BULGARIAN NATIONAL BANK

MACROECONOMIC FORECAST

SEPTEMBER 2020

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September 2020

Bulgarian National Bank

The quarterly publication of the BNB *Macroeconomic Forecast* provides annual projections of key macroeconomic indicators for Bulgaria in the current and next two years. The macroeconomic forecast is prepared by the BNB Economic Research and Forecasting Directorate and does not necessarily reflect the views of the members of BNB's Governing Council about the prospects for the development of the Bulgarian economy. Information regarding the forecast preparation procedure, as well as technical details on the macroeconomic forecasting model can be found in *Economic Review*, issue 4 of 2015: https://www.bnb.bg/bnbweb/groups/public/documents/bnb_publication/pub_ec_r_2015_04_en.pdf.

The *Macroeconomic Forecast* publication (September 2020) was presented to the BNB Governing Council at its 8 October 2020 meeting. It employs statistical data and information available as of 25 September 2020. The estimates and projections published in this issue should not be regarded as advice or recommendation. The information in the publication should be used exclusively at the user's risk.

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This issue includes materials and data received up to 8 October 2020.

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Abbreviations

BNB	Bulgarian National Bank
ECB	European Central Bank
EWRC	Energy and Water Regulatory Commission
GDP	Gross Domestic Product
HICP	Harmonised Index of Consumer Prices
NSI	National Statistical Institute

Summary

In the second quarter of 2020 the containment measures against the global spread of the coronavirus (COVID-19) pandemic led to a steep and widespread decline in global economic activity. According to Eurostat data, the euro area, which is the main trading partner of Bulgaria, reported an unprecedented historical decrease of 11.8 per cent in real GDP on a quarterly basis for the April–June 2020 period.

The BNB forecast of major macroeconomic indicators is based on information published by 25 September 2020 and employs assumptions about international economic developments and price dynamics of main commodity groups in global markets as of 14 September 2020. Based on assumptions about the global economic situation, a 12.6 per cent decline is expected in demand for Bulgarian goods and services over 2020 compared with 2019. These assumptions do not include a second wave of the COVID-19 spread or any tightening of global containment measures, and as a result of that external demand for Bulgarian goods and services is projected to start to recover in the third quarter of 2020 on a quarterly basis, with this trend continuing in the remainder of the forecast horizon. Market expectations of energy prices show a decline in both US dollars and euro over 2020, while non-energy prices are anticipated to rise in dollars and decrease slightly in euro on an annual basis for 2020. In the next two years assumptions about the international economic situation point to an increase in the prices of raw materials in line with the improvement in global economic activity.

Information available as of 25 September 2020 that is the basis of our forecast indicate that the sustainability of the economic activity recovery in Bulgaria which began in the third quarter of 2020 is characterised by a significant uncertainty, including in the short run. The uncertainty continues to be driven by the pandemic spread in Bulgaria and worldwide and the efficiency of containment measures coupled with the effectiveness and scope of fiscal measures to support the most vulnerable households and enterprises. As a result of the uncertainty surrounding the baseline scenario for the rate of change of GDP in 2020 (-5.5 per cent) and the constructed probability distribution at 60 per cent confidence level, we expect GDP to decline between -3.2 and -8.0 per cent in 2020. Compared with the June 2020 forecast, an upward revision is made in the GDP change for 2020. This reflects more favourable than expected developments in the second quarter of 2020 in terms of final consumption expenditure, gross fixed capital formation and foreign trade flows whose quarterly and annual rates of decline in the second quarter of 2020 were lower than those suggested by economic indicators available as of 17 June 2020.

Under the baseline forecast scenario, real GDP of Bulgaria will decrease by 5.5 per cent in 2020, reflecting mainly a decline in private consumption (a contribution of -1.9 percentage points), a fall in gross fixed capital formation (a contribution of -1.8 percentage points) and, to a lesser extent, the negative contribution of net exports (-1.2 percentage points). Fiscal policy is expected to have a strong countercyclical effect and to contribute positively to economic activity, both through a higher amount of government consumption expenditures and investment, as well as through increased net transfers to households. In line with assumed developments in the external environment and the containment of the pandemic, in 2021–2022 a gradual recovery in economic activity is expected, with real GDP projected to rise by 4.0 and 3.8 per cent, respectively, reaching its pre-pandemic level by mid-2022. The increase in economic activity over the period will largely be driven by private consumption and goods exports, as well as the considerable growth in public investment based on the assumptions thereon.

