

# BULGARIAN NATIONAL BANK



## MACROECONOMIC FORECAST

MARCH 2021





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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*, *BNB Forecasting Function* section, issue 4 of 2015: [https://www.bnb.bg/bnbweb/groups/public/documents/bnb\\_publication/pub\\_ec\\_r\\_2015\\_04\\_en.pdf](https://www.bnb.bg/bnbweb/groups/public/documents/bnb_publication/pub_ec_r_2015_04_en.pdf).

The Macroeconomic Forecast publication (March 2021) was presented to the BNB Governing Council at its 15 April 2021 meeting. It employs statistical data and information available as of 26 March 2021. 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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## Abbreviations

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



# SUMMARY

The BNB forecast of key macroeconomic indicators is based on information published by 26 March 2021 and employs assumptions on global economic developments and international price dynamics of main commodity groups as of 12 March 2021. This forecast does not seek to reflect potential effects of the political cycle in Bulgaria on the economic activity.

A stronger than expected rebound of global economic activity during the second half of 2020, the EU–UK Trade and Cooperation Agreement signed in December and the large-scale US fiscal stimulus package were the main drivers for the European Central Bank, the European Commission and the International Monetary Fund to revise their latest macroeconomic projections for 2021 and 2022 towards higher growth in world trade and global GDP. These revisions were reflected in the assumptions about changes in external demand for Bulgarian goods and services, which contributes most substantially to the projected higher growth of domestic economic activity in 2021 and 2022 compared with the December 2020 macroeconomic forecast. However, short-term prospects for growth in Bulgaria's major trading partners deteriorated in recent months. Since February 2021, there has been a substantial increase in new COVID-19 cases. This forced many countries, including some of Bulgaria's most important trading partners, to tighten the anti-epidemic measures, which could constrain the economic activity.

Based on these assumptions and current trends, we expect real GDP of Bulgaria to increase by 3.8 per cent in 2021, thereafter accelerating further to 3.9 per cent in 2022, followed by a slowdown to 3.2 per cent in 2023. The projected return to growth in real GDP during 2021 would reflect mainly a transition from a negative to a positive contribution of both net exports and fixed capital investment. Private and government consumption would continue to contribute positively to GDP changes throughout the year. In 2022 net exports are anticipated to increase significantly their positive contribution to real GDP growth, while domestic demand growth is expected to decelerate due to phasing out of part of government's anti-crisis measures. Real GDP is expected to reach its pre-crisis level in 2022, followed by a slowdown in the growth rate of economic activity.

Annual inflation is expected to be 3.0 per cent at the end of 2021. The acceleration of inflation compared with December 2020 will be largely driven by essential rises in energy and food prices in line with assumed upward dynamics in euro of international prices of these commodities. Headline inflation is expected to slow down to 0.7 per cent at end-2022 and to reach 1.3 per cent at end-2023, reflecting mainly the assumed dynamics in international commodity prices. Projected core inflation will follow upward dynamics in the 2021–2023 period in line with expected increases in both private consumption and unit labour costs.

Risks to the baseline scenario of the macroeconomic forecast are assessed as broadly oriented towards weaker growth of economic activity in 2021 and to higher growth in 2022–2023. As regards 2021, the major risk is again related to the uncertainty about the spread of COVID-19 and potential imposition of containment measures in Bulgaria and worldwide. The likelihood of higher growth in 2022–2023 arises from the implementation of programmes and investment expenditure financed under the Recovery and Resilience Facility in the framework of NextGenerationEU, since they have not been set in the baseline scenario of the forecast. The inflation forecast is subject to balanced risks for 2021 and broadly upside risks for 2022–2023.

# FORECAST OF KEY MACROECONOMIC INDICATORS FOR 2021–2023

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## External Environment

The BNB forecast of key macroeconomic indicators is based on information published as of 26 March 2021 and employs ECB, EC and IMF assumptions on global economic developments and international price dynamics of main commodity groups available as of 12 March 2021.

