0
Raw materials	5 272.5	-556.1	-9.5	-3.6
Investment goods	3 974.2	131.4	3.4	0.9
Energy resources	1 823.1	-726.3	-28.5	-4.7
Other imports	80.4	7.2	9.9	0.0
Total imports (cif)	14 423.9	-992.2	-6.4	-

* Change on the corresponding period of previous year

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

Source: BNB.

In the January–July 2016 period imports of energy resources reported the strongest decline on an annual basis, a trend which was also observed in 2015. The registered drop in imports of energy resources was due to the falling international prices of petroleum products,⁵⁷ while the imported physical volumes exhibited an increase. Given the projected rise in petroleum prices both in US dollars and euro, nominal imports of energy products is expected to start growing on an annual basis at the close of 2016 and early 2017.

Imports of the raw materials group also went down on an annual basis between January and July 2016 and had a significant negative contribution to the decline in overall nominal imports. The assessment of price changes shows that the drop in the group's imports reflected both the falling prices and lower imported volumes.⁵⁸ Imports of metal ores had the largest negative contribution both in nominal and real terms which was ascribable to lower production in a key enterprise for the sector due to repair works and expansion of production capacity.⁵⁹ Production is expected to recover at the close of 2016 and in early 2017, and the projected rise in international prices of major commodity groups will prompt an increase in nominal imports of raw materials.

Between January and July 2016 imports of consumer goods increased on an annual basis and had the largest positive contribution to the total change in imports of goods, with the clothing and footwear, and food, drinks and tobacco sub-groups exhibiting the strongest growth. The group's dynamics over the review period was in line with real annual growth of private consumption in the first half of 2016. Imports of consumer goods are anticipated to continue growing in the fourth quarter of 2016 and the first quarter of 2017 driven by the expected increase in private consumption.

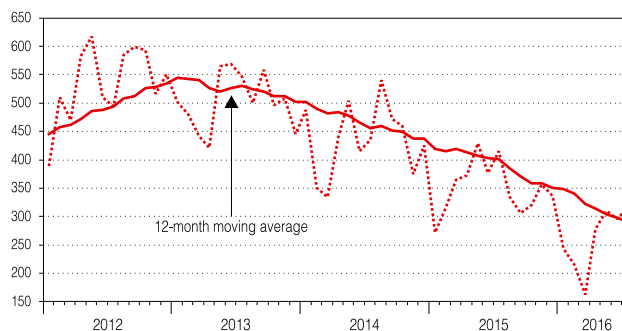
⁵⁷ According to the Balance of Payments, October 2016, p. 52, and using NSI data on production and supplies of oil and oil products.

⁵⁸ 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 and second quarters of 2016.

⁵⁹ See footnote 53.

Imports of Energy Resources

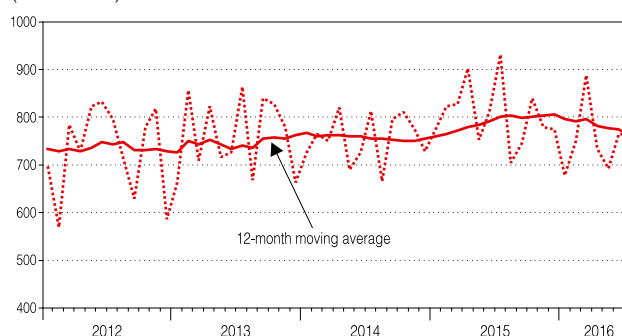
(EUR million)



Source: BNB.

Imports of Raw Materials

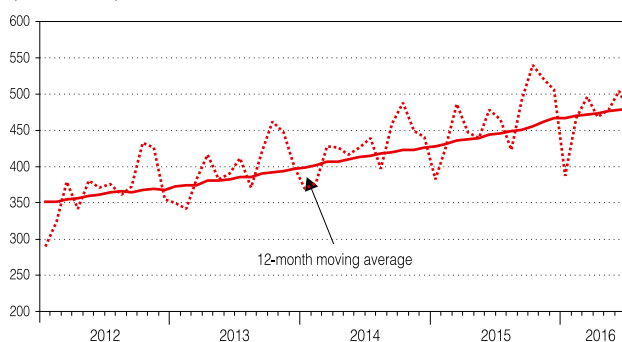
(EUR million)



Source: BNB.

Imports of Consumer Goods

(EUR million)



Source: BNB.

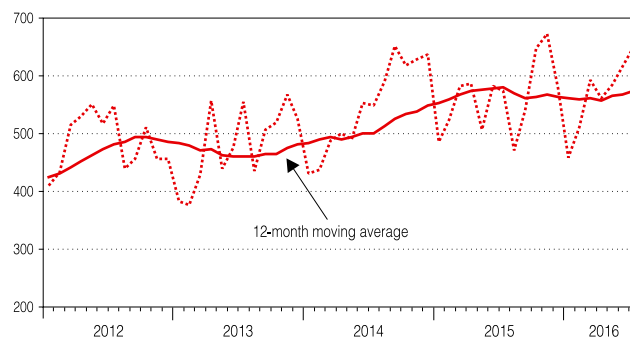
Nominal growth of investment goods picked up in the first seven months of 2016 compared with the corresponding period of 2015 due to higher imported volumes, while import prices decreased on an annual basis.⁶⁰ This dynamics corresponded to the annual growth of investment in real terms over the first half of 2016 according to non-seasonally adjusted GDP data. Given the expected weak investment activity at the end of 2016 and in early 2017 nominal imports of investment goods are projected to decline over the projection horizon.

According to balance of payments data, for the January–August 2016 period imports of services rose by 3.7 per cent year on year, with higher expenditure on travel of residents abroad contributing most significantly. According to NSI data, Bulgarians' visits abroad between January and August 2016 increased by 14.7 per cent on an annual basis, with the visits to Greece and Romania having the most significant contribution to this.

⁶⁰ The quarterly import deflators for the machines, equipment and vehicles group under SITC were used to estimate the price effect in the first and second quarters of 2016.

Imports of Investment Goods

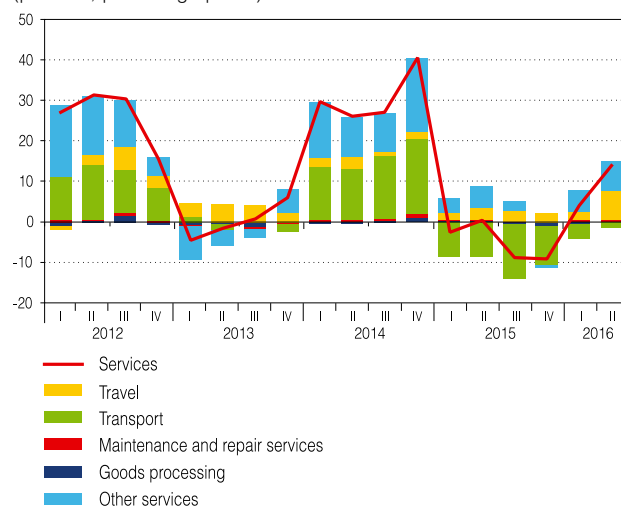
(EUR million)



Source: BNB.

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

(per cent, percentage points)



Source: BNB.

4. Inflation

Over the first nine months of 2016 inflation in Bulgaria remained negative, reaching -1.1 per cent in September. The decrease in international prices of crude oil and its pass-through to domestic prices of fuels, transport services, natural gas and heating contributed to the retention of consumer price deflation in Bulgaria. The deflationary trend in core inflation strengthened in the January to September period, reflecting mainly cheaper telecommunication services and durable goods. Increased consumer demand of households and higher labour costs of corporations in the first half of 2016 exerted no upward pressure on consumer prices. Lower expenditure of firms on commodities contributed to retaining the downward trend in producer prices. As of September tobacco products and goods and services with administratively controlled prices had a positive contribution to inflation as a result mainly of higher excise duties on tobacco products and road fees since early 2016.

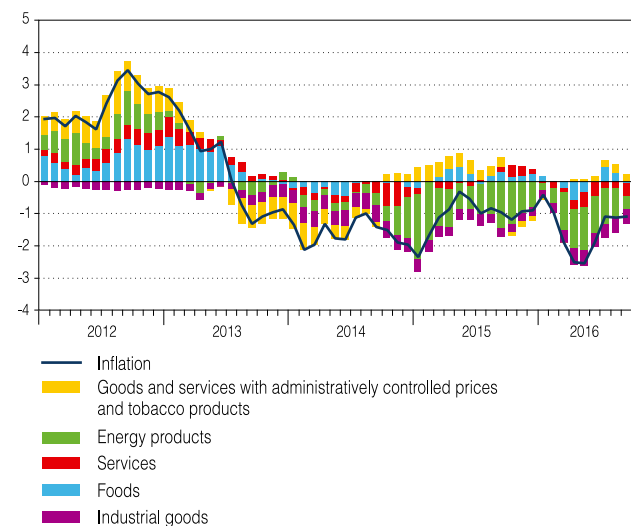
Consumer price deflation is expected to gradually decline in the fourth quarter of 2016. Reflecting the stabilisation in international fuel prices, a low inflation is anticipated over the first quarter of 2017.

Over the first nine months of 2016 inflation in Bulgaria remained negative, reaching -1.1 per cent in September (-0.9 at the end of 2015).⁶¹ The downward trend in consumer prices was underpinned by the deflationary impact of the falls in crude oil and commodity prices on international markets and their effect on imported goods' prices. For the first half of 2016 the 2013 downward trend in the prices of goods imported in Bulgaria continued, reaching -9.9 per cent (against -3.4 per cent on average in 2015).⁶² This was to a large extent driven by the significant fall in oil and food prices in euro on international markets: down 31.0 per cent and 7.1 per cent on average for the first six months of the year. Lower import prices were rapidly transmitted through the supply chain on domestic producer prices and consequently on consumer goods prices.

The effect of the internal factors linked to the level of competition in the sector, firms' assessment of economic environment and their policy of transmitting lower prices of imported goods on final prices resulted in a decrease in the prices of telecommunication services and durable goods, which further intensified the deflationary trend in consumer prices. Therefore, a trend toward an increase in the negative contribution of core HICP components formed

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.

⁶¹ The analysis in this section employs NSI data on HICP.