Annual inflation is expected to slow down significantly to 0.3 per cent at the end of 2020 (from 3.1 per cent at the end of 2019), reflecting the strong decline of international oil prices in euro and moderation in core inflation under the influence of contracted private consumption on an annual basis. Headline inflation is expected to accelerate to 1.9 per cent by end-2021 due mainly to the increased oil prices and a gradual rise in core inflation, thereafter slowing down in 2022 to 1.6 per cent.

Risks to the baseline scenario of the macroeconomic forecast are assessed as balanced for 2020 and tilted toward a slower subsequent recovery of economic growth over the remaining part of the projection horizon *vis-à-vis* the baseline scenario. The most significant risk for weaker economic activity to be observed over the whole forecast horizon *vis-à-vis* the baseline scenario stems from a potential second wave of COVID-19 spread in Bulgaria and worldwide, which could subdue for a longer than projected period foreign trade flows and consumption and investment expenses of households and corporations. Risks to the inflation outlook are mainly assessed as oriented toward lower inflation compared with the baseline scenario due to the possibility of lower inflation in energy products and main HICP components. A factor likely to affect the relevance of the baseline scenario is the revision of historical GDP data, which is scheduled to be published by the NSI on 19 October 2020.

Forecast of key macroeconomic indicators for 2020–2022

External Environment

In the second quarter of 2020 the containment measures against the global spread of the coronavirus (COVID-19) pandemic led to a steep and widespread decline in global economic activity. According to Eurostat data, the euro area, which is the main trading partner of Bulgaria, reported an unprecedented historical decrease of 11.8 per cent in real GDP on a quarterly basis for the April–June 2020 period. Nonetheless, dynamics of global economic indicators in the period after May 2020 signals a partial improvement in the economic activity in services and manufacturing.

The BNB forecast of major macroeconomic indicators is based on information published by 25 September 2020. In preparing the forecast, assumptions of the European Central Bank, the European Commission and the International Monetary Fund are used to describe the global economic development and international commodity price dynamics, available as of 14 September 2020. Based on these assumptions, the global economic activity is expected to begin increasing on a quarterly basis over the second half year, after the loosening of part of the measures introduced in the second quarter of 2020 to contain the spread of COVID-19. The expectations of the European Central Bank show a strong decline of real GDP in 2020 in both the euro area and the rest of the world, followed by a recovery of growth in 2021–2022, assuming that in the case of a potential resurgence of COVID-19 infections, more localised and targeted measures would be applied, and their effect on economic activity would not be as adverse as the impact of the measures introduced during the second quarter.

From the third quarter of 2020 external demand for Bulgarian goods and services is expected to start gradually recovering on a quarterly basis, though remaining below the level of the corresponding period of the previous year. Reflecting these developments, in 2020 external demand is projected to decrease by 12.6 per cent from 2019, thereafter increasing by 7.4 and 5.0 per cent in 2021 and 2022, respectively. The baseline scenario of external demand dynamics is based on the assumption that there will be no outbreak of a second wave of COVID-19 spread and no subsequent tightening in containment measures at a global level and in Bulgaria.

With the introduction of a wide range of containment measures against the global spread of COVID-19 and the consequent strong downturn in the global economic activity in the second quarter of 2020, prices of petroleum products and metals posted a significant annual drop in both US dollars and euro. Only food prices posted a year-on-year rise in the second quarter of 2020 in US dollars and in euro. In July and August 2020 on average, food, metal and petroleum product prices posted quarter-on-quarter increases in US dollars compared with the levels reported in the second quarter of 2020, a result of the eased containment measures worldwide. An appreciation of the euro *vis-à-vis* the US dollar on a quarterly basis in July and August 2020 led to a quarter-on-quarter drop in food prices in euro in the corresponding period.