A stronger than expected rebound in global economic activity during the second half of 2020, the EU–UK Trade and Cooperation Agreement signed in December and the large-scale US fiscal stimulus package were the main drivers for the European Central Bank, the European Commission and the International Monetary Fund to revise their latest macroeconomic projections for 2021 and 2022 towards higher growth in world trade and global GDP. The BNB uses these projections in preparing its assumptions on the international environment development, on the basis of which external demand for Bulgarian goods and services is projected at 8.4 per cent in 2021, 5.9 per cent in 2022 and 3.8 per cent in 2023. The growth rate of external demand for 2021 and 2022 is higher than that in the assumptions set in the December 2020 macroeconomic forecast.

However, short-term prospects for growth in Bulgaria's major trading partners deteriorated in recent months. Since February 2021, there has been a substantial increase in new COVID-19 cases, forcing some of Bulgaria's major trading partners, such as Germany, to tighten their anti-epidemic measures. The current forecast incorporates an assumption about extension of the majority of global containment measures until the end of June 2021 and their lasting removal only in 2022. In March 2021 the Turkish lira depreciated substantially against the remaining currencies, which increased the risks to the short-term economic growth prospects of this important trade partner of Bulgaria.

Assumptions about external demand for Bulgarian goods and services, which are based on the ECB macroeconomic projections of March, do not include potential positive effects on the global economy from the fiscal stimulus package, worth USD 1.84 trillion, approved by the House of Representatives of the US Congress on 10 March 2021. Based on ECB estimates, the US fiscal stimulus package approved in March could positively effect euro area economic activity growth by about 0.1 percentage points in 2021 and by 0.2 percentage points in 2022.<sup>1</sup> Even though the USA are not among Bulgaria's major trading partners, such fiscal stimulus would have indirect positive effects on Bulgarian exports through increased global demand for goods and services.

In line with the external assumptions, energy and non-energy prices in dollars and euro<sup>2</sup> are expected to rise significantly in 2021 and consequently decline on an annual basis until the end of the projection horizon. Higher prices of raw materials in 2021 will largely reflect a projected rebound in global economic activity and consequent strong demand for raw materials along with restrictions in supply of some commodities, such as petroleum, iron ore and certain food groups.

## Economic Activity in Bulgaria

In 2020 the global spread of COVID-19 led to a 4.2 per cent decrease in Bulgaria's real

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<sup>1</sup> For details, see Box 4 *Risks to the US and euro area outlook related to the American Rescue Plan* in the *ECB staff macroeconomic projections for the euro area*, March 2021, [https://www.ecb.europa.eu/pub/pdf/other/ecb.projections202103\\_ecb-staff-3f6efd7e8f.en.pdf](https://www.ecb.europa.eu/pub/pdf/other/ecb.projections202103_ecb-staff-3f6efd7e8f.en.pdf).

<sup>2</sup> The forecast of euro raw material prices is based on a technical assumption about the euro/dollar exchange rate, which is fixed for the whole forecast horizon at its average value for January and February 2021 and for the last ten days prior to 12 March 2021 – the date when the external environment assumptions were made. Reflecting this technical assumption, the euro exchange rate will increase against the US dollar by 5.9 per cent in 2021 *vis-à-vis* 2020.



GDP. Based on an assumed gradual recovery in economic activity worldwide and maintenance of sizeable discretionary measures taken by the government, in 2021 real GDP is expected to post 3.8 per cent growth, which would accelerate to 3.9 per cent in 2022, thereafter slowing down to 3.2 per cent at the end of the projection horizon. Reflecting this dynamics, economic activity is predicted to reach its average annual pre-COVID levels in 2022. As regards the forecast, there is a high degree of uncertainty, even in a short-term horizon. This uncertainty stems from continuing COVID-19 spread in Bulgaria and worldwide although the implementation of vaccination plans has started and containment measures have been sporadically tightened and loosen. An additional source of uncertainty is the uncertain duration, scope and effectiveness of existing fiscal policy measures and a possible introduction of new ones.