⁶² Import data under the Standard International Trade Classification (SITC).

in the course of the year. Deepening of core components' deflation contributed to a relatively sustained rate of decline in consumer prices in the third quarter of 2016 in the context of stabilising international oil prices. Increased consumer demand of households and higher labour costs of corporations in the first half of 2016 exerted no upward pressure on consumer prices.

As of September tobacco products and goods and services with administratively controlled prices had a positive contribution to inflation mainly as a result of raised tobacco excise duties and road fees since early 2016. The heavy dependence of unprocessed food prices on the weather conditions in Bulgaria and import price dynamics underpinned the relatively high volatility in the prices in this group observed since the year start.

The total producer price index (PPI) on the domestic market dropped further on an annual basis, its rate of decline reaching -2.7 per cent in August from -3.2 per cent at the end of 2015. The sub-sectoral breakdown shows that the sub-sector related to the production of electricity, heating and gas⁶³ had the largest negative contribution to producer price dynamics which was consistent with the ongoing reduction in the price of imported natural gas. This gave grounds to the EWRC to reduce the final price of natural gas and heating in April⁶⁴ and July⁶⁵ 2016. As a result, administratively controlled prices contributed -0.14 percentage points to annual inflation in September. The manufacturing sub-sector also contributed substantially to the decrease in PPI on the domestic market in the January to August 2016 period, mainly due to the downward trend in industrial production prices associated with the manufacture of refined petroleum products, metals and chemicals.⁶⁶ The transfer of lower international crude oil prices along the supply chain was the reason behind the fall in final transport fuel prices of 7.5 per cent in September (contribution of -0.46 percentage points to inflation).

⁶³ Production and distribution of electricity, heating and gas.

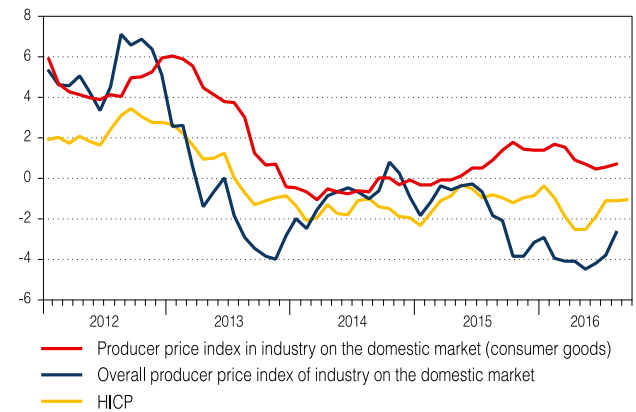
⁶⁴ For further information, see <http://www.dker.bg/newsbg.php?n=2760>

⁶⁵ For further information, see <http://www.dker.bg/newsbg.php?n=2793>

⁶⁶ Production of coke and refined petroleum products, manufacture of basic metals and fabricated metal products, except machinery and equipment, and chemicals.

Rate of Change in Manufacturing PPI and HICP

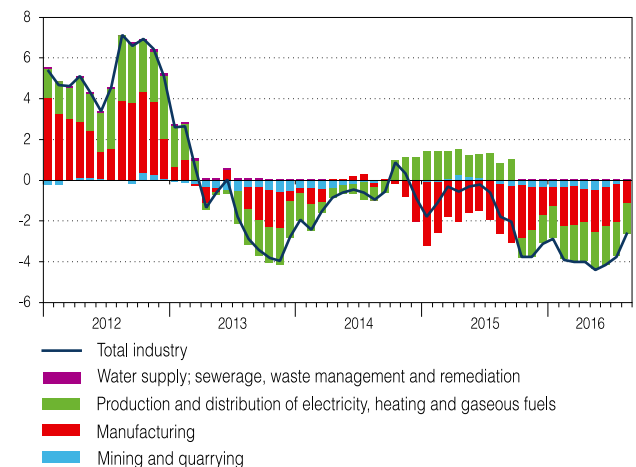
(per cent; on an annual basis)



Source: NSI.

Rate of Change in PPI on the Domestic Market and Contribution by Major Sub-sectors (Quarterly)

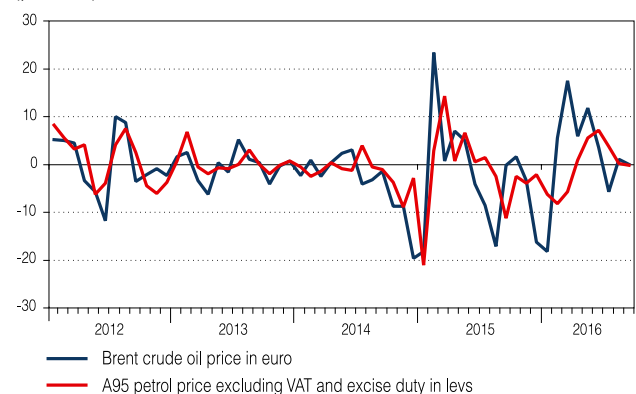
(per cent; on an annual basis)



Source: NSI.

Monthly Rate of Change in the Prices of Brent Crude Oil and A95 Petrol

(per cent)



Sources: ECB, NSI, BNB calculations.

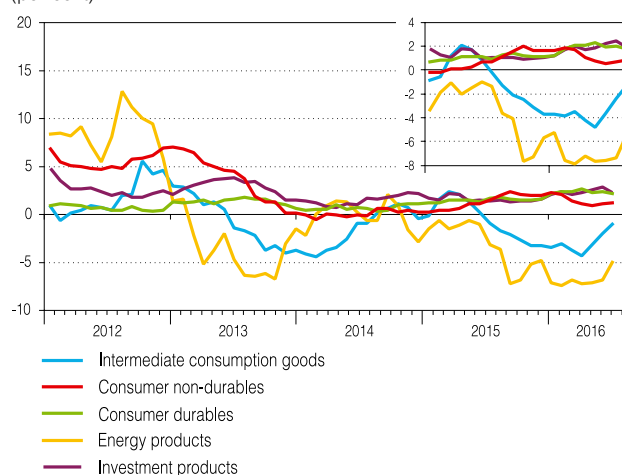
According to the end-use classification the long-term downward trend in the PPI continued to be determined by lower energy and intermediate consumption product prices which account for a substantial part of firms' production costs. Between January and August 2016 a slight increase in producer prices of consumer non-durables and durables continued to be observed in the manufacturing sector. Consumer non-durables price rise was largely due to the increase in the prices of some food and tobacco products, and of clothing, albeit to a lesser extent. The increase in producer prices of food products were passed on final consumer prices of processed food which reported a slight increase of 0.3 per cent on an annual basis in September 2016. Higher producer prices of tobacco products underpinned by the early 2016 increase in the excise duty on cigarettes predetermined the acceleration of this groups' inflation which came to 3.6 per cent in September 2016.

Final unprocessed food prices were largely affected by the climatic conditions in Bulgaria and imported goods prices, resulting in price movements within a relatively wide range since the beginning of the year. In September 2016 unprocessed food inflation came to -0.8 per cent (-0.10 percentage points), mainly due to the price decline in the fruit group. Between January and September 2016, meat and meat product prices continued to follow the downward trend of the international prices of these products observed over the last three years and had a negative contribution to HICP changes.

Although the first nine months of 2016 saw a slight increase in producer prices of durables and some non-durables such as clothing and pharmaceuticals, this had no material effect on final consumer prices of non-food goods. Deflation in this group accelerated to -2.0 per cent in September (-1.4 per cent at the end of 2015), largely due to the deepening of deflation in durable goods and, to a lesser extent, in non-durable goods. In the group of durable goods, automobile, computer and television equipment, furniture and furnishings prices continued to have a relatively high negative contribution to annual inflation. The fall in the prices of these goods, most of which are imported in Bulgaria, is likely to reflect mainly the decrease in imported durables prices.

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

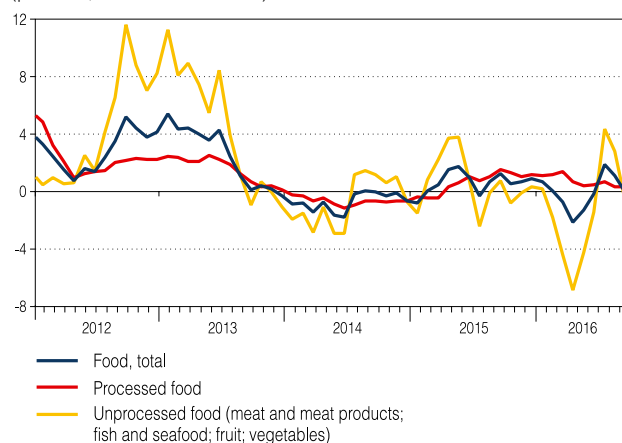
(per cent)



Source: NSI.

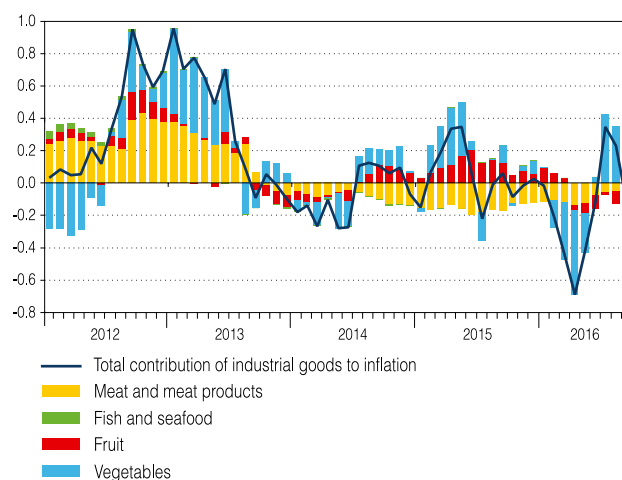
Rate of Change of Food Price Index

(per cent; on an annual basis)



Sources: NSI, BNB calculations.

Contribution of Major Sub-groups of Unprocessed Food to Overall Inflation



Sources: NSI, BNB calculations.