According to the external assumptions, petroleum product prices are expected to decline substantially in 2020 in both US dollars and euro and to start gradually increase in the rest of the projection horizon. Market expectations point to an increase in prices of non-energy products in 2020 in US dollars and a slight drop in euro.[1] Based on the assumptions, prices of non-energy products will increase in 2021 and 2022, mainly due to higher metal prices amid gradually rising

[1] The euro price forecast is based on the technical assumption about the EUR/USD exchange rate, which is fixed at its average value for July and August 2020, and the last ten days up to 14 September 2020 – the cut-off date of external environment assumptions. In line with the technical assumption, in 2020 the euro will appreciate *vis-à-vis* the US dollar by 1.5 per cent compared to 2019.

global demand and, to a lesser extent, due to increasingly growing food prices in 2021.

Economic Activity in Bulgaria

Data as of 25 September showed that the second quarter of 2020 saw the second largest historical fall of Bulgaria's real GDP on a quarterly basis (-10 per cent), which was close to the economic downturn reported in the first quarter of 1997 (-10.1 per cent). The strong fall in economic activity was prompted by the introduction of a number of containment measures to curb the spread of COVID-19 in Bulgaria and worldwide.[2] Based on GDP data reported for the first half of 2020, the short-term economic indicators available for the third quarter and the external assumptions presented above, real GDP for Bulgaria's economy is projected to fall by 5.5 per cent in 2020. However, there is a substantial uncertainty concerning the forecast due to the unprecedented economic shock. The decline in real GDP is projected to be driven mainly by a contraction in domestic demand and, to a lesser extent, by the negative contribution of net exports. Private consumption is anticipated to decrease by 3.0 per cent in 2020 consistent with the projected worsening in labour market conditions, negative consumer sentiment and lower real disposable income of households[3], and to have the main negative contribution to the real GDP decline (-1.9 percentage points). The heightened uncertainty in the economic environment is the reason for households to maintain a higher rate of precautionary savings and to keep a portion of the forced savings accumulated in the second quarter of the year[4]. In 2020 the volume of fixed capital investment is expected to decrease by 9.5 per cent in real terms (contributing by -1.8 percentage points to the GDP fall in real terms), reflecting entirely the anticipated drop in private investment. This decline will be driven by worsened prospects for demand for Bulgarian goods and services, a lower utilisation rate of the existing capital stock, decreased household consumption and worsened financial performance of firms. In 2020 fiscal policy is projected to contribute positively to the growth rate of real GDP through the higher national and EU co-financed expenditure on government consumption and investment[5]. The contribution of net exports to the real GDP decline is expected to be negative in 2020 at -1.2 percentage points. The decrease of economic activity in Bulgaria's major trading partners and lower orders from other countries are expected to contribute to the fall in total exports of goods and services by 11.0 per cent compared with 2019. As regards exports of services (mainly tourism and passenger transport), the decline is expected to be significantly higher than that in goods, with current data showing a strong negative effect of the pandemic on visits of foreigners to Bulgaria even after the containment measures had been partially eased in Bulgaria and abroad.[6] The projection of goods and services imports is for a decrease in 2020 of around 9.1 per cent, reflecting the downward dynamics in private consumption and investment (characterised by the highest import component) and the fall in exports of goods and services.

Economic activity is projected to gradually recover in 2021–2022 and real GDP is expected to grow by 4.0 and 3.8 per cent, respectively. In mid-2022 the economic activity is projected to reach its pre-pandemic level. These developments will be primarily supported by the recovery of private consumption amid gradually subsiding uncertainty, moderately increasing employment and growing wages. The macroeconomic forecast includes an assumption that public investment will continue to make a positive contribution to GDP growth underpinned by the higher rate of absorbing EU funds in the last phase of the 2014–2020 programme period and ongoing implementation of large infrastructure

[2] For more information on the effects of COVID-19 on Bulgaria's economy, see the research topic on Main Transmission Channels of the COVID-19 Pandemic to Economic Activity in Bulgaria, published in the Economic Review, issue 1 of 2020.

[3] BNB estimate.

[4] The stringent anti-epidemic measures introduced in the second quarter of 2020 significantly impeded and limited consumption of non-essential goods and services, which led to an increase in the household savings rate to 21.2 per cent compared with 8.8 per cent of disposable income for 2019 on average, according to the regular NSI Household Budget Survey.

[5] For further information on the factors for increasing discretionary expenditure of the government due to the COVID-19 crisis, see the research topic on the Impact of the COVID-19 Crisis on Public Finances, published in the Economic Review, issue 1 of 2020.

