



# MACROECONOMIC FORECAST

## NOVEMBER 2023



BULGARIAN NATIONAL BANK



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The BNB quarterly Macroeconomic Forecast provides annual projections of major 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 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 BNB Forecasting Function section Economic Review, [issue 4/2015](#).

The Macroeconomic Forecast publication (November 2023) was presented to the BNB Governing Council at its 22 November 2023 meeting. It employs statistical data and information available as of 10 November 2023. 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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# CONTENTS

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SUMMARY.....	5
FORECAST OF KEY MACROECONOMIC INDICATORS FOR 2023–2025 .....	6
External Environment .....	6
Economic Activity in Bulgaria .....	7
Balance of Payments.....	9
Labour Market .....	9
Monetary Sector .....	10
Inflation .....	10
FORECAST REVISIONS .....	12
RISKS TO THE FORECAST.....	14

## CHARTS

- Fan Chart of the Expected Annual Rate of Change in Real GDP. .... 15
- Fan Chart of the Expected Annual Rate of Change in Inflation at the End of the Period ..... 15

## TABLES

- GDP and Inflation Forecast Revisions (November 2023 *vis-à-vis* June 2023) ..... 13
- Forecast of Key Macroeconomic Indicators for the 2023-2025 Period. .... 16

## Abbreviations

BNB	Bulgarian National Bank
CPI	Consumer Price Index
EC	European Commission
ECB	European Central Bank
EU	European Union
ECB	European Central Bank
EWRC	Energy and Water Regulatory Commission
GDP	Gross Domestic Product
HICP	Harmonized Index of Consumer Prices
MRR	Minimum Required Reserves
NRPP	National Recovery and Resilience Plan
OECD	Organization for Economic Cooperation and Development
SNA	System of National Accounts

# SUMMARY

The BNB forecast of key macroeconomic indicators is prepared as of 10 November 2023 based on assumptions about global economic developments as of 30 August 2023 and price dynamics of main commodity groups in international markets as of 19 October 2023.

Risks to the global economic outlook continue to increase, as the military conflict between Israel and Hamas has escalated further geopolitical tensions. Current assumptions about global economic developments prepared prior to the military conflict between Israel and Hamas suggest that a negative shock in external demand for Bulgarian goods and services will materialise mainly in the third quarter of 2023, but it will be limited and short-lived. As a result, external demand growth in 2023 will remain relatively weak historically, but will pick up again in early 2024, rising from 1.1 per cent in 2023 to nearly 3.0 per cent in 2024 and 2025. According to market participants' expectations prices in euro of all major commodity groups in international markets will decrease in 2023 compared to the previous year, while food and petroleum prices will remain higher than in 2021. In 2024 and 2025, euro commodity prices weighted by their importance for Bulgaria's international trade are assumed to rise by 2.0–3.0 per cent per year. Market participants expect that the upward trend in euro area short-term interest rates will end in the fourth quarter of 2023, followed by a gradual fall over the rest of the forecast horizon.

In 2023, real GDP growth in Bulgaria is expected to stand at 1.9 per cent (compared with 3.9 per cent in 2022), underpinned by both domestic demand and net exports, while changes in inventories are projected to make a strong negative contribution. The improvement in domestic demand will be driven by growth in final consumption expenditure, supported by rising wages, higher pensions and other social transfers, as well as by low propensity of households to save. The positive contribution of net exports reflects the projected stronger decline in imports compared to exports of goods and services, with import dynamics being strongly affected by the decrease in inventories accumulated in the economy in the second quarter of the year. Factors that are expected to restrict exports of goods in 2023 include the deterioration in global economic activity and the emergence of country-specific factors. Real GDP growth is projected to accelerate to 2.7 per cent in 2024 and 3.6 per cent in 2025, mainly due to the end of the decline in inventories in the economy observed in 2023, as well as the expected significant acceleration of investment growth, determined mainly by the underlying assumptions for the implementation of projects under the National Recovery and Resilience Plan (NRRP).

Annual HICP inflation is projected to slow down to 6.1 per cent at the end of 2023, reflecting mainly the base effect stemming from the strong increase in consumer prices in the previous year. Headline inflation is projected to be 8.8 per cent on average over the year. In the near term, inflationary pressures stemming from rising firms' labour costs, deepening labour shortages and strong private consumption are expected to remain high and continue to contribute to limiting the extent and speed of the pass-through of falling international commodity prices to final consumer prices in Bulgaria. As a result, core components and food will have the largest positive contribution to headline inflation at the end of 2023, followed by goods and services with administratively controlled prices, and tobacco products. The HICP growth rate is expected to slow down to 3.1 per cent at the end of 2024 (compared to an annual average of 4.3 per cent) and to remain at this level at the end of 2025 (compared to an annual average of 3.1 per cent).

The risks to the real GDP growth forecast are assessed as balanced for 2023, while risks of lower growth compared to that in the baseline scenario prevail for 2024 and 2025, in view of escalating global geopolitical conflicts and the effects of the tightening of monetary conditions in Europe and the United States which have not yet fully materialised. In addition, there are significant risks of slower than projected implementation of investment projects under the NRRP and absorption of EU funds other than NRRP, as well as of strengthening the transmission of the effects of the rise in key ECB interest rates to the Bulgarian economy.

With regard to the inflation forecast, there are mainly risks of a stronger increase in prices *vis-à-vis* the baseline scenario for the whole projection period. These risks stem from the potential materialisation of higher international energy and non-energy commodity prices than set out in the technical assumptions as a consequence of rising geopolitical tensions worldwide. The possibility of a more substantial pass-through by firms of higher labour costs to final consumer prices amid historically high labour shortages implies higher than projected core inflation. Other risks are associated with potentially larger rises in administratively controlled prices than those projected in the forecast.