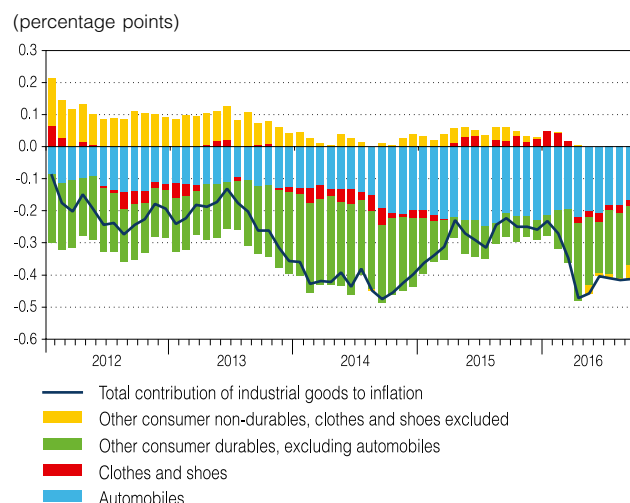
In the first nine months of 2016 core inflation (including services and non-food prices) followed a downward trend, reaching -1.7 per cent in September (-0.3 per cent at the end of 2015). In addition to the downward non-food price dynamics, accelerating deflation in core HICP components reflected the deflationary process observed in the group of services since early 2016. In September inflation in services (excluding those with administratively controlled prices) came to -1.4 per cent (0.5 per cent at the close of 2015) largely due to the drop in prices of telecommunication services in the context of price competition in this sector. Reflecting the drop of international oil prices, transport prices continued to contribute negatively to overall inflation as a result primarily of lower prices in air transport. Catering prices saw low positive inflation since early 2016 which was in line with the reported increase in processed food prices.

As a result of the changes in tax legislation related to the increase in the minimum overall excise duty (specific and ad-volarem duty) on tobacco products (up 8.8 per cent) and in the road fees (up 47.4 per cent on average), the prices of the relevant goods and services went up. From June 2016 combined passenger transport prices increased mainly as a result of the 60 per cent rise in the urban public transport ticket in Sofia. The effect of this increase was partially offset by the negative contribution of administratively controlled prices of heating and gas energy.

In the first nine months of 2016 the diffusion index, showing the share of groups of goods and services with declining prices on an annual basis, remained relatively high and came to 38.7 per cent in September (from 35.5 per cent at the end of 2015). This reflected the increased number of food and non-food sub-groups with declining prices. Changes in the diffusion index give signals that we can expect deflation to continue over the coming months. This will reflect the still low share of goods and services in the consumer basket (higher than 2 per cent) which cannot offset the negative contribution in the HICP groups by a fall in prices.

According to the NSI business surveys, in September 2016 most managers in industry, services and retail trade expect sustained sell-

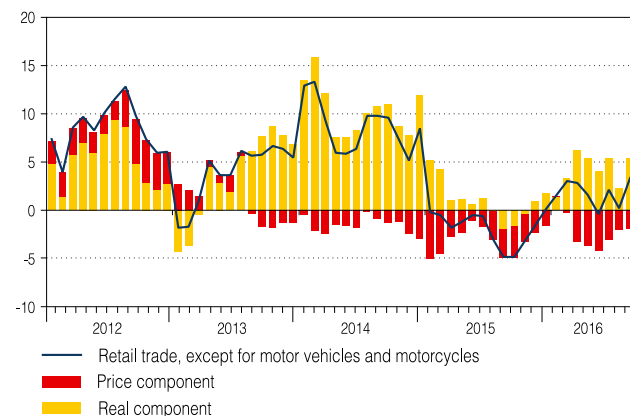
Contribution of Non-food Goods (Excluding Energy Products) and Major Services Sub-groups to Overall Inflation



Sources: NSI, BNB calculations.

Annual Growth Rate of Nominal Retail Trade Except of Motor Vehicles and Motorcycles

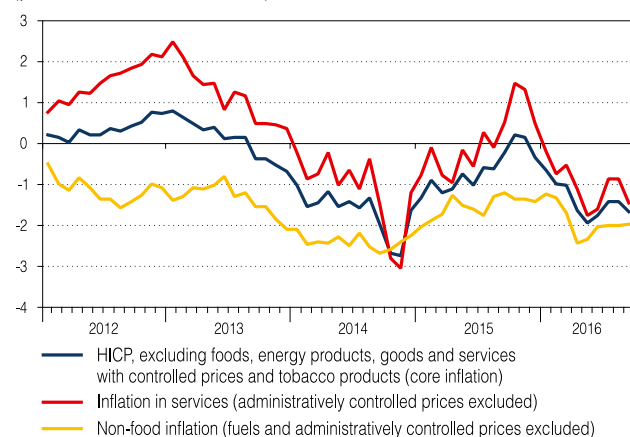
(per cent, on an annual basis; seasonally adjusted data)



Sources: NSI, BNB calculations.

Core Inflation

(per cent; on an annual basis)



Sources: NSI, BNB calculations.

ing prices in the following three months. In the case of retail trade firms that are the closest to end-users in the supply chain, the balance of opinions was slightly positive since the beginning of 2016 due to the larger share of managers expecting a price rise than that expecting a price decline. Nevertheless, managers' sentiment gives no grounds to expect significant upward pressure on selling prices in the following months as the share of firms in the three sectors outlining the uncertain economic environment and insufficient demand as key factors hampering business development remained unchanged.

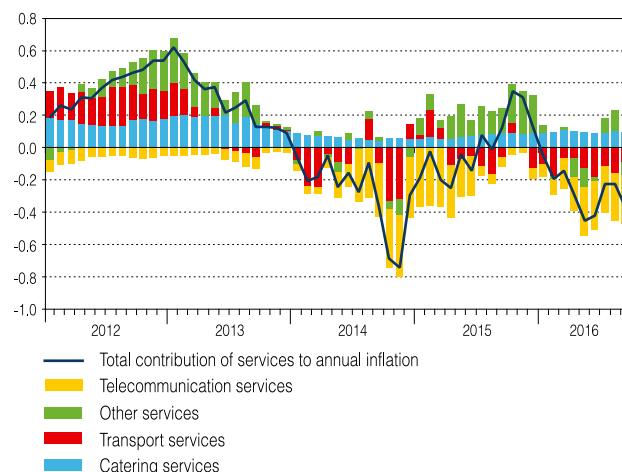
Labour cost policies of firms impacted consumer price dynamics. According to national accounts data, nominal unit labour costs in the economy increased by 1.7 per cent on average on an annual basis (compared with 2.3 per cent on average in 2015). Higher firms' labour costs, however, did not exert upward pressure on consumer prices given the reduced raw material costs reflecting the decline in their prices.

Consumer price deflation is expected to gradually decline in the fourth quarter of 2016. In the first quarter of 2017 we expect a low positive inflation due to the stabilisation in international fuel prices. This will mainly reflect the projected reversal of deflation in energy products in line with the expected stabilisation of international oil prices. Food prices in euro on international markets are expected to increase slightly year on year in the following two quarters due to the low positive inflation in the food group. In the coming months core inflation will continue to have a significant negative contribution to overall inflation. This will reflect the sizeable fall in the prices of some goods and services such as telecommunications services and durables observed since the beginning of the year for which the deflationary trend is not expected to reverse quickly. The projected increase in consumer demand will help limit the deflation in the core HICP components in the following two quarters.

Risks to the projections are associated mainly with international commodity price dynamics. OPEC's preliminary agreement of 28 September 2016 to cut oil production⁶⁷ could result in an

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

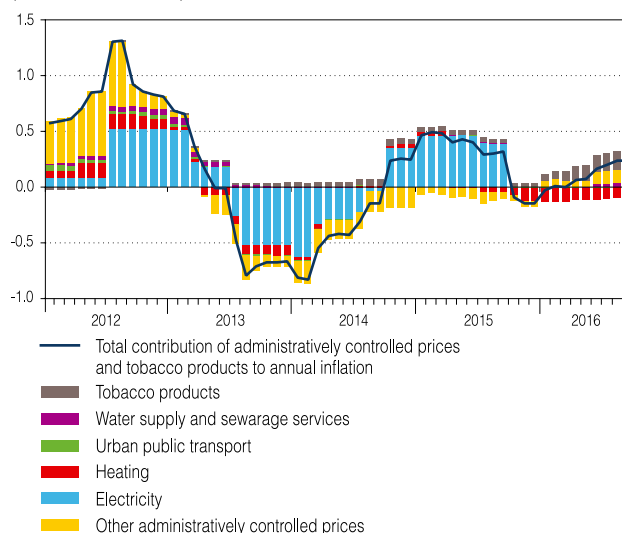
(percentage points)



Sources: NSI, BNB calculations.

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

(on an annual basis)



Sources: NSI, BNB calculations.

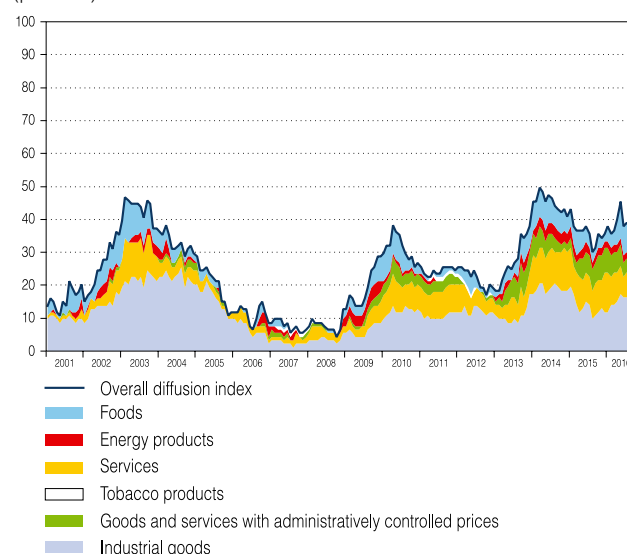
⁶⁷ For further information see Chapter 1, International Prices

increase in international fuel prices and in higher than expected inflation. Possible increases in the prices of some services which are indirectly affected by international oil prices and the 1.97 per cent rise in regulated natural gas price applied by EWRC as of 1 October 2016 are likely to pose additional risks to the projection. The expected gradual increase in tobacco prices in the coming months associated with the higher excise duty imposed since the beginning of 2016 and the envisaged further increase of this excise duty in 2017 will continue to put upward pressure on administratively controlled priced. Slower than expected increase in household consumer expenditure in the following two quarters will result in lower inflation.