[6] NSI data on visits of foreign nationals in Bulgaria in July and August 2020 show a 67.0 per cent decline on an annual basis.

projects financed by the national budget.[7] The rate of private investment recovery is expected to be comparatively weak and the investment amount at the end of the forecast horizon to remain lower than that at the end of 2019. Exports of goods and services in 2021–2022 are projected to grow in line with external demand. This dynamics of exports combined with still subdued domestic demand growth will result in a positive contribution of net exports to the change in GDP in 2021. With the acceleration of domestic demand in 2022, the contribution of net exports is expected to turn slightly negative.

Balance of Payments

In 2020 a rise is expected in Bulgaria's current account surplus as a share of GDP compared to 2019. This will be mainly driven by a strongly contracting trade balance deficit and, to a lesser degree, by a lower deficit of the net primary income account. Trade balance flow developments are expected to be affected by the slower fall in real exports of goods compared with imports and sustained favourable terms of trade for Bulgaria (measured by the change in export prices of goods compared to import prices of goods). The downward dynamics in crude oil prices has a strong contribution to favourable terms of trade, as Bulgaria is a net importer of oil. A lower deficit on the net primary income account as a share of GDP will be driven by the projected decrease in dividend payments and distributed profits to non-residents amid a heightened uncertainty and worsened economic activity in Bulgaria, as well as by the measures initiated by the BNB for capitalising entire banking system profits due to the COVID-19 pandemic. The rise in the current account surplus will be limited by a lower net credit from the services trade as a share of GDP compared to 2019, since Bulgaria is a net exporter of tourist services and services related to passenger transport, which are among the sectors most severely hit by the measures against the COVID-19 pandemic. Lower income inflows in Bulgaria from temporary employment abroad (part of the net primary income account) and remittances of non-residents (part of the net secondary income account) will also have a negative effect on the current account balance in 2020.

In 2021 and 2022 the current account surplus as a share of GDP is expected to follow a gradual downward trend compared to the projected level in 2020. These developments will be largely underpinned by the smooth recovery of investment income payments to non-residents in the context of improving economic activity in Bulgaria coupled with the exhaustion of positive terms of trade for the country and the negative contribution of net exports to the real GDP growth in 2022.

Labour Market

The number of people employed total for the economy is projected to decline by 2.3 per cent in 2020 driven by the deteriorated macroeconomic environment, while government's labour market supportive measures will only partly offset pandemic's negative effects on the most affected economic sectors. Over the remainder of the forecast horizon, employment is expected to grow gradually, without, however, reaching its 2019 level, which will reflect the partial recovery of economic activity and the negative demographic developments. As a result of the increased number of unemployed in the economy and the decline in labour force (as part of the employed moved to inactivity), the unemployment rate is expected to rise to 6.1 per cent in 2020 before decreasing gradually, driven by the improvement of the macroeconomic environment. In 2020 labour productivity will fall due to the expected lower decline in employment compared to that in real GDP. Over the remainder of the forecast horizon, productivity growth will recover and follow real GDP dynamics. In 2020 the growth of compensation *per* employee is expected to slow down, driven by lower hours worked as a consequence of the restrictive measures against COVID-19 during the state of emergency in the country. The growth of compensation *per* employee in 2020 is expected to be supported by the changes introduced in government's income policies[8] in force since the beginning of

[7] The macroeconomic forecast does not include assessments of the potential effect on public investment and government consumption of funds which will be provided to Bulgaria under the multiannual financial framework for 2021–2027 and the recovery effort known as the Next Generation EU due to the lack of sufficiently detailed information by the time of preparing the forecast.

[8] The increase in minimum wage and minimum insurance thresholds since 1 January 2020 along with the projected wage growth in the public sector and mainly in the education sector.

the year, and the additional wage increases of frontline workers in the fight against the spread of COVID-19. Other factors that favoured the growth of average compensation *per* employee within the first half of the year included a higher decrease in the number of employed in sectors with lower wages than the average for the economy and government's measures to protect employees' jobs and income. The recovery of employment and productivity growth and the continuing increase of wages in the education sector in 2021 will result in higher wage growth in 2021 and 2022 compared to 2020. As a result of the sub-components dynamics, the growth of nominal unit labour costs will accelerate significantly in 2020, followed by a significant slowdown over the next two years.