Projected growth of real GDP in 2021 will be driven both by accelerated growth in domestic demand in the context of the initiated fiscal policy stimuli and the transition from a negative to positive contribution of net exports. Private consumption is projected to increase by 2.0 per cent in 2021 in line with wage growth, employment protection programmes<sup>3</sup> and higher net transfers from the government to economic agents<sup>4</sup>. Government consumption is expected to increase by 6.3 per cent in real terms, which will be attributable to increased remunerations of employees in the public sector, more strongly pronounced in remunerations of those involved in addressing health and economic implications of the COVID-19 spread, and also by higher healthcare payments. Following the decline reported in 2020, investment in fixed capital is

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<sup>3</sup> This includes the government measures on subsidised employment (programmes such as '60/40', 'Short-term support for employment in response to the COVID-19 pandemic', 'Employment for you' and 'Save me'), an increase in remunerations of the workers exposed to the highest risk of COVID-19 infection, payment of allowances to pensions and other social benefits.

<sup>4</sup> Despite the tightening of COVID-19 containment measures in the fourth quarter of 2020 and the extension of their term in the first quarter of 2021 available high-frequency economic indicators suggest that the steady dynamics of household final consumer expenditure observed in 2020 was sustained in the first quarter of 2021. Indicators such as the retail trade turnover at constant prices (seasonally adjusted), VAT receipts from intra-Community acquisitions, the consumer confidence indicator and BORICA AD non-public data on card payments in Bulgaria signal quarter-on-quarter growth of household consumption in early 2021.

expected to partially recover and to increase by 4.5 per cent in 2021. This will be driven by the projected rise in government investment in fixed capital in line with the assumption for a further implementation of large infrastructure projects funded by the national budget, and the expected higher pace of absorption of EU funds within the 2014–2020 programme period. Private investment is also anticipated to grow but at a slower rate. Their dynamics will be curbed by still high degree of economic uncertainty and the availability of spare industrial capacity. As regards foreign trade flows, in 2021 net exports are expected to start contributing positively to economic activity growth in Bulgaria, reflecting higher real growth in exports of goods and services (6.2 per cent) compared with imports (5.0 per cent). The dynamics in exports will be underpinned by a partial recovery of external demand for Bulgarian goods and services, while the change in imports will reflect developments in components of domestic demand and exports, and their import component. In addition the assumption that the COVID-19 pandemic will be gradually overcome and international travel will partially recover is expected to prompt a significantly stronger rise in real exports and imports of services than of goods<sup>5</sup>, and this trend will be sustained in the rest of the projection horizon.

In 2022 the economic activity is projected to increase by 3.9 per cent with a certain change in the structure of growth. Some of the anti-crisis fiscal policy measures are expected to phase out, mainly due to the projected decrease in healthcare expenditure, which will contribute towards a reduction government consumption (by 1.4 per cent in real terms) and cause a contraction in the positive contribution of domestic demand to GDP growth. Concurrently, public investment is anticipated to continue contributing to economic activity growth in 2022 based on the assumption that it will be underpinned by a higher pace of absorption of EU funds in the last phase of the 2014–2020

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<sup>5</sup> Higher growth of exports and imports of services over the projection horizon will reflect to a large extent the base effect of the strong fall in those foreign trade flows in 2020, when exports and imports of services declined by 28.6 per cent and 22.1 per cent respectively compared with 2019, whereas exports and imports of goods fell by 5.3 per cent and 4.1 per cent respectively.

programme period and ongoing implementation of large infrastructure projects.<sup>6</sup> Lower uncertainty, the improvement in firms' financial performance and higher external demand for Bulgarian goods and services are foreseen to result in accelerated growth of private investment, which, however, will not reach its COVID-19 pre-crisis level. In 2022 the growth rate of private consumption is also expected to accelerate compared with 2021 driven by higher employment and increased household nominal labour income, improved sentiment of economic agents, as well as by the significant amount of precautionary savings accumulated during the pandemic. The slower rise in domestic demand in 2022 compared with 2021 is projected to be entirely offset by the improvement in net exports. This will be mainly driven by accelerated growth in exported services, in particular tourist services, which are expected to recover more substantially in 2022.