# FORECAST OF KEY MACROECONOMIC INDICATORS FOR 2023–2025

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## External Environment

The BNB forecast of key macroeconomic indicators is prepared as of 10 November 2023 based on assumptions about global economic developments as of 30 August 2023 and price dynamics of main commodity groups in international markets as of 19 October 2023.

The assumptions about the dynamics of external demand for Bulgarian goods and services are based on the latest projections of the European Central Bank (ECB), which include information on developments in the global economy as of 22 August 2023 and on the developments in economic activity in the euro area as of 30 August 2023.<sup>1</sup> Risks to the global economic outlook continue to increase, as the military conflict between Israel and Hamas has escalated further global geopolitical tensions. Despite the deterioration in the geopolitical environment, data for the last two years suggest that global economic activity and external demand for Bulgarian goods and services remain relatively resilient. The expectations of a negative shock in external demand for Bulgarian goods and services following the Russian invasion of Ukraine in February 2022 and the sharp rises in central bank key interest rates in most major developed economic regions, including the euro area, have not yet materialised. Current assumptions about global economic developments prepared prior to the onset of the Israel-Hamas military conflict, suggest that the negative shock in external demand for Bulgarian goods and services will materialise mainly in the third quarter of 2023, but it will be limited and short-lived. As a result, external demand growth will remain weak historically in 2023, but will pick up again in early 2024, rising by 1.1 per cent in 2023 (against 7.1 per cent in 2022) and by nearly 3.0 per cent in 2024 and 2025.

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<sup>1</sup> For further details, see [ECB staff macroeconomic projections for the euro area](#), September 2023.

The assumptions about the price change in energy commodities<sup>2</sup> (crude oil, natural gas, electricity) and non-energy commodities<sup>3</sup> (metals<sup>4</sup>, food<sup>5</sup> and other commodities<sup>6</sup>) take into account prices of futures contracts concluded on international markets by 19 October 2023, and, accordingly, cover the initial market reactions to the outbreak of the military conflict between Israel and Hamas. Most commodities exhibited high price volatility since the outbreak of the war in Ukraine in 2022.

According to market participants' expectations, prices in euro<sup>7</sup> of all major commodity groups in international markets will decrease in 2023 compared to the previous year, with food and petroleum prices remaining, however, higher than in 2021. In 2024 and 2025, euro prices of commodities weighted by importance for Bulgaria are assumed to increase at rates between 2.0 and 3.0 per cent per year.

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<sup>2</sup> The assumption about price dynamics of petroleum products for the whole projection horizon is based on data on futures contracts traded in international markets. As regards natural gas, prices of futures contracts for delivery until the third quarter of 2024 (inclusive) are also used, after which a technical assumption is made that prices will remain unchanged at the attained level until the end of 2025. Assessments of electricity price movements are based on market information from futures contracts concluded in the German market, encompassing the period until the third quarter of 2024 (inclusive), followed by a technical assumption that prices will remain unchanged at the attained level until the end of 2025.

<sup>3</sup> Futures contracts concluded for trading of relevant commodities on international markets were used, with data available until the end of the third quarter of 2024. Public information on sufficient volumes and number of futures transactions for these commodities in international markets is not available for the remainder of the forecast horizon. Therefore, price dynamics is assessed by taking into account the historical correlation with the global trade dynamics set forth in the forecast's external assumptions.

<sup>4</sup> Including steel, copper, aluminium, lead, zinc, nickel and tin weighted in accordance with Bulgaria's foreign trade flows.

<sup>5</sup> Including pigmeat, coffee, wheat, maize, rice, soybeans, sugar, cocoa, milk and livestock weighted in accordance with Bulgaria's foreign trade flows.

<sup>6</sup> Including rubber, timber and cotton weighted in accordance with Bulgaria's foreign trade flows.

<sup>7</sup> The forecast for euro prices of commodities is based on a technical assumption about the euro/US dollar exchange rate, which is fixed for the whole forecast horizon at its average value for the last ten days as of the date when the external environment assumptions were made *i.e.* 19 October 2023. As a result of this technical assumption, the euro will appreciate *vis-à-vis* US dollar by 2.1 per cent in 2023.

In the case of crude oil, technical assumptions suggest that in the fourth quarter of 2023, the dynamics of rising euro prices quarter on quarter observed in the previous quarter, will be preserved in the fourth quarter of 2023, supported by escalating global geopolitical tensions and the continued effects of cuts in oil production by OPEC+. The crude oil price in euro is assumed to start declining slightly on a quarterly basis since the beginning of 2024 from its level at the end of 2023. This trend will continue over the whole projection horizon and is likely to be partly related to market participants' concerns about a forthcoming more significant slowdown in global economic activity<sup>8</sup>. However, given the movements in the exchange rate of the euro *vis-à-vis* the US dollar, the subdued pace of decline in crude oil prices in 2024 and the relatively stronger acceleration of commodity prices in the second half of 2023, the assumptions imply that the annual average price of crude oil in euro will be higher in 2024 than in 2023. Such movements are also expected in gas and electricity prices on the European market, assuming that the prices of these commodities in euro will rise on a quarterly basis in the fourth quarter of 2023 and the first quarter of 2024, given their increased consumption in the winter months, while their annual average prices in euro in 2024 will be slightly higher than in 2023. Under the assumptions described above, the prices in euro of energy products are assumed to rise in 2024 and then decrease in 2025.

Euro prices of non-energy products in international markets are assumed to decrease on a broad basis by commodity on an annual basis in the fourth quarter of 2023 and on average over the year. Assumptions show that in 2024 and 2025, euro prices of non-energy commodities will increase at rates in the range of 1.5 to 3.5 per cent per year, in line with global economic activity and world trade growth.