Inflation

Inflation is projected to slow down on an annual basis to 0.3 per cent at the end of 2020 (from 3.1 per cent at end-2019), reflecting a significant decline in energy products prices in line with the downward dynamics of the international oil price in euro on an annual basis. Core inflation is expected to moderate at year-end mainly driven by the projected fall in private consumption resulting in lower inflation in services and a fall in the price index of non-energy industrial goods. A significant deceleration of inflation is also expected in the food group, most pronounced in the group of meat and meat products[9]. The EWRC cuts in natural gas and heating prices in the second quarter of the year are of major importance to the expected significant deceleration of inflation in the group of goods and services with administratively controlled prices until the end of 2020 compared to end-2019. The assumptions for oil and food price dynamics in euro in international markets play a key role for the projected acceleration of inflation to 1.9 per cent in 2021, subsequently moderating to 1.6 per cent at the close of 2022. At the end of 2021 and 2022 core inflation is expected to be higher than at the end of 2020, resulting, to a large extent, from acceleration of the inflation rate in services in the context of rising private consumption and indirect effects of energy and food prices rises. Food inflation is expected to increase by the end of 2021 compared to the end of 2020 and to moderate in 2022 in line with the projections of international food prices.

Monetary Sector

By end-2020 non-government sector's deposits in the banking system are expected to continue to grow at comparatively high rates. This dynamics will be driven by the continuous build-up of precautionary savings by economic agents in the context of an increased uncertainty around the future development of the macroeconomic environment and the absence of a safe and low-risk alternative to bank deposits. Assuming that the pandemic will be gradually overcome, deposit growth is projected to slow down slightly over 2021–2022 as a result of the exhausted base effect from the impossibility to consume during the state of emergency in the country and the increased savings rate for precautionary motives in 2020. Persistently high inflows of attracted funds in the banking system will contribute to keep deposit rates at currently low levels. Following the projected significant slowdown in non-government sector's credit growth in 2020 due to the deteriorating macroeconomic environment and tightened credit standards, the growth rate of loans to corporations and households is expected to accelerate gradually, remaining, however, significantly lower compared to the rate registered in 2019. Developments in loans over 2021–2022 will be driven by the expected gradual recovery of private consumption and investment. After the phasing-out of the private moratorium on bank loan repayments in the light of the COVID-19 situation, a certain rise in interest rates on newly extended loans may be expected due to the increased share of non-performing loans in bank portfolios. The rise in risk premia due to the heightened uncertainty in the macroeconomic environment, the reduced creditworthiness of borrowers and banks' lower risk appetite could prompt an increase in lending interest rates and tightening of general standards and new loan terms.

[9] The expected slowdown is mainly due to a base effect from price increases in this group over the last year.

Forecast revisions

Compared with the forecast published in *Economic Review*, issue 2 of 2020, currently, real GDP is expected to mark a lower decline in 2020 and economic activity to register weaker growth in 2021–2022. The forecast revision for 2020 reflects the lower-than-expected rates of decline of final consumption expenditure, investment in fixed capital and foreign trade flows in the second quarter. This reflects the discrepancy between national accounts data for the second quarter and high frequency short-term indicators (as of 17 June 2020) that were used for the preparation of the June forecast. One of the main factors behind the upward revision of the 2020 GDP forecast is the change in the expected dynamics of private consumption, which declined by only 2.5 per cent on a quarterly basis in the second quarter of 2020 compared to the decrease of 14.9 per cent in retail trade turnover over the same period. As regards exports of goods, the assumptions for external demand for Bulgaria implied a quarter-on-quarter fall of 18.2 per cent in the second quarter of 2020, while reported data showed a significantly lower decline of 5.9 per cent.

