



# MACROECONOMIC FORECAST

## DECEMBER 2023



BULGARIAN NATIONAL BANK



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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.....	8
Labour Market .....	8
Monetary Sector .....	9
Inflation .....	9
FORECAST REVISIONS .....	11
RISKS TO THE FORECAST.....	13

## CHARTS

- Fan Chart of the Expected Annual Rate of Change in Real GDP. . . . . 14
- Fan Chart of the Expected Annual Rate of Change in Inflation at the End of the Period . . . . . 14

## TABLES

- GDP and Inflation Forecast Revisions (January 2024 vis-à-vis November 2023). . . . . 12
- Forecast of Key Macroeconomic Indicators for the 2023–2025 Period . . . . . 15

## 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 11 January 2024 based on assumptions about global economic activity developments, commodity price dynamics in international markets and money market interest rates in the euro area as of 14 December 2023.

Global trade continues to be weak, with the contribution of the ongoing post-pandemic normalisation of consumption, including goods-to-services rotation, a lower trade intensity of global economic growth, heightened geopolitical tensions and weak economic activity in the euro area. Assumptions of external demand for Bulgarian goods and services set out in the projection show growth of 0.8 per cent in 2023, 2.6 per cent in 2024 and 3.2 per cent in 2025. This implies weaker external demand compared to November 2023 forecast, especially in the second half of 2023, given lower than expected euro area economic activity and a worsened short-term economic outlook for our main trading partners. Market participants expect euro energy and food prices in international markets to continue declining in 2024, but to remain higher than in 2021. Nevertheless, given an expected increase in other commodity prices over the same period, euro commodity prices weighted by their importance for Bulgaria's international trade are assumed to increase by around 1 per cent in 2024 and by around 2.5 per cent in 2025. Market participants' expectations for euro area short-term interest rates point to a decline over the whole projection horizon.

Bulgaria's real GDP growth is expected to stand at 1.8 per cent in 2023 (compared with 3.9 per cent in 2022), mainly driven by growth in private consumption and a positive contribution from net exports, while changes in inventories will have a significant negative contribution to the change in economic activity. Net exports dynamics reflects a projected stronger decline in imports of goods and services than in exports, which is in line with the downward trend of the first nine months of 2023 in accumulated inventories and their high import content. Reversal of this trend in 2024 and a projected increase in goods exports on the back of strengthening external demand, combined with an exhausted negative impact of one-off country-specific factors limiting goods exports in 2023 are expected to contribute to accelerating growth in real GDP to 2.5 per cent in 2024. At the same time, domestic demand is expected to continue growing at a high rate in 2024, driven by accelerating investment activity in Bulgaria, continued private consumption growth in the context of rising labour income in real terms, as well as by the shift of government consumption from a downturn in 2023 to growth in 2024. Real GDP growth is projected to accelerate to 3.4 per cent in 2025, mainly due to an expected significant acceleration in investment growth, reflecting largely the underlying assumptions for the implementation of the National Recovery and Resilience Plan (NRRP) projects.

Annual HICP inflation is anticipated to slow down to 3.1 per cent at the end of 2024, with average annual inflation coming to 4.1 per cent. Major factors which will contribute to the downward inflation dynamics are the forecast's technical assumptions about lower food and oil prices in international markets. At the same time, inflationary pressures in the short term are expected to remain elevated, as continued strong consumer demand and rising unit labour costs in the context of labour shortages will continue to be factors limiting the degree of pass-through by firms of lower international commodity prices to final consumer prices, particularly in the services group. As a result, we anticipate core components to have the highest positive contribution to inflation at the end of 2024. Administratively determined prices are also expected to have a relatively high positive contribution to headline inflation at the end of 2024. The rate of the HICP rise is projected to be 3.1 per cent by end-2025 (with an average annual inflation rate of 3.1 per cent), and the positive contribution of core components is expected to remain significant over the medium term.

Risks to real GDP growth forecast are assessed as balanced for 2023, unlike the prevailing risks of lower growth for 2024 and 2025 compared to that in the baseline scenario in view of escalating global geopolitical conflicts and not yet fully materialised effects of monetary conditions tightening in Europe and the United States. 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 a strengthening spillover of the effects of ECB policy rate rises to the Bulgarian economy.

Risks to the inflation forecast are assessed as balanced for the entire forecast horizon. Risks of a slower than projected price increase relate mainly to the possibility of weaker than expected global economic activity and to the extent of the pass-through of declining international commodity prices to domestic consumer prices, especially in the groups of food and energy products. Risks of a higher than expected inflation stem from the possibility of a strengthening the link between unit labour costs and final consumer prices, as well as from a larger-than-projected increase in administered prices.

# FORECAST OF KEY MACROECONOMIC INDICATORS FOR 2023–2025

## External Environment

The BNB forecast of key macroeconomic indicators is prepared as of 11 January 2024 based on assumptions about global economic activity developments, commodity price dynamics in international markets and money market interest rates in the euro area as of 14 December 2023.