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<sup>8</sup> The downward slope of the price curve of futures contracts for commodities can be explained by a market condition called backwardation, meaning the implicit benefit of owing a physical commodity for future use compared to being available for use after the implementation of the contract. This means that at the time of concluding a futures contract, economic agents tend to discount the value of the commodity to be delivered in a more distant future, and thus, the futures price signals a commodity price decline in the long run, although this price dynamics may not materialise in the spot market, and the commodity prices may rise.

Forecast assumptions include market expectations as of 19 October 2023 for halting short-term interest rate increases in the euro area money market in the third quarter of 2023, followed by a gradual decline over the rest of the forecast horizon.

## Economic Activity in Bulgaria

In the first six months of 2023, annual growth of real GDP was 2.0 per cent according to non-seasonally adjusted data of the NSI.<sup>9</sup> Available economic indicators<sup>10</sup> for the third quarter of 2023 signal continuous growth in real GDP on a quarterly basis at a rate similar to that of the previous quarter. Taking into account these data and the technical assumptions described above, we project real GDP growth to be 1.9 per cent in 2023 (down from 3.9 per cent in 2022). By final use expenditure component, growth in economic activity will be mainly driven by positive contributions of private consumption and net exports. Real GDP growth in 2023 will be limited by the fall in inventories accumulated in the economy and, to a lesser extent, by the projected declines in investment activity and government consumption. Following an annual growth of 7.2 per cent in the period January–June 2023, household consumption expenditure in real terms is expected to continue growing at a high annual rate until the end of the year, supported by increases in wages, pensions and other social transfers. Additional factors that are expected to continue favouring private consumption in the second half of 2023 are the high projected lending activity, positive household sentiment as measured by the consumer confidence indicator and a relatively low propensity to save due to negative real interest rates on deposits. Net exports are expected to contribute positively to the change in real GDP in 2023, owing to a stronger decline in imports of goods and services compared to

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<sup>9</sup> On 19 October 2023, the NSI published revised annual and quarterly data on GDP and its components. The largest revisions were made for 2022 and the first half of 2023, and nominal GDP was raised by BGN 2425 million (1.5 per cent of unrevised GDP) and BGN 1144 million (1.4 per cent of unrevised GDP) respectively. In real terms, annual real GDP growth was revised positively by 0.57 percentage points in 2022 (from 3.4 per cent to 3.9 per cent) and by 0.10 percentage points in the first half of 2023 (from 1.9 per cent to 2.0 per cent).

<sup>10</sup> This refers to the following indicators: production indices in industry, construction and services; retail trade turnover indices; unemployment rate; business climate and consumer confidence; producer price index in industry; new loans to corporations and households; global PMI.

that in exports. The decrease in goods exports in 2023 will reflect the assumed slowdown in the growth of demand for Bulgarian goods and services by Bulgaria's main trading partners coupled with the emergence of one-off country-specific factors. These factors are related to the prohibition on exports of oil and petroleum products produced from Russian oil<sup>11</sup> to countries other than Ukraine, as well as repairs carried out in the second quarter of 2023 in some of the largest enterprises in manufacturing<sup>12</sup> and electricity generation<sup>13</sup> sectors. These factors are expected to have an adverse effect on imports of goods in 2023 as Bulgarian exports of oil products and base metals are characterised by a high share of imported added value.<sup>14</sup> The projected decrease in the inventories accumulated in the economy, which are also characterised by a high import component, will further limit the growth of goods imports in real terms, thus helping the net exports to contribute positively to the GDP change in 2023. In the macroeconomic forecast, inventories dynamics is strongly influenced by the reported data for the second quarter of 2023, which show a significant decline in the stocks of commodities, raw materials, and finished products accumulated over the last two years by firms in the context of diminishing economic uncertainty in the country, falling non-energy commodity prices in international markets and improvement of the functioning of global supply chains. The decline in government intermediate consumption expenditure registered in the first half of the year is expected to have a downward impact on government consumption in real terms in 2023. At the same time, based on information from the Law on the State Budget for

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<sup>11</sup> The prohibition is effective from 5 February 2023 and is published in the [Official Journal of the European Union, L 322, 16 December 2022](#). The current forecast maintains the approach used in the [December 2022 Macroeconomic Forecast](#) on assessing the effects of the prohibition on exports of oil products.

<sup>12</sup> In the second quarter of 2023, processed copper volumes declined in one of the largest metallurgical plants in Bulgaria due to repairs. For further information about the effects on goods exports, see the [December 2022 Macroeconomic Forecast](#).

<sup>13</sup> In 2023, Kozloduy nuclear power plant is expected to operate at a reduced capacity of 70 days (compared to 50 days in 2022) due to planned repairs. For further information about the effects on goods exports, see the [December 2022 Macroeconomic Forecast](#).

<sup>14</sup> The foreign value added used in exports of oil products and metals from Bulgaria is assessed at 81.1 and 58.8 per cent against 36.8 per cent on average for exports of goods and services. The estimate uses OECD Supply and Use tables (TiVA database 2021) for 2018.

2023 and the Updated Medium-term Budgetary Forecast for 2023–2025, growth of public sector wages is expected to accelerate in the second half of 2023. This acceleration is partly reflected also in the forecast of the annual growth of the government consumption deflator, and therefore, higher wages contribute to a limited extent to the change in government consumption in real terms in 2023. The projected decline in gross fixed capital formation in 2023 is mainly due to higher investments in the previous year (following revised data by the NSI) and reported data indicating private sector's subdued investment activity<sup>15</sup>. Government's fixed capital investments are projected to grow in 2023, as a result of the implementation of projects financed by national funds. A less relevant factor for public investment growth is expected to be the assumed initiation of some of the NRRP investment projects in 2023.