Real GDP is projected to reach its pre-crisis level in 2022 and to return to a lower growth rate (3.2 per cent) in 2023. Domestic demand will contribute to economic activity growth, whereas net exports will have a slight negative contribution.

### **Balance of Payments**

Following the balance of payments current account deficit reported in 2020, a current account surplus is projected over the entire projection horizon, with the highest value as a percentage of GDP expected to be reached in 2022. The surplus in 2021 is anticipated to be driven primarily by the projected increase in the positive balance on the net trade in services and net secondary income items. The assumption that the pandemic will be gradually overcome and most containment measures lifted in the second half of 2021 is expected to help boost revenue from tourism compared with 2020,

<sup>6</sup> The macroeconomic forecast does not include assessments of a potential effect of the funds which Bulgaria will receive under the Recovery and Resilience Facility, in the framework of NextGenerationEU and the multiannual financial framework for 2021–2027 on the economic activity due to the lack of sufficiently specific information at the time of finalising this forecast. The forecast includes only assumptions of a partial pre-funding, which is expected in 2021 under the Recovery and Resilience Facility, and of the funds expected to be received under the REACT-EU instrument (BGN 820 million in 2021 and BGN 480 million in 2022).

which will result in a higher surplus on the net services item as Bulgaria is a net exporter of tourist services. The surplus on the net secondary income item will increase in 2021 due both to projected higher incoming current transfers to the government under EU programs and to the increased amount of remittances from Bulgarian emigrants. In the context of a continuing increase in external demand in 2022 and an assumption of final containment of the pandemic in 2022, the current account surplus is projected to increase as a share of GDP compared with 2021, which will be mainly driven by goods and services trade surplus. In 2023 the balance of payments current account surplus is expected to decline as a share of GDP compared with 2022, as a result of lower surplus of the general government sector on the net secondary income item and the projected higher deficit on the net primary income item. The growing deficit on net primary income in 2023 is in line with the projected improving economic activity in the country and higher dividend payments to non-residents.

### **Labour Market**

Labour market development in 2021 will remain sluggish and the number of employed and unemployed is expected to be close to the reported number in 2020. The extension of COVID-19 containment measures in the beginning of the year and the high levels of uncertainty nationally and internationally surrounding the development of the pandemic will have the largest contribution to the limited recovery in the labour market. Given the macroeconomic forecast assumption of gradual containment of the pandemic in the second half of 2021, improved external environment and enhanced economic activity are projected to result in an increase in the number of employed by 0.9 per cent in 2022, compared to the expected growth of 0.1 per cent in 2021. Employment is projected to continue to rise gradually in 2023, however, without reaching its level of 2019. At the same time, unemployment rate will fall moderately from 5.1 per cent in 2021 to 4.4 per cent at the end of the projection horizon. Following the reported decline of 1.9 per cent in 2020, labour productivity is predicted to grow by 4.2 per cent in the current year, underpinned by the gradual

recovery in economic activity in the country and the halted decline in the hours worked *per* person. Concurrently, increasing employment will lead to a slower growth in productivity in the 2022–2023 period. The growth of compensation *per* employee is projected to accelerate to 6.5 per cent in 2021, driven by higher economic activity in the country, increase in public wages and minimum wage rise since 1 January 2021 by 6.6 per cent (from BGN 610 to BGN 650). The exhausted effect of some of these factors will slow down the growth rate in the compensation *per* employee to 4.9 per cent in 2022 and set it at 5.1 per cent in 2023. As a result of the recovery of labour productivity and the anticipated moderate increase in the compensation *per* employee, the growth of nominal unit labour costs is expected to decelerate to 2.1 per cent on average in the 2021–2023 period, from 7.9 per cent in 2020.