By final expenditure components of GDP, in 2020 private consumption, fixed capital investment, and net exports have been revised upwards, while government consumption has been revised downwards. The upward revision in private consumption is in line with the higher expenditure in the second quarter and more favourable expectations for the whole year in terms of employment, compensation *per* employee and household disposable income, respectively. As regards fixed capital investment, this revision corresponds to the weaker decline in the second quarter of 2020, the expected lower decline in corporate profits in the current 2020 forecast, the lower projected decrease in external demand and higher growth of loans to the non-government sector. The lower negative contribution of net exports to the change in real GDP reflects the more sustainable dynamics of goods exports registered in the second quarter of 2020 compared to the economic activity dynamics in Bulgaria's main trading partners, as well as the upward revision in the assumptions for external demand for goods and services over the remainder of the year. The government consumption forecast has been revised downwards, entirely reflecting lower expenditure in the first half of the year, and the government's measures to further increase the wages of those working at the front line in the fight against the spread of COVID-19 imply a positive growth rate of government consumption in the second half of the year.

In 2021 and 2022 real GDP growth is expected to be revised downwards compared to the previous forecast due mainly to the higher level of economic activity in 2020 in the current projection. In addition, assumed developments in the external environment indicate a more moderate growth in external demand for Bulgarian goods and services in 2021–2022 than in the previous projection, resulting in the lower growth in goods and services exports in this period.

The headline inflation outlook has been revised downwards for 2020 and upwards over the remaining part of the projection horizon. Each of the main HICP components has been revised downwards for 2020, largely reflecting the new assumptions about international oil and food prices in euro and the negative economic effects of the pandemic on price developments in Bulgaria. The slower decline in industrial goods prices is essential for the slight upward revision of core inflation in 2021 and 2022, while services price dynamics is expected to remain close to that in the previous projections. The energy inflation forecast remains unchanged for 2021 and has been revised downwards for 2022 in line with the anticipated lower international oil prices over the remaining forecast horizon. The upward revision of food inflation for 2021 and 2022 corresponds to the lower base in 2020 and the assumptions about accelerated growth in international food prices on average in the 2021–2022 period. The EWRC's decision to raise electricity prices since the beginning of the third quarter of 2020 for a period of one year is the main factor for the upward revision of inflation in goods and services with administratively controlled prices over the forecast period.

GDP and Inflation Forecast Revisions (25 September 2020 *vis-à-vis* 22 June 2020)

Annual rate of change, per cent	Forecast as of 25 September 2020				Forecast as of 22 June 2020				Revision (percentage points)			
	2019	2020	2021	2022	2019	2020	2021	2022	2019	2020	2021	2022
GDP at constant prices	3.4	-5.5	4.0	3.8	3.4	-8.5	5.1	4.6	0.0	3.0	-1.1	-0.8
Private consumption	5.8	-3.0	2.6	3.0	5.8	-5.3	3.8	3.3	0.0	2.3	-1.2	-0.3
Government consumption	5.5	2.4	2.2	2.3	5.5	3.8	0.2	2.2	0.0	-1.4	2.0	0.1
Gross fixed capital formation	2.2	-9.5	8.2	9.2	2.2	-17.0	7.2	9.8	0.0	7.5	1.0	-0.6
Exports of goods and services	1.9	-11.0	6.9	5.0	1.9	-15.1	8.9	5.4	0.0	4.1	-2.0	-0.4
Imports of goods and services	2.4	-9.1	6.2	5.2	2.4	-11.2	6.3	4.7	0.0	2.1	-0.1	0.5
HICP at end of period	3.1	0.3	1.9	1.6	3.1	0.8	1.4	1.3	0.0	-0.5	0.5	0.3
Core inflation	1.8	0.6	1.0	1.4	1.8	0.8	0.9	1.2	0.0	-0.2	0.1	0.2
Energy products	4.1	-13.2	2.6	1.4	4.1	-11.9	2.6	2.1	0.0	-1.3	0.0	-0.7
Food	6.2	3.3	4.2	3.1	6.2	5.0	3.4	2.4	0.0	-1.7	0.8	0.7
Goods and services with administratively controlled prices and tobacco products	2.0	0.8	0.1	0.0	2.0	-0.2	0.1	0.0	0.0	1.0	0.0	0.0

Source: the BNB.