Economic activity growth is projected to accelerate to 2.7 per cent in 2024 and 3.6 per cent in 2025. The higher real GDP growth in 2024 will mainly reflect the reversal of the negative contribution of changes in inventories and accelerated growth in domestic demand. Growth in domestic demand over 2024 is expected to be accompanied by a certain change in its composition. Final consumption expenditure is projected to continue rising, but at a moderating rate, supported by growth in labour income in real terms and by a continued increase in social transfers to households by the government. At the same time, we expect that fixed capital investments will record high growth in 2024, reflecting both a projected increase in private investment and a predicted absorption of EU funds under the NRRP, based on the underlying implementation profile of the investment projects under this plan. Government consumption in real terms is

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<sup>15</sup> The NSI does not provide official data on the breakdown of total investments into private and public. The historical series of private investment is constructed by the BNB as a difference between total investment and the amount of public investment on an accrual basis in real terms. As of the cut-off date of the forecast, public investment data in real terms are available until the end of 2022, based on information from NSI quarterly non-financial accounts of the general government sector. Data on public investment in the first half of 2023 on an accrual basis are available only in nominal terms. The deflator of gross fixed capital formation from national accounts statistics is used to transform these data into real terms. Current data show an annual fall in real gross fixed capital formation by -3.6 per cent in the first half of 2023 and a significant increase in nominal investments of the general government sector by 194 per cent. This implies a decline in private investment activity by -10.7 per cent in nominal terms and -22 per cent in real terms.

anticipated to increase in 2024, mainly due to a reduction in the negative contribution of intermediate consumption. Net exports are expected to contribute negatively to economic activity in 2024 as a result of higher projected growth of imports relative to exports of goods and services. Exports growth will be driven by assumed acceleration in external demand growth and a base effect stemming from the end of export-restrictive repair activities in 2023. The increase in imports will be determined by projected growth of the relevant components of final demand and BNB estimates of their import content.

Acceleration of economic growth in 2025 will be mainly driven by fixed capital investment dynamics, which is expected to be supported by the implementation of projects under both the NRRP and the 2021–2027 programming period.<sup>16</sup> In addition, we expect an acceleration in government consumption growth in real terms, with the forecast of its dynamics taking into account information on the projected higher healthcare expenditure and compensation of employees in the public sector in the Updated Medium-term Budgetary Forecast for 2023–2025. In 2025, some acceleration in private consumption growth is expected, and this GDP component will continue to have the largest positive contribution to the increase in economic activity. Labour market developments play a leading role for projected dynamics of private consumption, as the expected increase in labour shortages for firms amid rising economic activity will continue to exert a pressure toward growing labour income at a rate which is higher than that of labour productivity and inflation. Despite the assumed improvement of external demand, the negative contribution of net exports is expected to persist in 2025 in line with the strong growth in fixed capital investments and final consumption expenditure, which is characterised by a high import content.

## Balance of Payments

The current account balance is expected to remain close to neutral over the entire forecast horizon. Given the weak imports of goods in

<sup>16</sup> The expected acquisition of new fighter planes for the Bulgarian Air Force is expected to be another factor supporting investment activity growth in 2025. In the forecast, this acquisition has a neutral contribution to real GDP growth, as acquisition costs are equally accounted for in government investments and in goods imports.

2023, mostly due to a decline in inventories accumulated in the economy over the last two years, the trade deficit in 2023 is projected to contract significantly as a percentage of GDP compared to the previous year, reaching 3.7 per cent of GDP. In the coming years, imports are projected to grow stronger than exports, leading to a widening of the trade deficit to 5.6 per cent of GDP in 2025. Concurrently, the surplus in services trade as a share of GDP is expected to increase over the projection horizon, supported by continued growth in tourist visits in Bulgaria, robust growth in exports of computer and information services and a projected stronger rise in services export prices *vis-à-vis* import prices. Given the expectations of a continuing rise in interest rates during the current and following year and accelerated economic growth after 2023, the net primary income deficit as a percentage of GDP is anticipated to increase in 2023–2025 compared to its 2022 level due to higher outflows of dividend payments to non-residents. Over the whole forecast horizon, the capital account surplus as a percentage of GDP is expected to grow significantly from its 2022 level owing to the assumption of higher incoming EU capital transfers (including under the NRRP).

## Labour Market

Labour market conditions remained tight in the first half of 2023<sup>17</sup>. Labour demand continued to outpace supply, pushing up the wage growth in real terms above labour productivity growth. The number of employed persons increased year on year by 1.7 per cent in the first six months of 2023, with employment growth expected to remain high until the end of the year and to stand at 1.4 per cent on average for 2023. In spite of the projected growth in economic activity over the remainder of the projection horizon, opportunities for employment growth will be limited as a result of adverse demographic developments in Bulgaria, resulting in a labour force reduction. In 2024, employment growth is projected to slow down to 0.3 per cent, unlike 2025 when no rise is expected in the number of employed persons in the economy. At the

<sup>17</sup> According to the NSI System of National Accounts (SNA) data, the number of employed persons decreased by 0.3 per cent in 2022, but this drop is due to the census 2021 data not reflected in previous years and causing a break in the series from the beginning of 2022. This approach has also been used in the revision of NSI Labour Force Survey data.

same time, the unemployment rate<sup>18</sup> will moderately decrease from 4.2 per cent in 2023 to 3.4 per cent in 2025 as a result of both projected economic growth and declining working-age population. The increase in consumer prices and tight labour market conditions contributed to the strong year-on-year rise of 14.9 per cent in nominal compensation *per* employee over the first half of 2023. Growth in compensation *per* employee is expected to stand at 13.9 per cent on average in 2023, and to slow down to 8.3 per cent in 2024 and 9.1 per cent in 2025 as a result of projected lower inflation. At the same time, the expected increase in real labour productivity over 2024–2025 and further deepening labour shortages in Bulgaria will maintain wage growth at relatively high levels over the forecast horizon. As a result, projected growth in compensation *per* employee will support growth in households' real disposable income and private consumption, but is expected to be also reflected in higher unit labour costs of firms. Nominal unit labour costs are anticipated to grow by 13.4 per cent in 2023, before slowing to 5.8 per cent in 2024 and 5.3 per cent in 2025.