## Inflation

Inflation is projected to accelerate considerably to 3.0 per cent on an annual basis at the end of 2021, from 0.0 per cent by end-2020, with all major subgroups of goods and services contributing to this, except for administratively controlled prices. The highest inflation at the end of 2021 is expected in energy products and food, which is consistent with the assumptions of a significant increase in international prices of these commodities on an annual basis. Core inflation is expected to accelerate by the end of the year mainly due to the weakened negative effect of containment measures on domestic demand and the indirect impact of price rises in fuels and food on the prices of some services. Higher prices of natural gas<sup>7</sup> approved by the EWRC<sup>8</sup> since the beginning of 2021 are a prerequisite to record a low positive inflation in the group of goods and services with administratively controlled prices at the end of the year.

Assumptions about international market price developments of oil and food in euro are of key significance for the projected slowdown of infla-

tion to 0.7 per cent at end-2022 and its subsequent acceleration to 1.3 per cent at end-2023. At the end of 2021 and in 2022 core inflation is expected to be higher than at the end of 2020, reflecting mainly the projected accelerated increase in services prices and the gradual turnaround in the downward trend in non-food prices amid growth in private consumption and unit labour costs.

## Monetary Sector

In 2021 deposits of the non-government sector in the banking system are expected to continue growing at comparatively high rates as a result mainly of continuous maintenance of precautionary savings by economic agents amid a persistent uncertainty stemming from the development of COVID-19 pandemic. Assuming that the pandemic will be gradually overcome in the 2022–2023 period, deposit growth is expected to slightly slow down due to the projected gradual recovery of the economic activity, mitigated uncertainty and decreased precautionary savings accordingly. Continued significant inflows of attracted funds in the banking system will contribute to the maintenance of deposit rates at historically low levels. Annual growth of credit to non-financial corporations and households is projected to moderate in 2021. The gradual expiry of the extended private moratorium on bank loan repayments is expected to result in an increase in the share of non-performing loans in bank portfolios, in credit standards tightening, including through some increase in interest rates on loans, and in repayments of a portion of deferred loans. The growth rate of loans to corporations and households is projected to follow a gradual upward trend in the 2022–2023 period in line with the anticipated improvement in macroeconomic activity and the increased private consumption and private investment.

<sup>7</sup> For details, see: <https://www.dker.bg/news/584/65/kevr-utvrdi-tsenata-na-prirodnaya-gaz-za-mesets-yanuari-2021-g.html> and <https://www.dker.bg/news/592/65/kevr-utvrdi-tsenata-na-prirodnaya-gaz-za-mesets-fevruari-2021-g.html>.

<sup>8</sup> The Energy and Water Regulatory Commission.

# FORECAST REVISIONS

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Compared with the forecast published in December 2020, currently real GDP is expected to post a slightly higher growth in the 2021–2022 period, followed by a lower growth rate in the economic activity in 2023. The upward revision of GDP growth by 0.1 percentage points in 2021 reflects both domestic demand and higher positive contribution of the net exports compared to the December 2020 forecast. As regards domestic demand sub-components, government consumption has been revised upwards considerably due to the increased amount of health insurance payments as planned in the Updated Medium-term Budget Forecast of December 2020. Private consumption has been also revised upwards, albeit to a much lesser extent, reflecting the base effect of the lower than expected final consumption expenditure at the end of 2020, and the positive dynamics of the respective short-term economic indicators in the first quarter of 2021. These changes are only partly offset by the downward revision of investment in fixed capital in line with the continuing COVID-19 spread and high level of economic uncertainty. Foreign trade flows have been revised downwards. This revision reflects expectations of slower recovery in international travel and weaker growth of investment, which have a large import component. Stronger growth of exports of goods supported by the expected higher external demand in the current forecast than that of December, is a factor limiting the downward revision of total exports.