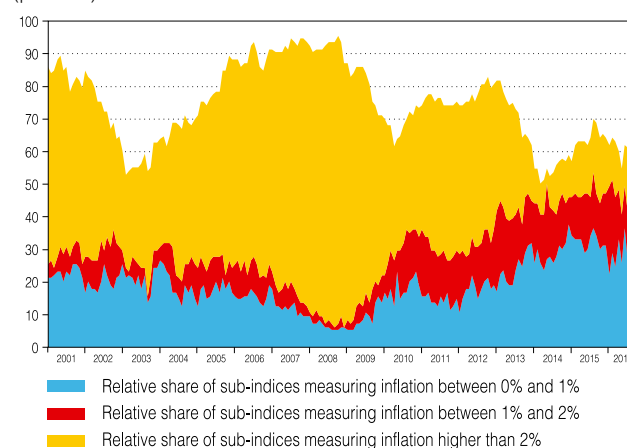
of Major Commodities.

Diffusion Index of Major Goods and Services Groups

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



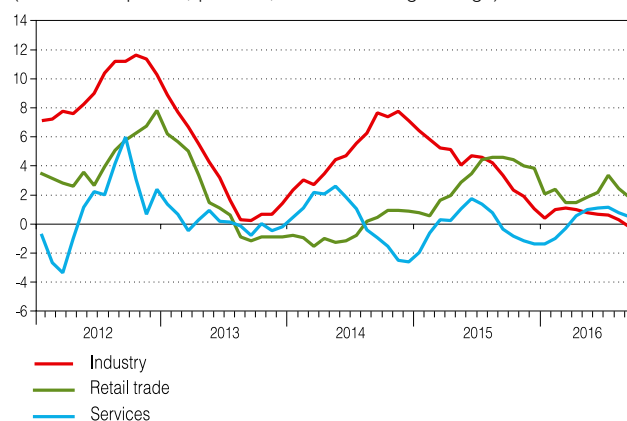
b) *relative shares of declining HICP sub-indices on an annual basis*
(per cent)



Sources: NSI, BNB calculations.

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

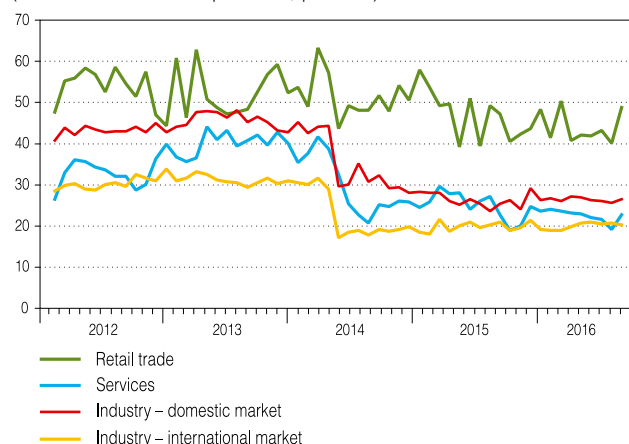
(balance of opinions, per cent, 6-month moving average)



Source: NSI.

Share of Firms by Sectors Pointing to Insufficient Demand as a Factor Limiting Their Activity

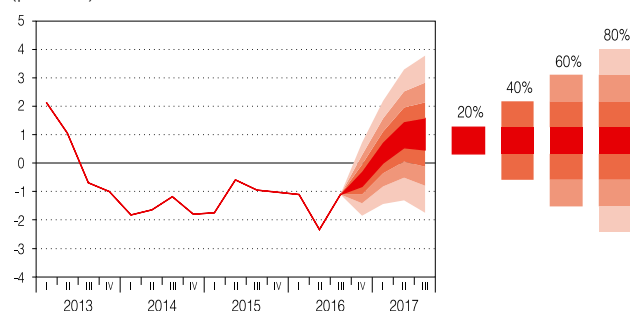
(relative share of all corporations, per cent)



Sources: NSI, BNB calculations.

Fan Chart of the Expected Annual Inflation Rate

(per cent)



Note: The fan chart shows the expert views of the forecasters on the uncertainty around the projected value based on 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.

Sources: NSI, BNB calculations.

Growth Rates of Major Goods and Services Groups Prices and Contribution of These Groups to Inflation

	Accumulated inflation as of September 2015 (December 2014 = 100)		Accumulated inflation as of September 2016 (December 2015 = 100)		Annual Rate of Inflation as of September 2016 (September 2015 = 100)	
Inflation (per cent)	-0.9		-1.1		-1.1	
	Inflation rate by group (per cent)	Contribution (percentage points)	Inflation rate by group (per cent)	Contribution (percentage points)	Inflation rate by group (per cent)	Contribution (percentage points)
Food	1.6	0.41	0.6	0.14	-0.1	-0.05
Processed food	1.2	0.20	0.3	0.05	0.3	0.05
Unprocessed food	2.3	0.21	1.2	0.09	-0.8	-0.10
Services	-1.0	-0.25	-2.9	-0.76	-1.4	-0.38
Catering services	1.0	0.06	1.1	0.06	1.6	0.09
Transport services	-7.1	-0.26	-5.8	-0.22	-2.3	-0.09
Telecommunication services	-0.6	-0.03	-5.0	-0.27	-5.6	-0.30
Other services	-0.2	-0.02	-2.9	-0.33	-0.7	-0.08
Energy products	-7.2	-0.56	-3.0	-0.17	-6.4	-0.43
Transport fuels	-7.8	-0.55	-3.4	-0.18	-7.5	-0.46
Industrial goods	-1.8	-0.36	-2.3	-0.53	-2.0	-0.45
Goods and services with administratively controlled prices*	-0.8	-0.13	0.6	0.10	0.4	0.06
Tobacco products	0.5	0.02	3.5	0.17	3.6	0.17

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

Sources: NSI, BNB calculations.

Macroeconomic Scenarios for the Purposes of the Stress Test of the Bulgarian Banking System: Comparison with the Scenarios for the 2016 EU-Wide Stress Test and Current Macroeconomic Developments in Bulgaria

In 2016 the Bulgarian National Bank conducted an asset quality review and a stress test of the Bulgarian banking system. The results were published on 13 August. This analysis is aimed to present in more details the macroeconomic scenarios underlying the stress test, to compare these scenarios with those used by the European Banking Authority (EBA) in the EU-wide stress test conducted in 2016, as well as to review the BNB scenarios in the context of current macroeconomic developments in Bulgaria.

To assess the effect of the macroeconomic environment on the quality of banks' credit portfolios the BNB used a model capturing the effect on the probability of default of banks' debtors of four main macroeconomic indicators: real gross domestic product (GDP) growth, inflation,¹ unemployment level and residential property prices. The dynamics of these indicators was presented in two scenarios: baseline and adverse. Macroeconomic scenarios used by the BNB in the stress test of the Bulgarian banking system were presented on 28 April 2016 when the Instructions for Conducting the Stress Test were published and sent to banks.²

The BNB used as a baseline scenario its macroeconomic forecast of 15 March 2016 based on the latest assumptions of the ECB, IMF and the European Commission (EC) on the international environment, its own forecasting model and expert judgement about the most probable scenario for the future economic development of Bulgaria. For the purpose of preparing the adverse scenario of the BNB two major sources of risks to the quality of banks' credit portfolios were identified that might stem from potential adverse developments in the case of hypothetical but plausible macroeconomic developments: 1) deteriorated external environment; and 2) subdued domestic economic activity as a result of the external environment developments. In the next stage, in order to implement the negative shocks, specific economic indicators were selected on the basis of identified risks. The simultaneous impact of the shocks on the four main macroeconomic variables was estimated using a special simulation tool (Stress Test Elasticities Simulation Tool). The tool is developed by the ECB specifically for preparation of stress-test scenarios and is based on information derived from the forecasting models in the central banks of the ESCB. It reflects the BNB estimates for the major behavioural relationships in the Bulgarian economy, as well as the estimates of other EU member state central banks for the economic relationships within their own countries.

The magnitude of the shocks, with the exception of the shock on the three-month EURIBOR,³ was estimated from the historical volatility of the selected quarterly time series data for the past 15 years and was set at two standard deviations (see the table below).

¹ Inflation is measured by HICP.

² For further details, see Baseline and Adverse Macroeconomic Scenarios of the BNB for the Purposes of the 2016 Stress Test of the Banking System: http://www.bnb.bg/PressOffice/POPressReleases/POPRDate/PR_20160428_1_EN

³ As regards interest rates in the interbank money market, the BNB adverse scenario fully applies the assumption of the European Systemic Risk Board developed for the purposes of the EU-wide stress test conducted by the EBA in 2016.

Estimation of the Size of Adverse Scenario Shocks

	2000-2015 (quarterly data)				Size of the shock in the adverse scenario
	Minimum	Maximum	Average	Standard deviation	
EXTERNAL DATA					
Brent oil price (EUR/barrel, quarterly average level)	21.6	90.4	51.8	21.3	-42.6
International food price index (EUR, quarter-on-quarter per cent)	-14.5	15.4	1.0	6.7	-13.3
World trade volume (quarter-on-quarter per cent, seasonally adjusted data)	-11.0	5.5	1.0	2.4	-4.8
European Union					
Gross fixed capital formation (quarter-on-quarter per cent, real growth rate, seasonally adjusted data)	-6.4	2.5	0.2	1.4	-2.8
Private consumption (quarter-on-quarter per cent, real growth rate, seasonally adjusted data)	-0.8	1.1	0.3	0.4	-0.8
DATA FOR BULGARIA					
Gross fixed capital formation (quarter-on-quarter per cent, real growth rate, seasonally adjusted data)	-20.6	32.8	1.6	5.9	-9.1*
Private consumption (quarter-on-quarter per cent, real growth rate, seasonally adjusted data)	-2.0	4.0	1.1	1.4	-2.0*
Interest rates on new business loans for non-financial corporations (quarterly average level)	5.5	13.3	8.9	1.5	301.4**
Residential property prices (quarter-on-quarter per cent)	-11.4	12.5	1.8	4.7	-9.4

*The magnitude of the shocks to private consumption and investments in Bulgaria is obtained after taking into consideration the size of the general shocks to private consumption and investments in the EU Member States.

** The magnitude of shock presenting the user cost of capital in Bulgaria is shown in basis points.

Note: For measuring the shock to residential property prices, the historical data on market prices of residential property (both new and existing), which covers the period from 2005 to 2015, has been extended to cover the period back to 2000 with the available NSI data on prices of existing dwellings. The extended data series used implies an insignificantly higher size of the shock on residential property prices compared to the magnitude of the shock when estimated over the period from 2005 to 2015.