## Monetary Sector

Persistently high inflows of attracted funds, ample liquidity and strong competition in the banking sector continued to limit the effects of ECB monetary policy tightening on deposit and lending rates in Bulgaria, particularly marked in the household sector. These factors were the reason for the effects of the BNB measure to raise the MRR rate on attracted funds from banks to 12 per cent as of 1 July 2023, intended to tighten monetary conditions in Bulgaria, to be also comparatively limited until the end of the third quarter of the year. In the coming quarters, we expect the rise in deposit and lending rates for households to gradually accelerate, with interest rates reaching the highest levels at the end of 2024 and in the beginning of 2025, before remaining close to the achieved levels.

Annual growth of private sector deposits is expected to continue on a gradual downward trend, reaching 8.9 per cent at the end of 2023, before declining to 8.1 per cent at the end of

<sup>18</sup> In projecting the unemployment level, the analysis employs expected changes in the latest available population forecast of the NSI produced before the 2021 census.

2024 and 7.5 per cent at the end of 2025. This downward dynamics is expected to reflect mainly projected slowdown in wage growth and a relatively slow increase in bank interest rates on attracted funds. Annual growth in credit to the non-government sector is anticipated to slow down to 9.8 per cent at the end of 2023 and further to 6.7 per cent at the end of 2024 and 5.6 per cent at the end of 2025, with falling inflation, projected rises in interest rates on new loans and relatively low investment activity of private sector's firms contributing to this.

## Inflation

Inflation forecast is based on technical assumptions underlying the trajectory of global energy and agricultural commodity prices, the projected degree of their pass-through by firms to final consumer prices (notably in the groups of core components and food), as well as the effects of the fiscal measures taken to support households and firms and duration of these measures. Based on information available as of 10 November 2023, the following government measures are set out in the forecast:<sup>19</sup> increases in excise rates on tobacco products as per the Law on Excise Duties and Tax Warehouses for 2023–2025<sup>20</sup>; termination of the reduced tax rates on supply of bread and flour (zero per cent) and on restaurant and catering services (9 per cent)<sup>21</sup> and restoration of the standard VAT rate of 20 per cent as of 1 January 2024; termination of the compensation of business electricity consumers from 1 January 2024.<sup>22</sup>

Annual inflation measured by the HICP followed a downward trend in the first nine months of 2023, reaching 6.4 per cent in September 2023. The rate of increase of consumer prices is projected to

<sup>19</sup> The forecast does not include any changes concerning the State Budget Law for 2024 that are proposed for discussion but not adopted by the National Assembly.

<sup>20</sup> The excise duty calendar was approved by the [Law on Amendment to the Tax and Social Insurance Procedure Code](#), published in the *Darjaven Vestnik*, issue 100 of 16 December 2022 (available in Bulgarian only).

<sup>21</sup> The period for the reduced VAT rate was extended until the end of 2023 by the [Law on Amendment of the Law on the Value Added Tax](#), published in the *Darjaven Vestnik*, issue 102 of 23 December 2022 (available in Bulgarian only).

<sup>22</sup> The compensation amounts to 100 per cent of the difference between the price of electricity on the Bulgarian Independent Energy Exchange and the revised threshold of BGN 200 (BGN 250 in the second half of 2022) and was extended until 31 December 2023. For more information see the following two National Assembly decisions of [8 November 2022](#) and [6 December 2022](#).

slow down to 6.1 per cent at the end of 2023, and the main factor expected to contribute to decelerating inflation will be the base effect of the rapid rates of price increases in 2022. In view of the latest data on consumer price developments as of September 2023, we project that firms will continue to pass through incompletely and with a certain lag lower international agricultural commodity prices on domestic food and core component prices due to persistent strong consumer demand and rising unit labour costs. The food group followed by services are expected to have the largest positive contribution to headline inflation at the end of 2023. Goods and services with administratively controlled prices and tobacco products are also expected to have a relatively high positive contribution to headline inflation as of December 2023, mainly due to increases in pharmaceuticals, tobacco and electricity prices<sup>23</sup> recorded in the first nine months of the year, as well as projected rises in heating prices<sup>24</sup> and central gas supply.<sup>25</sup> Average annual inflation in 2023 is projected to remain high in 2023 at 8.8 per cent. Direct effects of declines in international oil prices on transport fuels in Bulgaria are expected to diminish and the price level in the energy products group to remain broadly unchanged in the last quarter of 2023 compared with the same quarter of 2022.

Annual inflation is expected to slow down to 3.1 per cent at the end of 2024 (compared to an annual average of 4.3 per cent) and to remain at this level at the end of 2025 (compared to an annual average of 3.1 per cent). These developments mainly reflect the forecast's technical assumptions about the price dynamics of key energy and non-energy commodities in international markets, while pro-inflationary factors in the domestic macroeconomic environment are expected to continue to be the projected strong growth in private consumption and unit labour costs. Accordingly, the underlying components and food products are expected to make the largest posi-

tive contribution to inflation over the remainder of the projection horizon. In the current forecast it is assumed that the administratively controlled prices will increase proportionally to the rise in firms' labour costs, and in addition a technical assumption is made for the change in prices of central gas supply<sup>26</sup> and water and sewerage services<sup>27</sup>. The resulting rate of increase in administratively controlled prices is thus further increased on an expert basis to include the average estimated inflation forecast error in the group from end-2020 to date.<sup>28</sup>

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<sup>23</sup> The electricity price for the new regulatory period was adopted by a [Decision of the EWRC](#) of 30 June 2023. The price increase came to 4.37 per cent on average for the country and entered into force as of 1 July 2023.

