

# 5. Bulgarian National Bank Forecast of Key Macroeconomic Indicators for 2016–2018

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The BNB forecast of key macroeconomic indicators is based on data published as of 15 December 2016. ECB, EC and IMF assumptions on the global economic developments as of 8 December 2016 were used.

In 2016 global economic growth is expected to slow down on 2015 due to lower annual growth in advanced economies while the real growth rate in developing countries is expected to remain close to its previous year's level. Based on latest ECB, EC and IMF forecasts of global economic developments, in the 2017–2018 period economic activity in Bulgaria's major trading partners is expected to accelerate and external demand for Bulgarian goods and services to increase accordingly.

In 2016 international commodity prices remained lower than in the previous year due to the high level of inventories and output. In the second half of 2016 the global commodities demand-supply gap decreased. This decline is expected to continue in 2017 and 2018. As a result, international prices of commodities are anticipated to start increasing on an annual basis from 2017 onwards.

In 2016 real growth in Bulgaria is expected to reach 3.4 per cent (3.6 per cent in 2015). In 2017 growth is expected to slow down to 2.8 per cent, and then to accelerate slowly to 2.9 per cent in 2018. Domestic demand will have the main positive contribution to growth. As a result, growth of imports of goods and services is anticipated to accelerate. Irrespective of growing imports, the average contribution of net exports over the projection horizon is expected to be almost neutral. Risks to the outlook of economic activity in 2016 are assessed as broadly balanced. There are some risks of lower than projected growth in the 2017–2018 period. Uncertainty about global economic developments remains high and would adversely affect both external demand for Bulgarian goods and services and Bulgaria's investment activity. Lower than expected private investment in Bulgaria would have a limiting effect on household consumption and confidence, and the lower absorption of funds under EU programmes will be a prerequisite for lower government investment.

In 2016 inflation in Bulgaria remained negative. Falls in international crude oil and commodity prices contributed to the decline in the prices of imported goods which was passed on final consumer prices in Bulgaria. Specific factors, as price decreases in some services, and further declines in durable goods prices also acted in the same direction. In the 2017–2018 period inflation is expected to remain low following a pattern of a gradual increase in line with the assumed upward dynamics of international prices. Administratively controlled prices will have a low positive contribution to overall inflation due to the projected rise in excise duty on tobacco products. Risks to the inflation outlook are assessed as broadly balanced. Faster than expected rates of increase in oil and commodity prices and related possible rises in some administratively controlled prices may prompt higher than projected inflation. A continued deflationary trend in some services and durable goods, however, is a precondition for lower than projected inflation.

## Forecast

Global economic growth in 2016 is expected to remain lower than in 2015 due to slower growth in the first three quarters of the year. The main factor behind this is lower growth in advanced economies, where despite the positive signs of higher economic activity in the third quarter of 2016, GDP growth remains slower than in the previous year. Concurrently, over 2016 growth in developing countries will remain at its 2015 level. The ECB, EC and IMF forecasts for 2017 and 2018 are for acceleration of global economic growth compared to 2016 as a result of a recovery of economic activity in developing countries and gradually increasing GDP in the USA and the euro area. The expected strengthening in global economic activity will contribute to higher external demand for Bulgarian goods in 2017 and 2018.

In spite of the fact that prices of energy and non-energy products in 2016 were lower than in 2015, the demand-supply gap in international markets decreased in the second half of the year, resulting in higher year-on-year prices of energy and most non-energy products at the close of 2016. The major factors

contributing to higher energy prices in the second half of 2016 were the agreements in September, October and November 2016 for limiting oil production from early 2017 in the OPEC members countries and other large producers such as Russia, and the declining production in the USA. At the end of 2016 year-on-year non-energy price hikes were observed mostly in metal prices, reflecting the government investment expenditure in China, the largest consumer of metals worldwide. The outlining downward trends in excess supply on international commodity markets and higher energy prices, a result of the December agreement for reducing oil production between OPEC member countries and other major oil producing countries, is expected to push up annual international prices of goods over the 2017–2018 period.

In 2016 Bulgaria's economic growth is expected to remain close to the growth in 2015. Net exports and private consumption are projected to contribute most substantially to growth, and the change in inventories to a lesser extent. The contribution of government consumption to GDP growth is anticipated to be neutral. Lower government investment due to a delayed launch of EU-funded investment projects for the 2014–2020 programme period was the reason behind the slightly lower GDP growth reported in 2016 as compared with 2015.