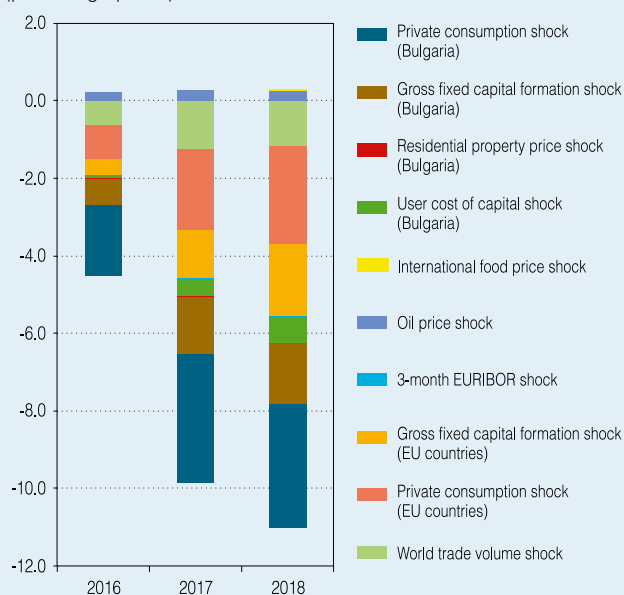
Source: Eurostat, NSI, BNB, ECB, World Bank, CPB Netherlands Bureau for Economic Policy Analysis. BNB calculations.

The impact of the shocks is set in full during the first year (2016) and gradually fades away from the beginning of the second year of the simulation. This profile reflects the response of the Bulgarian economy to historically adverse developments in the external environment, with the effect of negative shocks being extended longer than that observed in the data on the dynamics of the economic activity with a view to further worsening of the adverse scenario.⁴ The contributions of individual shocks to the deviation of real GDP, HICP, the unemployment rate, and residential property prices from the levels in the BNB baseline scenario are presented in the charts below.

⁴ In 2009 domestic real GDP posted a decline (-3.6 per cent) unlike 2010 and 2011 when positive rates were recorded at 1.3 and 1.9 per cent, respectively. By comparison, real GDP under the BNB adverse scenario declines by -2.2 per cent in 2016 and -3.2 per cent in 2017, turning positive at 1.8 per cent in 2018 with the gradual weakening of external and internal shock effects.

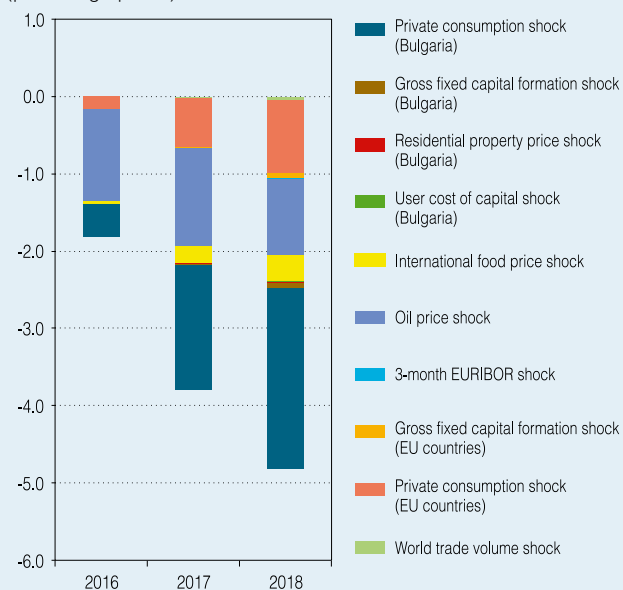
Contribution of Shocks to Deviation of Real GDP in the Adverse Scenario from the Baseline Level

(percentage points)



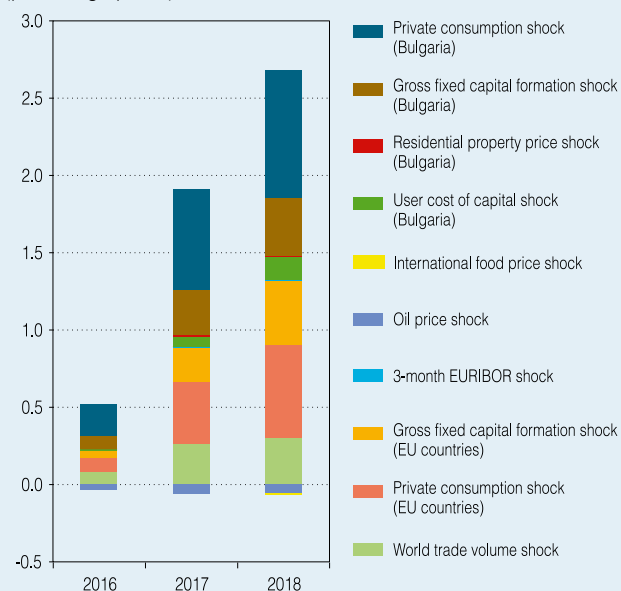
Contribution of Shocks to Deviation of HICP in the Adverse Scenario from the Baseline Level

(percentage points)



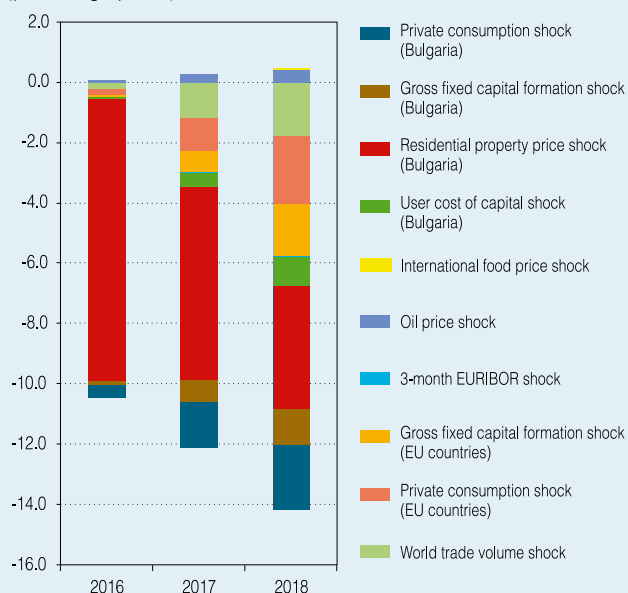
Contribution of Shocks to Deviation of Unemployment Rate in the Adverse Scenario from the Baseline Level

(percentage points)



Contribution of Shocks to Deviation of Residential Property Prices in the Adverse Scenario from the Baseline Level

(percentage points)



Source: BNB, Macroeconomic Scenarios for the Purposes of the 2016 Stress Test of the Banking System

For the 2016 EU-wide stress test EBA uses the EC macroeconomic projections of 5 November 2015 for all EU Member States and an adverse scenario designed by the European Systemic Risk Board (ESRB) as of 29 January 2016. The scenario includes an assessment of the macroeconomic effects of the identified risks with the most significant systemic importance for the EU banking sector stability. When comparing the BNB scenarios with those used for the EU-wide stress test conducted by the EBA, macroeconomic data and the respective analyses, estimates and assumptions of the BNB and the EC and ESRB available upon designing the scenarios, should be taken into account. The BNB has developed both the baseline and the adverse scenarios based on estimated behavioural relationships in the Bulgarian economy by its forecasting model which makes the two scenarios consistent. However, no such degree of consistency is present in the EBA scenarios since the baseline scenario is prepared by the EC and the adverse scenario by the ESRB. This implies that both scenarios were designed based on the different models of each institution, most likely including different economic relationships for the Bulgarian economy in the baseline and in the adverse scenarios. It should be noted that in March 2016 the ECB's General Council decided to propose to the EBA to use the national central banks' forecasts for the euro area countries, and the projections of individual central banks for the non-euro area countries, instead of the EC projections as a baseline scenario in conducting stress tests of the banking system. As of June 2016, the ECB started publishing projections of real GDP, HICP and the unemployment rate by individual euro area countries for a three-year horizon.

Comparing the BNB macroeconomic scenarios with those used by the EBA, the following conclusions can be made: the BNB baseline scenario uses more recent macroeconomic information compared to the EC macroeconomic projections used by the EBA. For example, the BNB uses data available as of March 2016 on Bulgaria's real GDP growth of 3.0 per cent for 2015, while the EC uses the forecast of 1.7 per cent for 2015 based on data available on real GDP growth of 2.2 per cent on an annual basis for the first half of 2015. The differences in the data for the year preceding the beginning of the forecasting (simulation) period affect the forecast for the following years (2016–2018). In the BNB baseline scenario the cumulative real GDP grows by 8.0 per cent for the 2016–2018, while in the EC scenario it increases by 5.7 per cent. In the BNB baseline scenario HICP increases by 1.9 per cent compared to 2015 over the three-year forecast horizon, while the EC projects growth of 3.6 per cent.

Residential property price forecasts of the two institutions also diverge significantly. The BNB's residential property prices forecast is on the conservative side, expecting a cumulative increase of 5.0 per cent in 2018 compared to 2015, following the reversal of the downward trend at the end of 2013 and growth of 1.4 per cent and 2.8 per cent reported in 2014 and 2015. The EC forecasts a cumulative decline of 1.4 per cent over the three years irrespective of the data available upon preparing the forecast, which show an increase in residential property prices by 2.6 per cent for the first half of 2015 as compared with the corresponding period of 2014. As regards the unemployment rate the BNB baseline scenario projects a decline to an annual average value of 7.0 per cent in 2018, while the EC expects a decrease to 8.7 per cent.

The adverse scenario of the BNB foresees a deviation of real GDP from its level in the baseline scenario by -4.4 per cent in 2016 and -10.7 per cent cumulatively in 2018. This deviation in the ESRB adverse scenario is -3.0 per cent in 2016 and reaches -9.6 per cent cumulatively in 2018. These data show the more conservative approach applied by the BNB. The BNB adverse scenario shows a deviation of 0.5 percentage points in the unemployment rate for 2016 from the level in the baseline scenario, with this deviation reaching 2.6 percentage points in the last year of the simulation horizon. Under the ESRB adverse scenario, the unemployment rate is 0.3 percentage points higher than that in the baseline scenario for 2016, resulting in a deviation for 2018 being slightly lower than that in the BNB scenario (2.3 percentage points). Both institutions give similar estimates

for the cumulative deviation in HICP for 2018 under the adverse scenario *vis-à-vis* the baseline scenario.