Risks to the forecast

Risks to the baseline scenario of the macroeconomic forecast are assessed as balanced for 2020. The main risk of a stronger decline in real GDP realising as compared with that in the baseline scenario stems from a potential second wave of COVID-19 spread and tightening of containment measures in Bulgaria and Bulgaria's main trading partners. This would result in lower domestic demand and a stronger decline in foreign demand over the year. The domestic political uncertainty could also have a dampening effect on economic activity in terms of additional reduction in private investment and potential slowdown in implementation of public infrastructure projects. A risk of a lower decline in real GDP compared with that in the baseline scenario involves the likelihood of a lower than expected decline in private consumption in case of a faster than projected improvement in consumer sentiment and lower unblocking of 'forced' savings that were accumulated over the second quarter of the year during the state of emergency. There is a likelihood of stronger domestic demand to be observed compared with the baseline scenario in case of potential extension of the deadline and the scope of current fiscal measures intended to mitigate the negative effects of the COVID-19 spread on economic activity.

For the 2021–2022 period, risks are tilted towards a slower recovery of Bulgaria's economic growth compared with the baseline scenario. Such risks could emerge if no effective solution to overcoming the COVID-19 pandemic is found, which would result in subdued external demand for Bulgarian goods and services, more pessimistic expectations of economic agents and maintenance of higher precautionary savings. An additional risk towards lower real GDP growth represents the end of the transition period after Brexit without a deal on the future relationships between the United Kingdom and the EU. This would directly impact the economic activity in Bulgaria and indirectly through the effects on the euro area, which is the main trading partner of Bulgaria. The high degree of uncertainty about the impact of the government's discretionary expenditure on domestic demand remains. Such uncertainty exists both in terms of the duration of the implemented measures intended to mitigate the impacts of COVID-19 and in terms of their efficiency. A risk to the forecast is a potential delay in the implementation of investment projects co-financed by EU or national funds over the projection horizon. The uncertainty surrounding the baseline scenario of the forecast exists also in terms of firms' and households' behaviour after the expiry of the current measures implemented by the government and the BNB to support economic agents' liquidity and reduce their financial vulnerabilities.

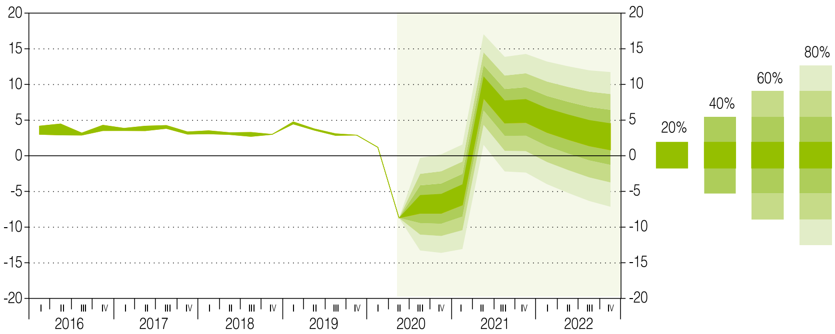
A factor likely to affect the relevance of the baseline scenario is the revision of historical GDP data, which is scheduled to be published by the National Statistical Institute (NSI) on 19 October 2020. The revision is part of scheduled revisions of NSI national accounts data due to the incoming final data for the previous calendar year and potential additional information for the current year.

The uncertainty over the outlook for a particular indicator may be graphically illustrated by means of a fan chart. Chart bands coloured with specific 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 following chart). Usually, each interval widens with the increase in the forecast horizon, reflecting the increasing uncertainty further into the future. Given the unprecedented nature of the economic shock resulting from the containment measures to curb the spread of COVID-19, and the uncertainty surrounding the future development of the epidemic situation, the uncertainty interval under the current forecast is wider than usual even in the short term, which is evidenced by the profile of the fan chart since the third quarter of 2020. The middle band of the chart, depicted in the darkest colour, includes the baseline scenario for the annual rate of change of real GDP and the probability distribution shows a 20 per cent probability for the actual value to fall within this band in each of the quarters. According to the chart, the probability distribution for 2020 shows a 60 per cent probability for the real GDP annual rate of change to fall within the interval from -3.2 per cent to -8.0 per cent.

Risks to the inflation outlook are mainly assessed as oriented toward lower inflation compared with that in the baseline scenario. Lower inflation could be seen in energy products and main HICP components. International oil prices in euro, which turn out to be lower than those set out in the assumptions, would be a precondition for both lower inflation in energy products and a decline in administratively controlled prices of some services, including electricity and heating prices. In case of weaker private consumption compared with the baseline scenario, core inflation is likely to moderate for a longer than expected period. Risks to the food inflation forecast are defined as balanced and reflecting largely the uncertainty about international price dynamics. The balance of risks regarding inflation is graphically shown in the fan chart here. The inflation chart suggests that with a probability of 60 per cent, annual inflation in consumer prices is expected to range between -0.2 per cent and 0.8 per cent at the end of 2020.