Growth is expected to slow down to 2.8 per cent in 2017 and to slightly accelerate to 2.9 per cent in 2019, with domestic demand driving to a stronger extent economic activity developments. Private consumption will be the main factor behind growth that will gradually accelerate its rate relative to 2016 driven by continuously growing real disposable income and improving labour market situation. Private investment will also have a positive contribution to growth supported by increasing demand for goods and services. Profits of corporations are expected to increase, which given the low interest rates will strengthen corporations' demand for loans. According to the updated medium-term budget forecast of the Ministry of Finance published in October 2016, the absorption of EU funds will increase. Consequently, government investment will grow in 2017 and remain close to this level in 2018. As a result of the private and government investment dynamics described above, gross fixed capital formation growth in real terms is expected to accelerate in 2017 and to slightly slow down in 2018. The positive contribution of domestic demand components to growth is expected to be partly offset by the accelerated imports of goods and services. The forecast makes a technical assumption that the change in inventories will have neutral effect on growth, which will become a specific factor contributing to slower real GDP growth in 2017 as compared with that reported in 2016.

In 2017 growth in real exports of goods and services is anticipated to slow down compared with the high rates reported in 2016. This will be mostly attributable to slower growth in real exports of services as a result of weakening 2016 positive effects associated with the recovery in economic activity in countries important for Bulgaria's tourism and the enhanced uncertainty in countries which are Bulgaria's competitors in tourism. In 2018 real exports of goods and services are expected to increase on 2017 in line with the external demand dynamics. Concurrently, in 2017 the rate of real growth in imported goods and services will accelerate in line with the higher domestic demand and will slightly moderate in 2018 due to sustained levels of government investment. As a result, in 2017 and 2018 the contribution of net exports to GDP growth is projected to be weaker compared with 2016, with the average contribution of net exports to growth being neutral for the two years.

If the forecast of favourable terms of trade (measuring the change in prices of exported goods against the change in prices of imported goods) for Bulgaria materialises and the growth rate of real exports of goods is higher than that of imported goods, the trade deficit on the balance of payments current account is expected to further decrease as a percentage of GDP in the 2016–2018 period compared with its 2015 level. The services trade balance in 2016 is anticipated to record a higher surplus as a percentage of GDP against 2015 due to higher receipts from tourism, reflecting the recovery in economic activity in countries important for Bulgaria's tourism and enhanced uncertainty in countries which are Bulgaria's competitors in tourism such as Turkey. In 2017 and 2018 the services trade balance is expected to stabilise as a percentage of GDP. The 2016 positive effects on exports of services will subside, while imports of services will gradually increase driven by improving economic activity, employment and income in Bulgaria. Enhanced economic activity in Bulgaria is expected to boost companies' profits which

will result in a gradual increase in the payments of dividends to non-residents, and correspondingly, to a rise in the deficit of the BOP primary income account towards the end of the forecast horizon. In 2016 net transfers on the balance of payments current account are expected to decrease as a percentage of GDP compared with 2015 and to retain their level in the 2017–2018 period, reflecting government plans to improve the absorption of EU funds in line with the Ministry of Finance updated medium-term budget forecast published in October 2016. As a result of the component dynamics, in the 2016–2018 period the BOP current account balance will remain positive, and by the end of the forecast horizon will gradually contract as a percentage of GDP.

In 2016 employment growth is expected to be higher than in 2015 and to reach 0.5 per cent. Positive labour market developments will be sustained. However, corporations are expected to remain cautious in opening new jobs, thus optimising their labour costs. In 2017 and 2018 employment is expected to continue growing at a rate similar to that in 2016. Correspondingly, the unemployment rate will further decline in the 2017–2018 period. Given the expected slow employment growth, labour productivity will largely follow the real GDP dynamics. The growth rate of compensation per employee is expected to gradually approach labour productivity growth, and unit labour costs to grow by less than 2 per cent over the forecast horizon.

The upward trend in international oil and food prices outlined in the second half of 2016 will be the major factor for reversing the decline in consumer price index. At the end of 2017 and 2018 inflation is expected to be 1.2 per cent and 1.4 per cent respectively. The increase in prices of goods and services with administratively controlled prices reflecting the projected rise in the minimum excise duty on tobacco products since early 2017 and 2018 will also contribute to this trend. The core inflation is expected to reverse its deflationary trend in the second half of 2017. In addition, inflation related to catering and transport services, indirectly affected by domestic prices of food and fuels, is projected to follow the expected upward dynamics of international prices.