BNB Macroeconomic Scenarios

	Baseline scenario*			Deviations in the adverse scenario from the baseline scenario (percentage points)			Adverse scenario			Cumulative deviation in the adverse scenario from baseline levels (per cent)		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
HICP inflation (annual average, per cent)	-0.8	1.1	1.6	-1.8	-2.0	-1.1	-2.6	-0.9	0.5	-1.8	-3.8	-4.8
GDP at constant prices (annual rate of change, per cent)	2.2	2.5	3.1	-4.4	-5.7	-1.3	-2.2	-3.2	1.8	-4.4	-9.6	-10.7
Residential property prices (annual rate of change, per cent)	1.2	1.2	2.5	-10.5	-1.6	-2.2	-9.3	-0.5	0.3	-10.5	-11.8	-13.7
Unemployment rate (share of labour force, per cent)	8.0	7.5	7.0	0.5	1.9	2.6	8.4	9.3	9.6			

* The baseline scenario is based on the BNB macroeconomic forecast as of 15 March 2016.

Macroeconomic Scenarios Used by the European Banking Authority

	Baseline scenario*			Deviations in the adverse scenario from the baseline scenario (percentage points)			Adverse scenario			Cumulative deviation in the adverse scenario from baseline levels (per cent)		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
HICP inflation (annual average, per cent)	0.7	1.1	1.8	-2.2	-1.7	-1.2	-1.5	-0.6	0.6	-2.2	-3.8	-5.0
GDP at constant prices (annual rate of change, per cent)	1.5	2.0	2.1	-3.0	-5.0	-2.1	-1.5	-3.0	0.0	-3.0	-7.7	-9.6
Residential property prices (annual rate of change, per cent)	-1.4	-1.0	1.0	-9.7	-7.6	-7.0	-11.1	-8.6	-6.0	-9.7	-16.8	-22.5
Unemployment rate (share of labour force, per cent)	9.4	8.8	8.7	0.3	1.5	2.3	9.7	10.3	11.0			

*The baseline scenario is developed on the basis of the EC's autumn forecast of 5 November 2015. The adverse scenario has been designed by the European Systemic Risk Board.

Note: Insignificant differences compared to data reported in EBA macroeconomic scenarios for Bulgaria are due to rounding.

Sources: EBA, EC, BNB calculations.

More significant differences can be seen in the residential property prices. Under the BNB adverse scenario, residential property prices in 2016 are -10.5 per cent lower than in the baseline scenario, while the cumulative deviation in 2018 results in -13.7 per cent. By comparison, under the ESRB scenario, the residential property price index at the end of the simulation horizon is -22.5 per cent lower than the level in the EC baseline scenario (-9.7 per cent in 2016). The substantial differences in the cumulative deviations of this indicator under the BNB and ESRB scenarios from the relevant levels in the baseline scenarios could be mainly explained with the extent to which specific developments in residential property prices in Bulgaria are taken into account. Under the ESRB scenario for Bulgaria, these developments have not been sufficiently reflected. Under this scenario, for instance, an additional mechanical decline of about -7.5 per cent is added to the shock applied to residential property prices in individual countries, which is identical for all EU countries irrespective of the different situation and developments in their housing markets.⁵ The added decline reflects

⁵ For a detailed analysis of the adverse scenario developed by the ESRB, see <http://www.eba.europa.eu/-/eba-launches-2016-eu-wide-stress-test-exercise>

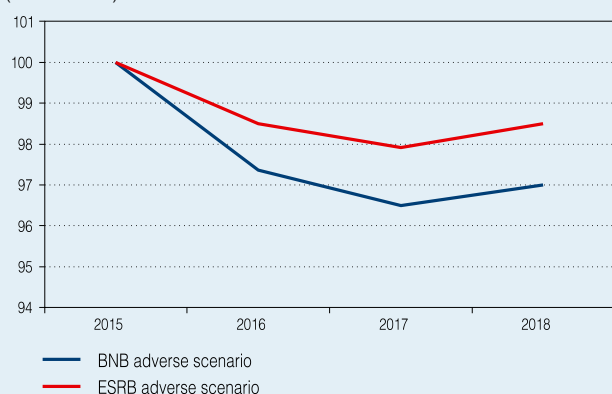
the heterogeneous dynamics of residential property prices in individual countries and seeks to achieve a sufficiently adverse scenario for the countries reporting a strong price increase. However, the overall additional decline in residential property prices contradicts the requirement for preparing an adverse scenario which is plausible at an individual country level for the purposes of conducting stress tests of the banking system. In the case of Bulgaria, the ESRB adverse scenario for residential property prices is unrealistic.

The BNB, in turn, used its own thorough analysis and econometric estimates of developments in domestic residential property prices as of 2014, suggesting that after their strong decline from the beginning of 2009 to the end of 2013, their levels by mid-2014 were very close to the long-term equilibrium value determined by fundamental factors: the income level in Bulgaria, foreign direct investment in the real estate sector and interest rates on mortgage loans. In the fourth quarter of 2015 these prices were lower (-33.6 per cent) than their highest level reached in the third quarter of 2008. Based on an analysis of macroeconomic factors affecting dynamics of domestic residential prices, it might be expected that they will further increase at moderate rates, which are much lower than those in the period prior to the global financial and economic crisis. Given the above analyses, the BNB did not apply any additional mechanical shock to these prices, besides the shock derived from their historical data (-9.4 per cent). Under the BNB adverse scenario, residential property prices in Bulgaria deviate from the baseline level as a result of the shock applied to them, which is calculated on the basis of historical data, and the endogenous response of these prices to all other negative shocks.

When comparing dynamics of the four major macroeconomic indicators under the adverse scenarios for Bulgaria designed by the BNB and the ESRB, the following conclusions can be drawn. Under the adverse macroeconomic scenario developed by the BNB, HICP declines by -3.0 per cent cumulatively from its level in 2015, unlike the ESRB scenario where the accumulated decrease for the three years reaches -1.5 per cent. The more conservative BNB baseline forecast for consumer price inflation compared to the EC forecast, along with a cumulative deviation of HICP under the adverse scenario from the level in the BNB baseline scenario which is comparatively similar to the deviation in the ESRB scenario, is the reason for more negative HICP dynamics in the BNB adverse scenario. More up-to-date and higher BNB forecast of real GDP in the baseline scenario compared to the EC forecast irrespective of the stronger negative cumulative deviation from the level in the baseline scenario in 2018 (-10.7 per cent in the BNB scenario *vis-à-vis* -9.6 per cent in the ESRB scenario) results in a total decline of -3.6 per cent for the three years under the BNB adverse scenario (-4.5 per cent under the ESRB scenario). Real GDP under the BNB adverse scenario shows a negative growth rate of -2.2 per cent in 2016, -3.2 per cent in 2017, turning positive at 1.8 per cent in 2018 with the gradual fading off of the external and domestic shock effects. Under the ESRB adverse scenario used in EU-wide stress test, Bulgaria's real GDP declines by -1.5 and -3.5 per cent in 2016 and 2017, respectively, preserving its 2017 level in the last year of the simulation horizon. Under the BNB adverse scenario, residential property prices post a decrease of -9.5 per cent cumulatively for the three years, unlike the -23.6 per cent drop under the EBA scenario, which does not take sufficiently into account specific developments on this market.

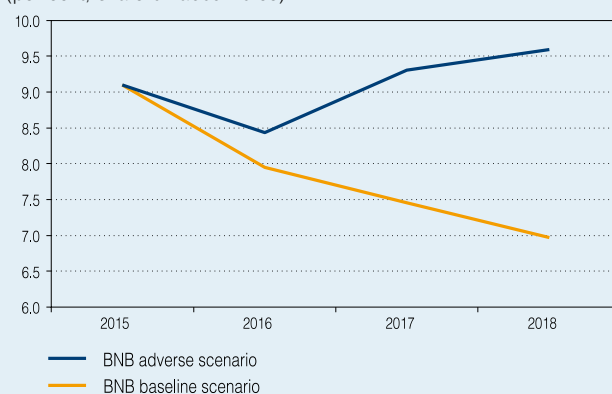
HICP under the Adverse Scenarios of the BNB and the ESRB

(2015 = 100)



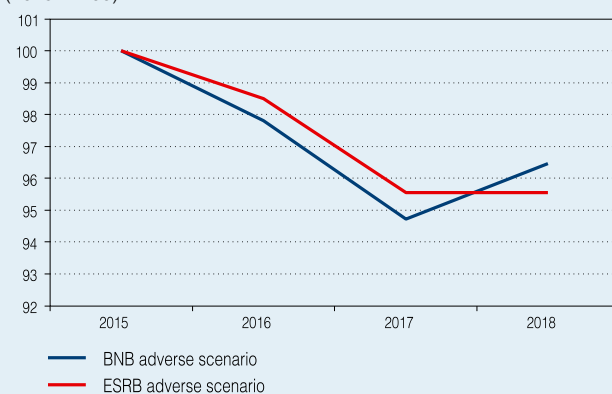
Unemployment Rate under the BNB Scenarios

(per cent, share of labour force)



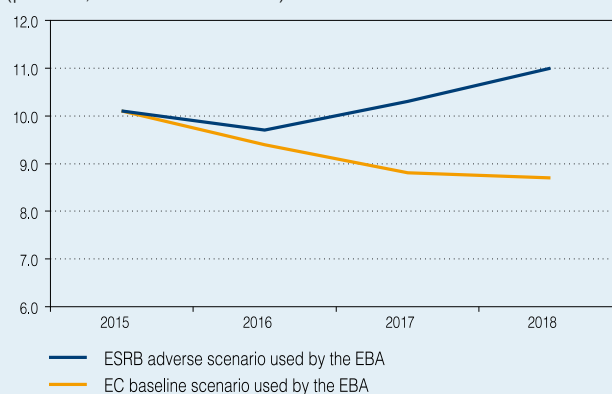
Real GDP under the Adverse Scenarios of the BNB and the ESRB

(2015 = 100)



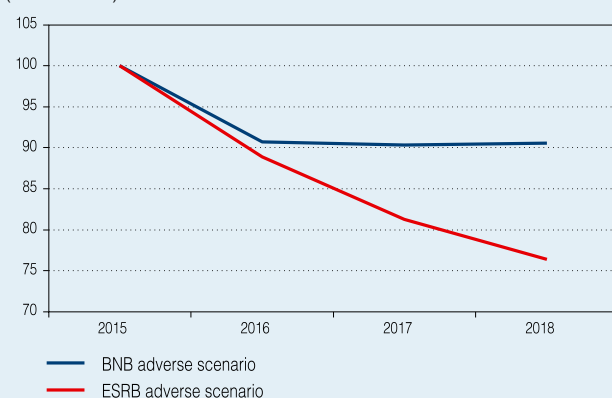
Unemployment Rate under the EBA Scenarios

(per cent, share of labour force)



Residential Property Prices under the Adverse Scenarios of the BNB and the ESRB

(2015 = 100)



Note: Data on the unemployment rate for 2015 in the macroeconomic forecasts of the BNB and the EC are quite different, and therefore this indicator is shown in separate charts to better present its dynamics in the BNB and EBA scenarios.