<sup>24</sup> The heating price for the new regulatory period was approved by a [Decision of the EWRC](#) of 30 June 2023. The price increase was between 0.05 per cent and 0.48 per cent and entered into force as of 1 July 2023. The forecast assumes that the more significant part of the price increase will be reported in November 2023 with the start of the heating season.

<sup>25</sup> The natural gas price for November 2023 was approved by a [Decision of the EWRC](#) of 1 November 2023. The increase in prices came to 36 per cent on the previous month.

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<sup>26</sup> The forecast provides a technical assumption that the central gas price will follow the dynamics of the natural gas price on international markets.

<sup>27</sup> The projected water and sewerage services price rises for the 2024–2025 period are in line with the business plans for the development of water and sewerage companies in Bulgaria approved by the EWRC in 2022 and the estimated water and sewerage services prices for household consumers set out therein. For further information see the [EWRC press release of 30 December 2022](#).

<sup>28</sup> See the highlight "Assessment of the size and factors behind the errors in the inflation forecasts in the post-COVID-19 pandemic period", published in the [June 2023 Macroeconomic Forecast](#).

# F FORECAST REVISIONS

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Compared with the June 2023 [Macroeconomic Forecast](#) our current expectations are for higher real GDP growth in 2023, and lower growth in 2024 and 2025. The revision of the historical GDP series by the NSI made on 19 October 2023 and the additional reporting of economic activity in the second quarter of 2023 contribute significantly to the revisions in the GDP forecast and its components over the entire forecast horizon compared to the June 2023 forecast, especially as regards private consumption and investment activity. The outlook for exports of goods and services is also affected by the update of the technical assumptions for external demand, which is expected to grow at a slower pace over the entire forecast horizon compared to the previous macroeconomic forecast. Following a significant decline in inventories in the economy in the second quarter of 2023 and their return to a historically typical level (as a percentage of GDP), the current macroeconomic forecast again takes the approach<sup>29</sup> of not projecting inventory developments in the economy after the first year of the projection horizon. This is why they have a neutral contribution to real GDP developments in the 2024–2025 period, while in the June 2023 forecast changes in inventories had a slightly negative contribution.

The real GDP growth for 2023 is revised upwards by 0.9 percentage points, mainly reflecting the upward revisions in the positive contribution of net exports and private consumption. These revisions to the GDP components are only partly offset by the projected higher negative contribution of changes in inventories in the current forecast and expectations of a significant drop in private investment compared to growth in the June 2023 [Macroeconomic Forecast](#). The changes in the macroeconomic forecast are largely influenced by incoming additional reporting information and by the revision of historical data by the NSI in October 2023. An additional factor behind the expected higher private consumption growth is the pro-

jected weaker pass-through of euro area interest rate increases to interest rate increases in the country, which is the reason why in the current forecast lending activity in Bulgaria is stronger than in the previous forecast. As regards the public sector, revisions have been made towards a smaller decline in government consumption and higher growth of general government fixed capital investment in real terms for 2023, mainly due to downward revisions to the 2022 baseline for both components following the NSI revisions. The revision to the physical size of government investment also has an impact on the lower projected growth of investment prices for goods and services compared to the June forecast.

The downward revision of real GDP growth by 0.5 percentage point in 2024 is mainly due to the projected weaker private consumption growth and more pronounced negative contribution of net exports. The main factors behind the lower growth in private consumption in 2024 are related to the impact of the base effect of the hikes in final consumption expenditure in 2023 and a downward revision of households' purchasing power in the current projection than in June 2023. In 2024 exports are expected to grow at a lower pace than in the previous projection due to a revision of the external demand assumptions for Bulgarian goods and services. At the same time, the growth of imports of goods and services has been revised upwards in line with the revisions in final demand components over the 2023–2024 period and their import content, thus having a stronger negative contribution of net exports in the current forecast. These revisions are partly offset by a projected higher growth in fixed capital investment, which is mainly due to the building-up of a base effect, a change in the assumptions about the uptake of NRRP funds, as well as by the expected less severe deterioration in private sector financing conditions compared to the June 2023 forecast. The downward revision of government consumption growth for 2023 is due to the BNB's assumption of lower government health payments.

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<sup>29</sup> For further details, see the [September 2022 Macroeconomic Forecast](#).

In 2025, economic activity growth has been revised downwards by 0.4 percentage points from the June 2023 macroeconomic forecast mainly due to the projected lower growth of fixed capital investment by the private sector. This development is in line with assumptions about the size and profile of private sector uptake of NRRP funds and the projected lower growth of final demand. Net exports have been revised towards a more negative contribution to the change in GDP due to higher projected growth in imports of goods and services in the current forecast.

The projection for inflation at the end of 2023 has been revised by 0.4 percentage points towards a stronger increase in consumer prices, which is determined by the groups of goods and services with administratively controlled prices, food and energy products as a result of additional reporting data, as well as revisions to the technical assumptions about international price dynamics for oil, gas and electricity. At the same time, inflation in core components has been revised downwards at the end of 2023 as a result of a faster-than-expected slowdown in inflation in this group, according to the data reported for the third quarter.

Annual inflation at the end of 2024 has been revised towards a lower consumer price increase (down by 0.3 percentage points), although the average annual inflation for 2024 has been revised upwards to 4.3 per cent (3.7 per cent in the previous forecast). The revision in the inflation forecast for the end of 2024 is due to the group of energy products given the new assumptions for oil price developments on international markets and the downward revision in core inflation reflecting the lower increases in the prices of consumer goods, given the high import component of these goods and the assumptions of a faster slowdown in core inflation in the euro area. At the end of 2025, the projected headline inflation was revised slightly upwards (by 0.1 percentage point), due to revisions in services and food prices reflecting revisions in the technical assumptions about international commodity prices. The rates of change in administered prices over the 2023–2024 period have been revised towards higher growth mainly due to a change in the approach to forecasting inflation in this group.