In the 2017–2018 period funds attracted from the non-government sector in the banking system are expected to grow further though at lower than the average 2016 rates. This dynamics will be driven by the projected acceleration of private consumption and, correspondingly, by a slight decrease in the savings rate, as well as by the expectations of comparatively strong demand for currency in circulation. The expectations of retaining deposit rates at the attained low levels will also contribute to the foreseen trends regarding funds attracted from corporations and households in the banking system. The recovery of private consumption and investment amid relatively low lending rates will be a factor stimulating demand for loans from the non-government sector. Progressively improving economic activity is also expected to be a factor behind banks' increasing lending risk appetite. The expectations of gradually accelerating credit growth correspond to the assumption of retaining positive trends in new loans to the private sector which have occurred since the second quarter of 2016.

## GDP Data Revisions Published in October 2016

In accordance with the NSI calendar presenting the results of the statistical surveys in the 11–13 October 2016 period, not only final GDP data for 2015 were published on the NSI website, but also the revised annual and quarterly GDP data based on the production, income and final use method for the period from 2000 until the second quarter of 2016 (inclusive). Revisions in the national accounts data reflected both changes in the methods and data sources used by the NSI and routine procedures<sup>87</sup>. Revisions concerned mostly the annual rate of change in real GDP for the period from 2000 until the second quarter of 2016, while the revisions in GDP deflator are concentrated mainly in 2011 and 2015.

<sup>87</sup> Data revisions are mostly due to: revision of the perpetual inventory method (PMI) for calculation of consumption of non-market units' fixed capital; reclassification of the Bulgarian Deposit Insurance Fund in the general government sector; implementation of balance of payments revisions, introduced by the BNB in March 2016; routine procedures related to additional data inputs within the comprehensive annual statistical reporting; supply and use table balancing' reclassification of units upon EC request.

As a result of revisions cumulative growth of real GDP in the 2000–2015 period came to 69.1 per cent against 66.5 per cent prior to revisions. Growth for the 2000–2008 period was reduced to 60.3 per cent from 61.1 per cent, the decline in 2009 was lower: -3.6 per cent against -4.2 per cent in 2008, growth for the 2009–2015 period was raised to 9.4 per cent from 7.9 per cent. Data for 2015 changed most significantly, since the revisions included additionally reported data for the year. Nominal GDP in 2015 was raised by BGN 2.2 billion amounting to BGN 88.6 billion and real annual growth by 0.6 percentage points to 3.6 per cent. The GDP structure by components of final use experienced significant changes. Based on data published prior to October 2016 revisions, net exports had the major contribution to growth in 2015, while the revised data suggest that growth was attributable mostly to private consumption. Annual growth of real GDP in the first half of 2016 was increased by 0.6 percentage points to 3.5 per cent. The contribution of private consumption to growth for this period decreased after the revisions compared with the data prior to revisions. This was offset by the higher contribution of net exports which was partly due to base effects.

NSI revisions prompted significant changes in historical data which are used by the BNB in preparing its macroeconomic forecast. As a result, the current macroeconomic forecast based on revised data and the forecast published in the Economic Review, issue 2 of 2016 are no longer comparable. Therefore, no comparison with the previous forecast has been made.