Source: Macroeconomic scenarios of the BNB for the purposes of conducting the stress test of the banking system in 2016; EBA, EC, BNB calculations.

	2015 (available data as of 15 March 2016)*	2015 (available data as of end- October 2016)	2016 (BNB baseline scenario as of 15 March 2016)	First half of 2016 (available data as of end- October 2016)
HICP inflation (annual average value for the last 12 months, per cent)	-1.1	-1.1	-0.8	-1.3
GDP at constant prices (annual rate of change, per cent)	3.0	3.6	2.2	3.5**
Residential property prices (annual rate of change, per cent)	2.8	2.8	1.2	5.6***
Unemployment rate (share of labour force, per cent)	9.1	9.1	8.0	8.3

* BNB macroeconomic forecast as of 15 March 2016 on the basis of which the BNB baseline scenario is developed.

** Compared to the corresponding period of the previous year, non-seasonally adjusted data.

*** Compared to the corresponding period of the previous year.

Examining BNB scenarios in the context of current macroeconomic developments in Bulgaria provides additional information supporting the assessment of their high degree of conservatism. Revised NSI data on Bulgaria's GDP for the period between the beginning of 2000 and the first half of 2016⁶ and latest data on residential price and unemployment developments in the first six months of the year and in HICP by September 2016 can be analysed from the perspective of the main indicators in both BNB scenarios. National accounts data as of end-October 2016 show that real GDP growth is revised upwards compared with available data by mid-March when the BNB baseline scenario was developed for the purposes of the stress test of the banking system. According to the revised data, real GDP increased by 3.6 per cent in 2015 (March data: 3.0 per cent). In the first half of 2016 revised data of the NSI show growth of 3.5 per cent on an annual basis, significantly higher than the projected 2.2 per cent for the whole 2016 under the BNB baseline scenario. Available data on residential property prices in the first half of 2016 also show higher values than those in the baseline scenario. They increased by 5.6 per cent in the first half year compared to the corresponding period of the previous year against a projected increase of 1.2 per cent in 2016 compared to 2015 under the BNB macroeconomic baseline scenario. As of June HICP posted a decline of -1.3 per cent on an average annual basis for the last twelve months, with this drop reaching -1.4 per cent as of September. This indicates a slightly higher deflation on an average annual basis for 2016 compared to BNB projections (-0.8 per cent). In the first half year the unemployment rate (8.3 per cent) is close to the projected value in the BNB baseline scenario for 2016 (8.0 per cent).

The review of the latest data on real GDP growth and residential property prices in Bulgaria over the first half year shows that both indicators are higher than those in the BNB baseline scenario. Given the foregoing, it can be concluded that the hypothetical adverse scenario of the BNB designed for the purposes of the banking system stress testing obtains a higher degree of adversity and, accordingly, conservatism.

⁶ In the middle of October 2016 the NSI published revised GDP data for the period from early 2000 to the first half of 2016.

Bulgaria's Position in the Global Value Chains

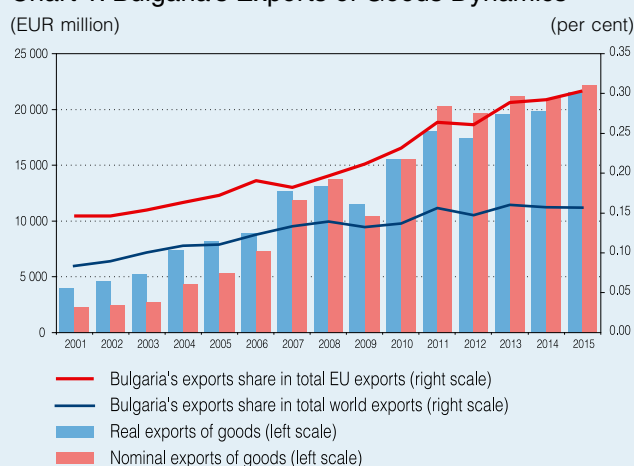
The interest in countries' participation in global value chains (GVCs) is enhanced by the increasing fragmentation of production processes and the increasing movement of intermediate products across countries in the context of high degree of globalisation. The global value chains (GVCs) involve all the activities that firms engage in, at home or abroad, to bring a product to the market, from conception to final use¹. GVCs encompass the entire process required to convert raw materials, labour and capital into intermediate products and final goods. With the expansion of the GVCs countries tend to specialise in specific business functions such as assembly operations, logistics or research rather than in specific industries. The complexity of GVCs varies depending on the product's characteristics and the expenses related to the fragmentation of the production process into stages across different countries. Each country has a certain degree of participation in GVCs as it uses imported goods as inputs in its exports and part of the country's exported goods are used as inputs in third countries.

The active participation in GVCs helps enhance productivity and competitiveness, as it allows for specialization in those parts of the production chain in which a given country or a firm is most effective. Furthermore, the participation in GVCs is a factor facilitating the integration and sustainability of a country's exports and is the main channel for technology and knowledge transfer.

This analysis examines Bulgaria's position in GVCs, taking into account the strong performance of exports between 2000 and 2015 and the increase of the country's market share in world trade and EU trade (see Chart 1). For this purpose, data on the production and distribution of value added based on international supply and use tables (SUTs) have been used (OECD Global Value Chains Indicators database² and OECD TiVA database³). Bulgaria is compared to a reference group that covers several types of economies, according to the different specialisation in GVCs. The reference group chosen consists of the other new EU Member States,⁴ Bulgaria's key trading partners and at the same time a sample of developed economies (EU), natural resource exporters (Russia), large developed economies (the US), large developing economies (China) and technologically advanced economies with limited natural resources (Japan).

The main indicator that shows the level of a country's integration in the GVCs is the participation in GVCs index. The participation in GVCs index measures the share of the imported (foreign) value added incorporated in a country's exports (backward participation) and the domestic value added of the country incorporated in the exports of the other countries as a share of the total exports of this country (forward participation)⁵. The higher each of these components, the higher the participation and integration of the country in GVCs. Using this index we can identify the degree of Bulgaria's participation in GVCs as importer of foreign products used as inputs for exports and exporter of products used as inputs in other countries' exports.

Chart 1: Bulgaria's Exports of Goods Dynamics



Sources: NSI, Eurostat, AMECO, own calculations.

¹ OECD (2013) 'Interconnected Economies: Benefiting from Global Value Chains', Report, p. 8.

² Available observations for 1995, 2000, 2005, 2008, 2009.

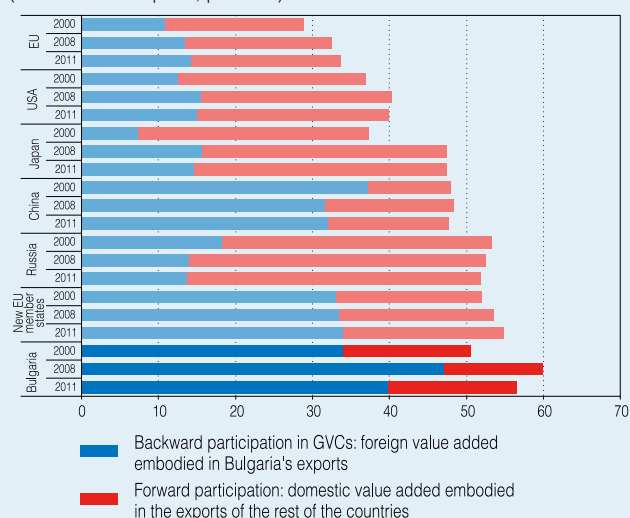
³ Available observations for 1995, 2000, 2005, 2008, 2009, 2010, 2011.

⁴ This group comprises the countries from Central and Eastern Europe which joined the EU after 2004: the Czech Republic, Estonia, Croatia, Latvia, Lithuania, Hungary, Poland, Romania, Slovenia and Slovakia. These countries have been chosen for the comparative analysis due to their similar economic and historical development to that of Bulgaria.

⁵ Koopman, R. et al. (2010) 'Give credit where credit is due: Tracing value added in global production chains', NBER Working Paper Series 16426.

Chart 2: Participation in GVCs across Countries

(share of total exports; per cent)



Sources: OECD TiVA Database October 2015, own calculations.

The general GVC participation index for Bulgaria is higher than that of the other countries in the reference group (Chart 2) which is due mainly to the high degree of Bulgaria's backward participation. Being a small open economy Bulgaria uses more foreign products as inputs in its exports than big economies such as the US and the EU. The large dependency on foreign inputs of the Bulgarian participation is even more evident when comparing it with a natural resource exporter such as Russia. Bulgaria's increased backward participation is likely to prove favourable for the country. Studies show that an increase in foreign value added leads to a subsequent increase in the value added created in Bulgaria⁶ and that foreign value added in exports is a major channel of productivity increases through knowledge and technological transfers⁷.

Bulgaria's GVC participation index,⁸ both in terms of intensity and structure of participation (dominant backward participation), is close to that of the new EU Member States.

In the 2000–2008 period all countries in the chosen reference group recorded an increase in their GVC participation except Russia. This is a sign of an enhanced vertical specialisation of production.⁹ Bulgaria saw the most pronounced increase in GVC participation and this could be associated with Bulgaria's EU pre-accession period and the deepening of Bulgaria's participation in EU GVCs.