The upward revision of real GDP growth by 0.3 percentage points in 2022 is driven by the higher positive contribution of net exports under the assumption of a more significant recovery in tourist services, of which Bulgaria is a net exporter. The additional factor behind the revision in net exports is the anticipated higher growth of external demand for Bulgarian goods and services. Concurrently, domestic demand is revised downwards, mostly in government consumption by sub-components. This revision was mainly a consequence of higher healthcare expenditure in the current forecast in 2021 in

accordance with the medium-term budgetary forecast of the government of December 2020 and the sustained assumption of a lifting of some government discretionary measures in 2022. The decline in healthcare costs is expected to contribute most. In 2023 economic activity growth is revised downwards compared to the previous projection. This is mainly due to the weaker increase in both final consumption expenditure and investment expenditure. These developments are consistent with the projected employment dynamics, household disposable income and external demand, also reflecting changed assumptions about general government capital expenditure financed by national funds.

The HICP inflation forecast is revised upwards at the end of 2021 compared with the December 2020 macroeconomic forecast, while the expected growth rate of consumer prices in the 2022–2023 period is lower. Assumptions for a stronger increase in petroleum products and food prices in international markets in 2021, followed by a decrease in the prices of these commodities in the remainder of the forecast horizon is the main driver behind the revision of annual inflation rate, whereas the assumptions in the previous forecast supposed more moderate recovery of international prices in 2021 and their stabilisation in the following two years. Core inflation dynamics is revised upwards at the end of 2021 mostly due to the expectations about indirect effects of price rises in domestic transport and food prices on some services components. Core inflation by end-2022 remains unchanged from the previous projection, while projected growth rate of the core component prices for 2023 is increased in line with the expected stronger rise in unit labour costs.

## GDP and Inflation Forecast Revisions (26 March 2021 *vis-à-vis* 22 December 2020)

Annual rate of change (per cent)	Forecast as of 26 March 2021				Forecast as of 22 December 2020				Revision (percentage points)			
	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
GDP at constant prices	-4.2	3.8	3.9	3.2	-4.4	3.7	3.6	3.4	0.2	0.1	0.3	-0.2
Private consumption	0.2	2.0	2.4	2.7	1.2	1.9	2.6	2.9	-1.0	0.1	-0.2	-0.2
Government consumption	7.5	6.3	-1.4	2.0	5.3	5.1	-0.2	2.2	2.2	1.2	-1.2	-0.2
Gross fixed capital formation	-5.1	4.5	6.3	6.6	-8.1	5.9	5.7	7.8	3.0	-1.4	0.6	-1.2
Exports of goods and services	-11.3	6.2	7.8	4.6	-12.1	7.7	6.7	4.0	0.8	-1.5	1.1	0.6
Imports of goods and services	-6.6	5.0	5.3	4.6	-8.1	6.5	5.0	4.5	1.5	-1.5	0.3	0.1
HICP at end of period	0.0	3.0	0.7	1.3	0.0	2.0	0.9	1.5	0.0	1.0	-0.2	-0.2
Core inflation	0.5	1.2	1.4	1.9	0.5	0.9	1.4	1.5	0.0	0.3	0.0	0.4
Energy products	-13.4	18.3	-4.8	0.5	-13.4	6.3	-0.1	0.1	0.0	12.0	-4.7	0.4
Food	2.0	4.9	1.4	1.8	2.0	4.5	1.1	3.0	0.0	0.4	0.3	-1.2
Goods and services with administratively controlled prices and tobacco products	1.2	0.1	0.1	0.0	1.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0

**Note:** Reporting data on inflation for 2020.

**Source:** the BNB.



# RISKS TO THE FORECAST

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Risks to the baseline scenario of the macro-economic projection are assessed as oriented towards a weaker growth in economic activity in 2021 and a higher growth over the rest of the forecast horizon.