#### Revisions of real GDP growth data and components (13 October 2016 *vis-à-vis* 2 September 2016)

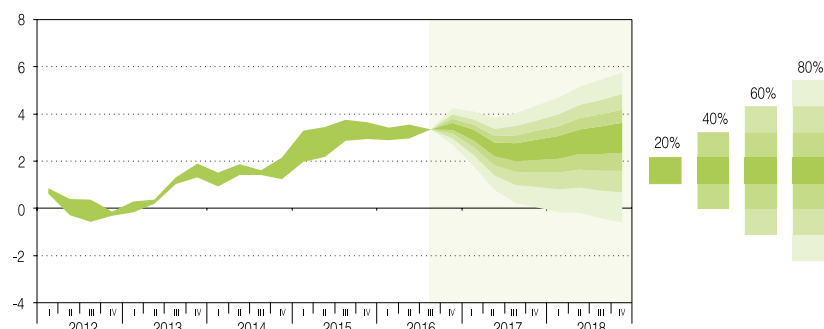
	As of 13 October 2016			As of 2 September 2016			Revision (percentage points)		
	2014	2015	2016 (January–June)	2014	2015	2016 (January–June)	2014	2015	2016 (January–June)
<i>Annual rate of change (per cent)</i>									
GDP at constant prices	1.3	3.6	3.5	1.5	3.0	3.0	-0.2	0.6	0.6
Private consumption	2.7	4.5	1.8	2.7	0.8	2.4	0.0	3.7	-0.5
Government consumption	0.1	1.4	-3.4	0.1	0.3	-3.3	0.1	1.1	0.0
Gross fixed capital formation	3.4	2.7	0.4	3.4	2.5	0.4	0.0	0.2	0.0
Exports (goods and services)	3.1	5.7	3.9	-0.1	7.6	4.4	3.2	-1.9	-0.5
Imports (goods and services)	5.2	5.4	1.9	1.5	4.4	3.5	3.6	1.0	-1.6
<i>Contribution (percentage points)</i>									
Private consumption	1.7	2.8	1.2	1.7	0.5	1.5	0.0	2.3	-0.3
Government consumption	0.0	0.2	-0.6	0.0	0.0	-0.6	0.0	0.2	-0.1
Gross fixed capital formation	0.7	0.6	0.1	0.7	0.5	0.1	0.0	0.0	0.0
Exports, net	-1.3	0.1	1.5	-1.1	2.1	0.6	-0.2	-1.9	0.9

Sources: the NSI, BNB calculations.

## Risks to the Forecast

The uncertainty surrounding the forecast is presented by assessment of risks. Risks to the economic growth outlook are balanced for 2016. Risk for the 2017–2018 period, however, are more in favour of weaker than projected growth. The still relatively weak oil prices, low cost of financing and current positive sentiment observed in Bulgaria, remain preconditions for higher than projected consumption and investment. However, negative risks to the external and domestic environment are significant and can create conditions for lower than expected real GDP growth. These risks arise from the heightened uncertainty surrounding negotiations over Brexit, uncertainty about the future US fiscal and monetary policy, pending elections in some countries which are Bulgaria's major trading partners (Germany, France and the Netherlands), political instability in Italy and worsening economic situation in Turkey. Upcoming elections in Bulgaria also create uncertainty. These factors could have negative impact on both external demand for Bulgarian goods and services and on investment activity in Bulgaria. The lower than expected investment in the private sector in turn can have a limiting effect on household consumption in terms

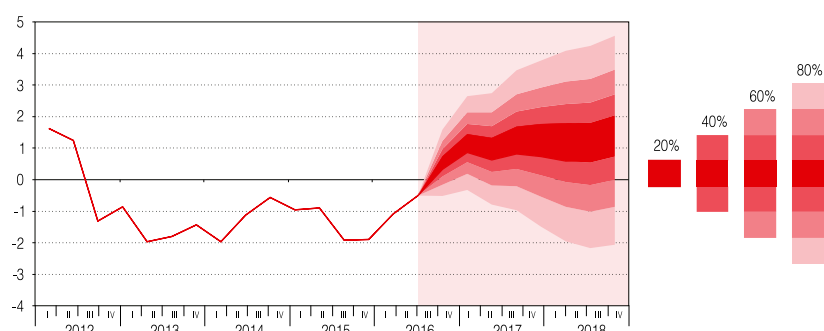
## Fan Chart of the Expected Annual Rate of Change of GDP



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

Source: the BNB.

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



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

Source: the BNB.

of higher than projected inflation in case of stronger than expected rise in international oil prices driven by OPEC and other major oil-producing countries measures to cut production amounts or in the event of increases in the administratively controlled prices of some services, which are indirectly influenced by oil prices (heating and gas supply). A sustained deflationary trend in some services prices and durables will be a precondition for a lower than projected inflation. Strong price competition in the telecommunications sector, the EC plan to remove roaming charges from 15 June 2017 and the lower termination rates (the cost of a call between customers of different network operators) could result in lower than expected core inflation over the forecast horizon. The good 2016 cereals harvest in Bulgaria and in other major producing countries in the region could result in a lower than projected 2017 inflation in the food group

of households' disposable income and consumer confidence. There are risks of lower government investment in 2017 given the lower EU programme spending in 2016 compared to the estimates in the updated medium-term budget forecast of October 2015. In case of more favourable than expected developments in external and domestic environment, economic activity in Bulgaria could be higher *vis-à-vis* the baseline scenario.