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

(per cent)

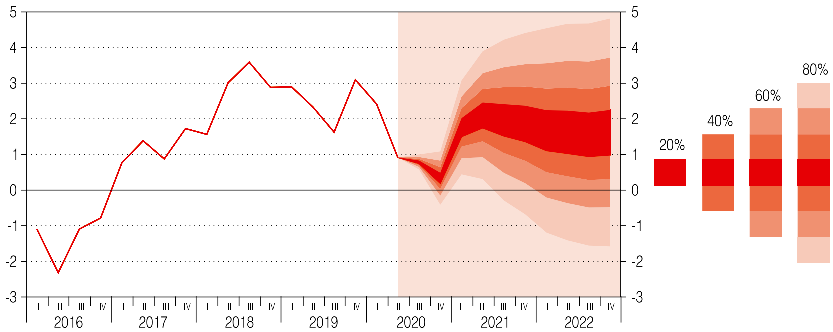


Notes: The chart provides historical series and annual real GDP growth forecast according to non-seasonally adjusted data. The fan chart shows expert views of the forecasters on the uncertainty surrounding the projected value based on a probability distribution. The reporting period includes revised GDP growth estimates, with the latest reporting periods revised on fewer occasions, thus narrowing the band. The middle band of the projected horizon chart, depicted in the darkest colour, includes the central projection, and the probability distribution shows a 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

(per cent)



Note: The fan chart shows 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 a 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.

Forecast of Key Macroeconomic Indicators for 2020–2022

(per cent)

	2018	2019	2020	2021	2022
Annual rate of change					
GDP at constant prices	3.1	3.4	-5.5	4.0	3.8
Private consumption	4.4	5.8	-3.0	2.6	3.0
Government consumption	5.3	5.5	2.4	2.2	2.3
Gross fixed capital formation	5.4	2.2	-9.5	8.2	9.2
Exports of goods and services	1.7	1.9	-11.0	6.9	5.0
Imports of goods and services	5.7	2.4	-9.1	6.2	5.2
HICP at end period	2.3	3.1	0.3	1.9	1.6
Core inflation	2.5	1.8	0.6	1.0	1.4
Energy products	1.0	4.1	-13.2	2.6	1.4
Food	2.4	6.2	3.3	4.2	3.1
Goods and services with administratively controlled prices and tobacco products	2.3	2.0	0.8	0.1	0.0
Employment	-0.1	0.3	-2.3	0.9	0.4
Unit labour costs	6.3	2.9	8.7	1.8	2.0
Labour productivity	3.2	3.0	-3.4	3.6	3.3
Unemployment rate (share of labour force)	5.3	4.3	6.1	5.8	5.6
Claims on the non-government sector	8.9	9.7	2.7	4.2	4.7
Claims on corporations*	6.4	6.6	0.2	2.5	3.2
Claims on households	11.2	9.5	5.8	6.0	6.4
Deposits of the non-government sector	7.3	9.7	8.7	7.5	7.3
Share of GDP					
Balance of payments current account	1.0	3.0	3.3	3.2	2.6
Trade balance	-4.8	-4.8	-2.8	-2.8	-3.0
Services, net	7.4	8.0	6.1	6.9	6.9
Primary income, net	-4.8	-3.1	-2.4	-2.8	-3.4
Secondary income, net	3.2	2.9	2.3	1.9	2.1
Annual rate of change					
External assumptions					
External demand	3.3	1.8	-12.6	7.4	5.0
Average annual Brent oil price (in USD)	30.7	-9.9	-34.5	8.1	5.4
Average annual price of non-energy products (in USD)	4.1	-3.7	1.4	5.8	2.8
Brent oil price at the end of period (in USD)	9.6	-7.0	-32.0	9.1	4.3
Prices of non-energy products at the end of period (in USD)	-1.1	0.7	5.9	1.7	3.1

* Data refer to non-financial corporations.

Source: the BNB.