Although the global financial crisis resulted in delayed GVC integration, the average GVC participation values in Chart 2 point to signs of recovery in 2011. Bulgaria's GVC participation in 2011 is less pronounced compared to that in 2008. Nevertheless, an increase in Bulgaria's forward participation is observed, showing that Bulgaria is becoming increasingly integrated as a country exporting products involved in other countries' exports (Bulgaria's participation with regard to the added value generated in the country is increasing). In 2011 Bulgaria still had the highest GVC participation index as compared to the rest of the countries in the reference group which shows the high degree of its integration in GVCs.

An industrial breakdown of the participation index shows that Bulgaria is mostly active in GVCs in the processing sectors of the manufacturing industry and mainly as an importer of foreign intermediate products (backward participation). By 2011 basic metals, chemical products and machinery and equipment had established themselves as the sectors with the highest participation index for Bulgaria. Although Bulgaria's participation in GVCs in these sectors is determined by the share of foreign value added in the country's total exports, the indicator shows an increase in Bulgaria's forward participation compared to 2008. This is evidence that Bulgaria is moving towards integration in supply chains in technology intensive sectors with higher value-added production.

To determine the way in which a country is integrated in GVCs and the potential benefits of its participation therein, it is necessary to examine the degree of fragmentation of the GVCs in which this country participates. The OECD indicator of the length of GVC shows the number of production stages in the chains in which a country participates necessary for a good or service to reach final consumption.

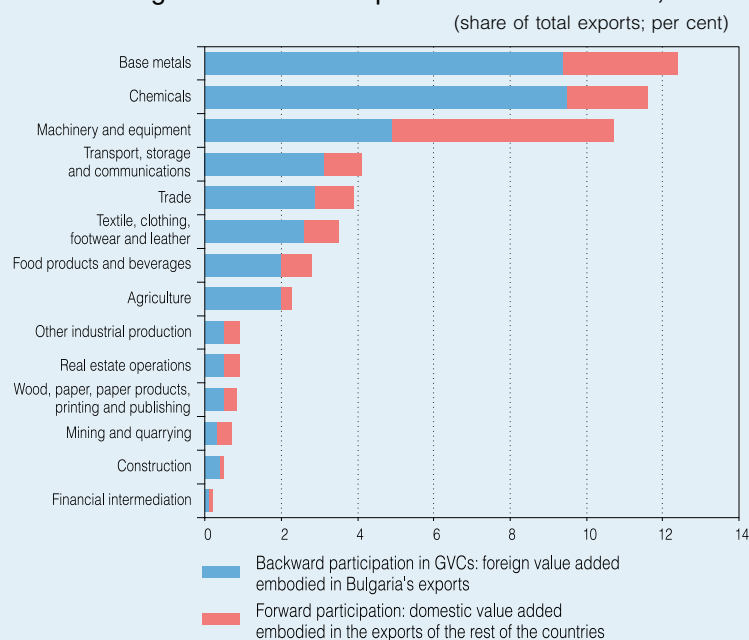
⁶ IMF (2013) 'Multi-Country Report', IMF Country Report No. 13/263.

⁷ Van der Marel E. (2015) 'Positioning on the Global Value Chain Map: Where do u want to be?' ECIPE Occasional Paper No. 01/2015.

⁸ To be referred to as the average for the new EU Member States.

⁹ Di Mauro, F., Plamper, H., Stehrer, R. (2013) 'Global Value Chains: A Case for Europe to Cheer up', Competency Policy Brief, ECB p. 3.

Chart 3: Bulgaria's GVC Participation across Industries, 2011



Sources: OECD TiVA Database October 2015, own calculations.

one of the highest in the reference group which relates to the fact that Bulgaria has a high GVC participation rate especially in sectors with highly fragmented production. The indicator shows that both in Bulgaria and in the rest of the countries from the chosen reference group intermediate products with which each of the countries participates are produced mainly on the domestic market (dominant domestic part of GVCs). At the same time, Bulgaria and the new EU Member States are the countries with the highest foreign share of GVCs as they have limited ability to maintain a large number of stages in the GVCs unlike large economies such as the US and Japan. The relative importance of intermediate products manufactured on the external market for the participation of Bulgaria in GVCs can be explained by Bulgaria's increased backward participation in GVCs.

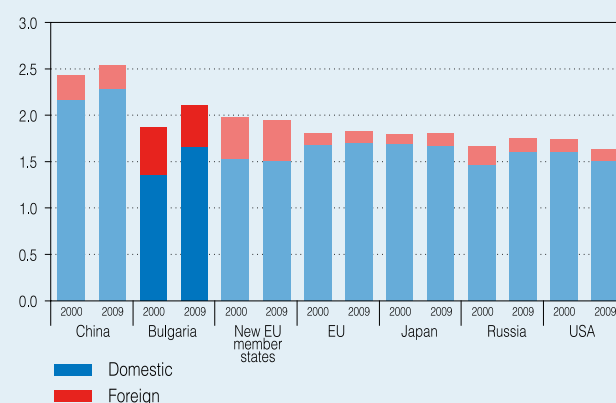
The index values in Chart 4 show that the average length (fragmentation) of the chains in which Bulgaria participates had increased in the period 2000–2009 as opposed to that of economies such as the US and Japan. This significant increase in the index for Bulgaria is the result of the growing importance of industrial production for the country's exports, as this sector is characterised by high fragmentation of the production processes.

The position of a country in GVCs could be determined based on whether the country produces raw materials used in the beginning or at the end of the production process. This could be established by using an index showing the distance to final demand¹¹. The said index measures the number of production stages left before

Two parts can be distinguished in the length of GVC indicator: a domestic one, where the intermediate products for the production of final goods or services are produced on the domestic market and an international one, where the intermediate products are produced on the foreign market.¹⁰ The index takes its lowest value of 1 when no intermediate products are used for the production of final goods and services or when all produced goods and services reach directly to the final consumer. The higher the index value, the greater the fragmentation of the production chains in which the country participates, and in case of more than one production stage the index registers values greater than 1.

The average length of global value chains in which Bulgaria participates is

Chart 4: Average Length of GVCs

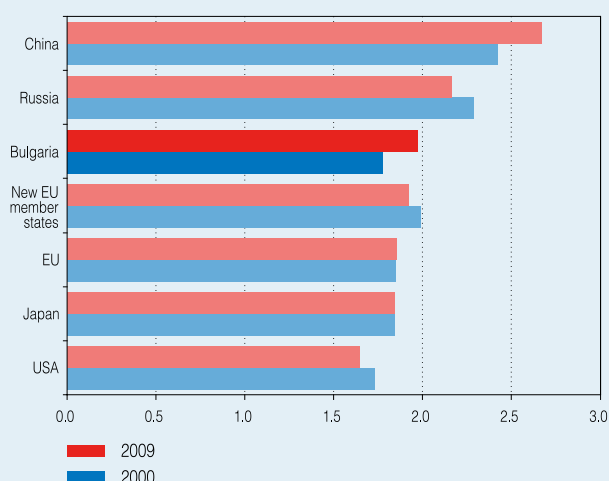


Sources: OECD Global Value Chains Indicators database, own calculations.

¹⁰ Fally, T. (2012). 'Production Staging: Measurement and Facts, University of Colorado – Boulder, May.

¹¹ Antràs, P., D. Chor, T. Fally and R. Hillberry (2012). 'Measuring the Upstreamness of Production and Trade Flows', American Economic Review, Vol. 102, No. 3, pp. 412–16; Fally, T. (2012). 'Production Staging: Measurement and Facts', University of Colorado – Boulder.

Chart 5: Distance to Final Demand

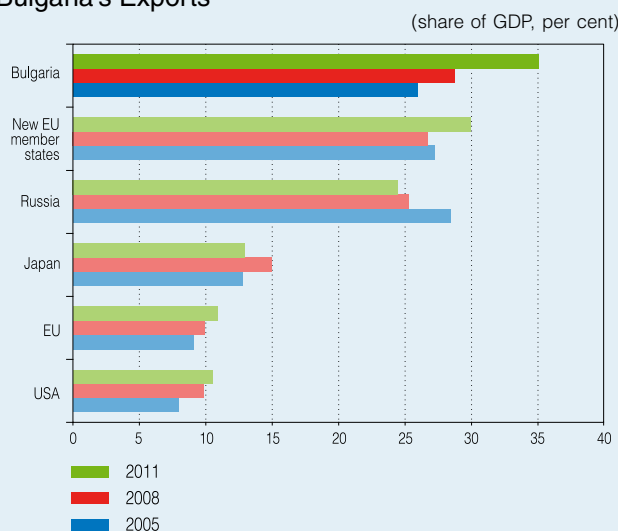


Sources: OECD Global Value Chains Indicators database, own calculations.

and assembly operations and to Russia's role as the main exporter of natural resources used at the beginning of the production processes.

The low share of the domestic value added in Bulgaria's exports compared to the foreign value added together with the relatively high remoteness from the final consumer pose the question of whether Bulgaria manages to obtain sufficient economic benefits of its active participation in GVCs. The ratio of domestic value added in exports to the gross domestic product of the country suggests that the economic benefits for Bulgaria should be more significant than for the other countries in the reference group as this ratio was highest in Bulgaria (see Chart 6). This can be explained by the relative importance of external trade for each country:

Chart 6: Domestic Value Added Embodied in Bulgaria's Exports



Sources: OECD TIVA Database October 2015, NSI, own calculations.

the goods and services reach the final consumer and is indicative of the production specialisation of individual countries. Upstream countries which specialise in the production of raw materials are at the beginning of the chain and have high values of the distance to final demand index. Downstream countries are closer to final consumers and are characterised by lower values of this index.

The distance to final demand index shows that Bulgaria, similarly to the new EU Member States, has a high degree of remoteness to final consumption. This indicated that Bulgaria specialises largely in the production of resources used at the beginning of the GVCs compared to most of the countries in the reference group. The only other countries in this group which have higher values of this index are China and Russia. This can be attributed to China's specialisation in processing

domestic value added in exports for Bulgaria is relatively small, but the volume of exports relative to the size of the economy is larger than that of the rest of the countries in the group. As a result, domestic value added in exports to GDP ratio for Bulgaria is higher regardless of the lower domestic to foreign value added ratio.

The significant increase in the ratio of domestic value added in exports to GDP in Bulgaria observed between 2005 and 2011 (see Chart 6) coincides with a period of increased participation in GVCs and rising export volume. Therefore, it can be concluded that increased exports resulting from Bulgaria's deeper integration in GVCs have stimulated the generation of domestic value added, which in turn has boosted investment and demand for labour.