## GDP and Inflation Forecast Revisions (November 2023 *vis-à-vis* June 2023)

Annual Rate of Change, per cent	November 2023 Forecast				June 2023 Forecast				Revision (percentage points)			
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025
GDP at constant prices	3.9	1.9	2.7	3.6	3.4	1.0	3.2	4.0	0.5	0.9	-0.5	-0.4
Private consumption	3.8	6.3	3.7	4.0	4.8	3.5	4.4	4.0	-1.0	2.8	-0.7	0.0
Government consumption	5.5	-0.6	1.0	2.1	6.5	-1.0	1.3	2.3	-1.0	0.4	-0.3	-0.2
Gross fixed capital formation	6.5	-2.9	9.0	10.1	-4.3	8.6	1.9	12.5	10.8	-11.5	7.1	-2.4
Exports of goods and services	11.6	-0.7	4.4	3.8	8.3	0.6	4.7	3.8	3.3	-1.3	-0.3	0.0
Imports of goods and services	15.0	-5.6	6.2	5.4	10.5	1.0	4.4	5.0	4.5	-6.6	1.8	0.4
HICP at end of period	14.3	6.1	3.1	3.1	14.3	5.7	3.4	3.0	0.0	0.4	-0.3	0.1
Core inflation	11.9	6.2	5.0	4.0	11.9	8.2	6.0	4.1	0.0	-2.0	-1.0	-0.1
Energy products	15.9	2.0	-3.6	-1.7	15.9	-4.5	-0.9	-1.4	0.0	6.5	-2.7	-0.3
Food	25.0	7.8	2.7	3.9	25.0	6.0	1.8	3.6	0.0	1.8	0.9	0.3
Goods and services with administratively controlled prices and tobacco products	6.9	5.1	2.3	2.3	6.9	4.2	1.8	1.6	0.0	0.9	0.5	0.7

Source: BNB.

# RISKS TO THE FORECAST

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The baseline scenario of the forecast is characterised by very high uncertainty about external developments due to military conflicts and international geopolitical tensions. Taking into account the assumptions underlying the baseline scenario, risks to the real GDP growth forecast are assessed as balanced for 2023, while for 2024 and 2025, risks of lower real GDP growth in Bulgaria prevail.

The risks of lower economic activity stem from both global and domestic macroeconomic environment. As regards the international environment, these risks are mainly related to the possibility of a stronger deterioration in external demand and a higher level of international commodity prices than set out in the technical assumptions due to the military conflicts in Ukraine and the Middle East, as well as to the possibility of a more direct-than-forecasted transmission of the effects of monetary policy tightening in the euro area to the Bulgarian economy. A significant internal risk to the economic activity forecast arises from the possible slower implementation of investment projects under the NRRP and a slower absorption of European funds other than those under the NRRP against the time profile set out in the baseline scenario. Risks to higher real GDP growth in Bulgaria relate mainly to the possibility of stronger than projected growth in private consumption, on the back of stronger-than-expected income growth and a sustained low household propensity to save. Significant uncertainty about the forecast of exports and imports stems from the expiry at the end of 2024 of the derogation granted by the European Commission for the processing of petroleum products originating in Russia, as well as from the decision of the Bulgarian National Assembly<sup>30</sup> on premature refusal of Russian oil imports in October 2024 and subsequent discussions in the

country on the early abrogation of the derogation before this deadline.<sup>31</sup>

The uncertainty of the forecast 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<sup>32</sup> 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. The middle band of the chart depicted in the darkest colour, includes the baseline scenario of 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 probability distribution for 2023 with 60 per cent probability the annual rate of change of real GDP is expected to be in the range of 0.7 per cent to 2.9 per cent.

Risks to the inflation outlook are assessed to be oriented towards stronger growth in final consumer prices compared to the baseline scenario for the whole projection horizon. Such risks arise from the potential materialisation of higher international energy and non-energy commodity

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<sup>31</sup> The forecast makes the technical assumption that the production and export capacity of Bulgarian economy, as well as the prices of petroleum products in Bulgaria, will not be negatively affected by the abrogation of the derogation, but this issue poses downside risks to the forecast for the contribution of net exports to real GDP growth and upside risks to the inflation forecast for 2024 and 2025.

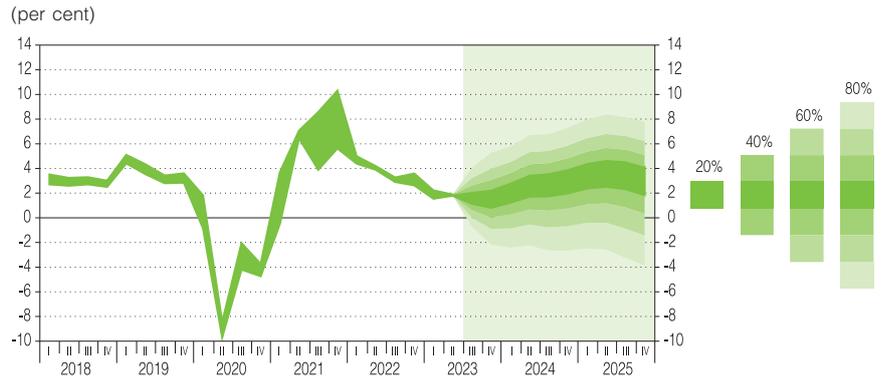
<sup>32</sup> The fan chart is constructed on the basis of the so-called asymmetric exponential distribution. To present the forecasting team's estimate of the uncertainty of projected values, it is necessary to estimate the general uncertainty of the forecast (by determining the dispersion  $\sigma$  of the distribution) and the so-called balance of risks (by determining the asymmetry parameter  $\nu$  of the distribution), indicating in which direction the realised value is more likely to deviate from the projected value. The balance of risks is determined subjectively by the forecasters on the basis of possible changes in the structure of the economy, inaccuracies in the information available at the time of the forecast production, imperfections in forecasting methods employed, forthcoming economic policy decisions, etc. Historical data on the average forecast error made by the BNB experts when preparing previous forecasts are used to determine the general uncertainty to the forecast. For further details on producing the fan chart, see the highlight entitled Measurement and Presentation of Uncertainty in Forecasting Economic Indicators, [Economic Review \(issue 1/2012\)](#).