The uncertainty over the outlook for a particular indicator may be graphically illustrated by means of the so-called fan chart.<sup>88</sup> Chart bands, depicted in a particular colour, set an interval in which with a certain probability the projected value is expected to fall (for further details, see the note to the chart on GDP growth). Each interval widens by an increase in a projected horizon, reflecting an increasing uncertainty regarding a more distant future. The fan chart on the annual GDP growth shows that real GDP growth is less likely to exceed 4 per cent in 2017, while there is 60 per cent probability for annual GDP growth to range from 1.4 to 3.6 per cent.

Risks to the inflation outlook are assessed as broadly balanced. Major risks stem from global crude oil and food price developments, the occurrence and scale of possible second-round effects on other goods and services groups. There are risks

<sup>88</sup> The use of fan charts is discussed in more details in the box entitled 'Measurement and Presentation of Uncertainty in Forecasting Economic Indicators', *Economic Review*, 1/2012.

in the baseline scenario. The balance of risks regarding inflation is graphically shown in the fan chart above. In the following two years we expect a gradual increase in inflation on the current levels ranging between -0.2 and 2.7 per cent at the end of 2017, while the probability for inflation to range from -0.9 per cent to 3.5 per cent at the end of 2018 is 60 per cent.

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

Risks to the monetary sector outlook relate to a slower than anticipated recovery of private consumption and investment and continuing optimisation of bank portfolios, which will result in slower than projected growth of loans to the non-governmental sector.

### Forecast of Key Macroeconomic Indicators for 2016–2018

(per cent)

	2014	2015	2016	2017	2018
<i>(annual rate of change)</i>					
GDP at constant prices	1.3	3.6	3.4	2.8	2.9
Private consumption	2.7	4.5	2.1	2.5	2.6
Government consumption	0.1	1.4	0.3	1.7	1.7
Gross fixed capital formation	3.4	2.7	-1.5	5.6	4.1
Exports (goods and services)	3.1	5.7	5.7	4.7	5.0
Imports (goods and services)	5.2	5.4	3.2	5.0	4.7
HICP at end of period*	-2.0	-0.9	-0.5	1.2	1.4
Core Inflation	-1.6	-0.3	-2.1	0.3	1.1
Energy	-13.9	-10.5	-0.2	8.1	4.3
Food	-0.7	0.9	0.9	1.6	1.7
Goods and services with administratively controlled prices and tobacco products	1.2	-0.7	1.4	1.1	0.9
Employment	0.4	0.4	0.5	0.5	0.6
Unit labour costs	4.6	2.3	0.5	1.7	1.8
Labour productivity	1.0	3.3	2.9	2.3	2.3
Unemployment rate (share of labour force)	11.4	9.1	7.6	7.1	7.1
Claims on non-government sector	-7.7	-1.6	1.8	3.0	3.6
Claims on corporations**	-12.0	-1.6	0.6	2.9	3.7
Claims on households	-1.6	-1.3	2.0	3.0	3.5
Deposits of the non-government sector*	1.5	10.6	7.0	6.4	7.0
<i>Share of GDP</i>					
Balance of payments current account	0.1	0.4	2.8	1.6	1.6
Trade balance	-6.5	-5.8	-4.2	-4.4	-4.3
Services, net	5.9	6.8	7.2	7.2	7.3
Primary income, net	-3.1	-4.3	-3.3	-4.3	-4.5
Secondary income, net	3.8	3.6	3.1	3.1	3.0
<i>(annual rate of change)</i>					
External assumptions					
External demand	3.7	1.7	2.9	3.4	3.6
Average annual Brent oil price (in USD)*	-9.1	-47.1	-15.9	18.7	8.4
Average annual price of non-energy products (in USD)*	-3.3	-16.5	-3.9	4.3	2.5
Brent oil price at the end of period (in USD)*	-30.5	-42.9	15.3	9.6	7.0
Price of non-energy products at the end of period (in USD)*	-5.2	-18.9	7.3	4.0	2.3

\* 2016 data is official.

\*\* Data refer to non-financial corporations.

Source: the BNB.