As regards 2021, the major risk is associated with the uncertainty about the spread of COVID-19 pandemic and the possibility for further periods of tightening and easing of containment measures in Bulgaria and worldwide. The extended period of strong anti-epidemic measures is a precondition for lower growth in domestic demand and weaker than projected rise in exports of goods and services. In the event of a failure to contain the spread of COVID-19 in an effective and timely manner despite the current vaccination plans, economic sentiment in Bulgaria would deteriorate and precautionary savings of households and firms would be maintained higher. There are risks of higher uncertainty related to country's political cycle that could lead to postponement of investment expenditure by corporations. Another risk to the forecast that may result in a slower recovery of economic activity is the potential delay in the implementation of investment projects co-financed by EU or national funds over the projection horizon compared to the baseline scenario.

Assessments point that risks of stronger growth of economic activity in Bulgaria *vis-à-vis* the baseline scenario prevail for the 2022–2023 period. Such risks arise from the possible implementation of projects and investment expenditure financed under the Recovery and Resilience Facility in the framework of NextGenerationEU Recovery Plan, since they have not been set in the baseline scenario due to the lack of sufficiently specific information at the time of finalising this forecast. The large-scale fiscal stimulus package approved by the US Congress on 10 March 2021 is a precondition for stronger growth in real GDP in Bulgaria's major trading partners compared to the assumptions about the external environment developments which

are likely to result in a higher growth of external demand for Bulgarian goods and services. Relatively low indebtedness of households in Bulgaria, accumulated precautionary savings during COVID-19 crisis and expected sustained containment of the pandemic could contribute to stronger than projected private consumption growth in 2022 and 2023.

The possibility of slower recovery than the average for the economy in some sectors, such as hotels and restaurants, presents a risk of weaker economic activity growth over the medium term. These sectors are likely to be more vulnerable after the phasing out of current government anti-crisis measures and the expiry of the private moratorium on bank loan repayments adopted by the BNB. It is a prerequisite for possible difficulties that firms in these sectors could experience to service their debt, as well as for unfavourable employment developments.

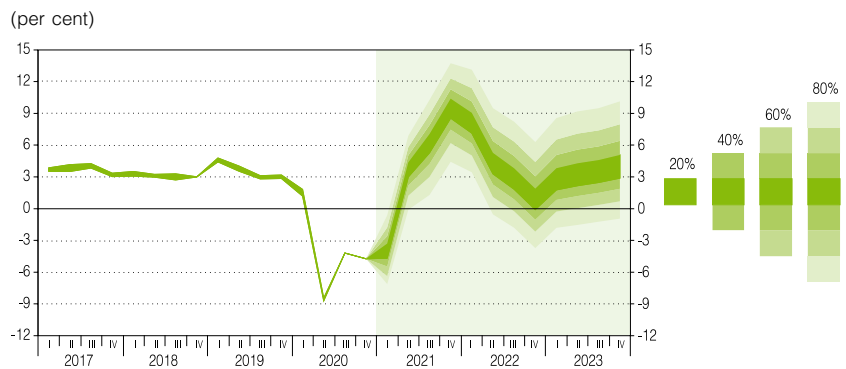
The uncertainty over the outlook for a particular indicator may be graphically illustrated by means of a fan chart. Chart bands coloured with specific colour set an interval in which with a certain probability the projected value is expected to fall (for further details see the note to the chart on the right). 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 COVID-19 pandemic and the containment measures, 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 first quarter of 2021. The middle band in the chart, depicted in the darkest colour, includes the baseline scenario of 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 2021 shows a 60 per cent probability for the real GDP



annual rate of change to move within the range of 1.4 per cent to 6.8 per cent.