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<sup>30</sup> See the [Law on Amendment to the Law on Control of the Implementation of Restrictive Measures in view of Russia's Actions Destabilising the Situation in Ukraine](#) (published, in the *Darjaven Vestnik*, issue 8 of 2023; amended, *Darjaven Vestnik* issue 67 of 2023).

prices than those in the technical assumptions, as a result of a possible further deepening of geopolitical tensions worldwide, which could lead to further sharp increases in food and oil prices on international markets. Other risks to energy prices over the forecast horizon stem from changes in the supply and cost of domestically produced petroleum products as a result of the abrogation of the derogation for the processing of crude oil from Russia. Higher inflation in the core components and in food could materialise with possibly higher and more frequent indexation of wages and social benefits in the context of labour shortages, which would imply higher unit labour costs and private consumption growth than projected in the baseline scenario. These developments could lead to a weaker and slower transmission by firms of falling raw material prices to final consumer prices. Another pro-inflationary risk in the medium term exists in the group of administratively controlled prices, with higher than projected increases in regulated prices of water and sewerage services, natural gas, electricity and heating for household consumers. The fan chart of inflation suggests that with a probability of 60 per cent, annual inflation in consumer prices is expected to range between 4.4 and 7.9 per cent at the end of 2023.

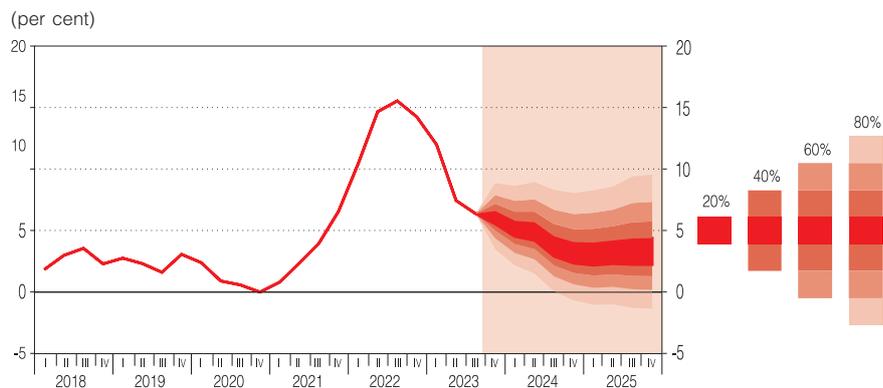
### Fan Chart of the Expected Annual Rate of Change in Real GDP



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: BNB.

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



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

Source: BNB.

## Forecast of Key Macroeconomic Indicators for the 2023–2025 Period

(per cent)

	2022	2023	2024	2025
<b>Annual rate of change</b>				
GDP at constant prices	3.9	1.9	2.7	3.6
Private consumption	3.8	6.3	3.7	4.0
Government consumption	5.5	-0.6	1.0	2.1
Gross fixed capital formation	6.5	-2.9	9.0	10.1
Exports of goods and services	11.6	-0.7	4.4	3.8
Imports of goods and services	15.0	-5.6	6.2	5.4
HICP at end of period	14.3	6.1	3.1	3.1
Core inflation	11.9	6.2	5.0	4.0
Energy products	15.9	2.0	-3.6	-1.7
Food	25.0	7.8	2.7	3.9
Goods and services with administratively controlled prices and tobacco products	6.9	5.1	2.3	2.3
Employment	-0.3	1.4	0.3	0.0
Unit labour costs	9.5	13.4	5.8	5.3
Labour productivity	4.3	0.4	2.4	3.6
Unemployment rate (share of labour force, per cent)	4.2	4.2	3.8	3.4
Claims on the non-government sector	12.5	9.8	6.7	5.6
Claims on corporations <sup>1</sup>	10.2	6.2	4.5	3.9
Claims on households	14.6	12.7	8.9	7.7
Deposits of the non-government sector	14.3	8.9	8.1	7.5
<b>Share of GDP</b>				
Balance of payments current account	-1.4	1.0	0.0	-0.8
Trade balance	-5.9	-3.7	-5.1	-5.6
Services, net	6.1	7.3	7.5	7.5
Primary income, net	-3.2	-3.8	-3.9	-3.8
Secondary income, net	1.6	1.2	1.5	1.1
<b>Annual rate of change</b>				
External assumptions				
External demand	7.1	1.1	2.9	3.2
Average annual Brent oil price (in USD)	41.7	-16.0	-1.7	-5.6
Average annual price of non-energy products (in USD) <sup>2</sup>	4.7	-5.0	0.4	3.4
Brent oil price at the end of period (in USD)	11.0	0.6	-9.7	-4.8
Price of non-energy products at the end of period (in USD)	-3.6	-0.9	4.9	3.1

<sup>1</sup> Data refer to non-financial corporations.

<sup>2</sup> Prices of non-energy products are weighted according to the structure of Bulgarian imports of goods.

Source: BNB.

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THE SCULPTURAL COMPOSITION BY KIRIL SHIVAROV DEPICTING HERMES AND DEMETER ON THE SOUTHERN FAÇADE OF THE BULGARIAN NATIONAL BANK BUILDING IS USED IN COVER DESIGN.