Risks to the inflation forecast are assessed as balanced for 2021 and as oriented towards higher increase in prices compared to the baseline scenario in 2022–2023. Lower than expected core inflation at the end of 2021 could be seen in core HICP components in case of more unfavourable than projected private consumption dynamics in the event of possible extension of anti-epidemic measures in Bulgaria. There is a risk of higher consumer price inflation related to administratively controlled prices of heating and electricity in line with current substantial rise in oil prices, which has not yet been reflected in these prices. Between 2022 and 2023 materialisation of international commodity prices, which are higher than those set out in the assumptions, would be a precondition for both higher inflation in energy and food products and in some services groups and administratively controlled prices, including transport services, catering, electricity and heating prices. Concurrently, in case of stronger growth in private consumption than projected in the baseline scenario, core inflation is likely to accelerate faster than expected. The balance of risks regarding inflation is graphically shown in the fan chart on page 16 below. The chart of inflation suggests that with a probability of 60 per cent annual inflation in consumer prices is expected to range between 1.7 per cent and 4.3 per cent at the end of 2021.

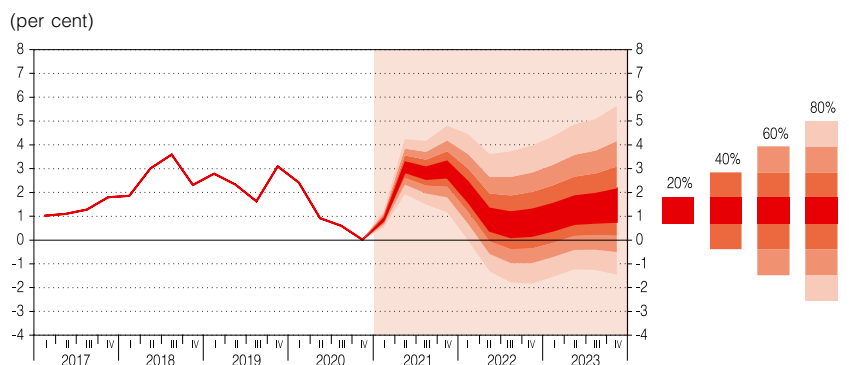
### Fan Chart of the Expected Annual Rate of Change in Real GDP



**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



**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 2021–2023

(per cent)

	2020	2021	2022	2023
<b>Annual rate of change</b>				
GDP at constant prices	-4.2	3.8	3.9	3.2
Private consumption	0.2	2.0	2.4	2.7
Government consumption	7.5	6.3	-1.4	2.0
Gross fixed capital formation	-5.1	4.5	6.3	6.6
Exports of goods and services	-11.3	6.2	7.8	4.6
Imports of goods and services	-6.6	5.0	5.3	4.6
HICP at end period	0.0	3.0	0.7	1.3
Core inflation	0.5	1.2	1.4	1.9
Energy products	-13.4	18.3	-4.8	0.5
Food	2.0	4.9	1.4	1.8
Goods and services with administratively controlled prices and tobacco products	1.2	0.1	0.1	0.0
Employment	-2.3	0.1	0.9	0.3
Unit labour costs	7.9	2.2	2.1	2.0
Labour productivity	-1.9	4.2	2.7	3.0
Unemployment rate (share of labour force)	5.2	5.1	4.6	4.4
Claims on the non-government sector	4.5	3.1	4.6	4.9
Claims on corporations*	2.3	1.0	3.1	3.5
Claims on households	6.6	5.3	6.1	6.5
Deposits of the non-government sector	9.7	9.6	7.8	7.3
<b>Share of GDP</b>				
Balance of payments current account	-0.7	2.0	3.5	2.9
Trade balance	-3.1	-3.4	-2.9	-3.1
Services, net	4.9	6.2	7.1	7.5
Primary income, net	-3.5	-3.2	-3.5	-3.8
Secondary income, net	1.0	2.4	2.7	2.3
<b>Annual rate of change</b>				
External assumptions				
External demand	-8.6	8.4	5.9	3.8
Average annual Brent oil price (in USD)	-33.9	50.6	-5.2	-4.4
Average annual price of non-energy products (in USD)	3.6	20.1	-2.6	-1.9
Brent oil price at the end of period (in USD)	-28.9	41.8	-6.3	-3.6
Prices of non-energy products at the end of period (in USD)	12.5	8.2	-1.7	-2.1

\* Data refer to non-financial corporations.

Source: the BNB.



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