Assumptions about developments in external demand for Bulgarian goods and services are based on the latest ECB forecast, which includes information on the global economy development as of 23 November 2023 and on dynamics of euro area economic activity as of 30 November 2023.<sup>1</sup> Global trade continues to be weak, with the contribution of the ongoing post-pandemic normalisation of consumption, including goods-to-services rotation, the lower trade intensity of global economic growth in view of a higher contribution of consumption, heightened geopolitical tensions, as well as weak economic activity in the euro area. Assumptions of external demand for Bulgarian goods and services show growth of 0.8 per cent in 2023, 2.6 per cent in 2024 and 3.2 per cent in 2025. This implies weaker external demand compared to November 2023 forecast, especially in the second half of 2023, given lower than expected euro area economic activity and a worsened short-term economic outlook for our main trading partners.

Assumptions for price changes in energy commodities (crude oil, natural gas, electricity)<sup>2</sup> 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 in international markets as of 14 December 2023. In recent years, most commodity prices and market participants' expectations of the future path of commodity prices, as measured by concluded futures contracts in international markets, have been characterised by high volatility.

Market participants expect euro energy and food prices<sup>7</sup> in international markets to continue declining in 2024, but to remain higher than in 2021. Nevertheless, given an expected increase in other commodity prices over the same period, euro commodity prices weighted by their importance for Bulgaria's international trade are assumed to increase by around 1 per cent in 2024 and by around 2.5 per cent in 2025.

Technical assumptions for crude oil suggest that from the beginning of 2024, the crude oil price in euro will decline on a quarterly basis, and this trend will continue over the whole projection horizon, which is likely to be partly related to market participants' concerns about a forthcoming more

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

<sup>2</sup> The assumption about price dynamics in petroleum products for the whole projection horizon is based on futures contracts traded in international markets. As regards natural gas, prices of futures contracts for delivery until the fourth 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 on futures contracts concluded in the German market, encompassing the period until the fourth quarter of 2024 (inclusive), after which a technical assumption is made 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 in international markets are used, with data available until the end of the fourth quarter of 2024. For the remainder of the projection horizon, no public information on a sufficient volume and number of futures contracts for these commodities in international markets is available, and dynamics of prices is therefore assessed by taking into account their historical relationship with global trade developments set out in the external assumptions of the forecast.

<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 of euro commodity prices 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 cut-off date of the external environment assumptions (14 December 2023). As a result of this technical assumption, in 2024 the euro/US dollar exchange rate remains broadly unchanged from 2023.

significant slowdown in global economic activity.<sup>8</sup> As regards natural gas and electricity prices in the European market, market participants expect a quarterly decline in the first half of 2024, followed by a quarterly increase in the second half of the year, with their annual average prices in 2024 decreasing compared to 2023. For 2025, a technical assumption is made that natural gas and electricity prices in the European market will remain unchanged from the end of 2024. According to the assumptions described above, euro prices of energy products in the forecast will fall in 2024, before stabilising in 2025.

Assumptions of euro non-energy prices in international markets suggest a slight year-on-year decline in food prices in 2024 and a low increase in metal and other commodity prices. Assumptions show that in 2025 prices of metals, food and other commodities will rise at rates in the range of 0.8 to 3.7 per cent *per year*, in line with global economic activity and world trade growth.

These assumptions have regard to market sentiment as of 14 December 2023 for a stronger (compared to November 2023 forecast) decline in euro area short-term money market rates over the whole projection horizon.

## Economic Activity in Bulgaria

In the first nine months of 2023, annual growth of real GDP was 1.8 per cent, according to non-seasonally adjusted data of the NSI. Available economic indicators<sup>9</sup> for the fourth quarter of 2023 signal some acceleration in the quarter-on-quarter growth in real GDP compared with the previous quarter. Taking these data into account, economic activity is expected to increase definitively by 1.8 per cent in 2023 as a whole, with private consumption and net exports contributing most positively to real GDP

<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 commodity prices may rise.

<sup>9</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.

growth, while the contribution of inventories will be negative. Net exports dynamics will be driven by a stronger decline in imports of goods and services than in exports<sup>10</sup>, which is in line with the trend of the first nine months of 2023 towards a significant decline in inventories accumulated in the economy and their high import content<sup>11</sup>.

In 2024, economic activity growth is expected to accelerate to 2.5 per cent. Higher real GDP growth in 2024 will mainly reflect the reversal of the negative contribution from changes in inventories, ongoing growth in domestic demand at a rate similar to that in the previous year, as well as the shift of exports of goods and services from a decline in 2023 to growth in 2024.<sup>12</sup> 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 to increase, 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. Other factors supporting household spending include projected lending activity, improved consumer confidence and relatively low propensity of households to save, given that deposit rates are still negative in real terms. At the same time, investment in fixed capital is expected to record higher growth in 2024, influenced by both the projected increase in private investment and the rise in public investment financed under the NRRP. The main factors expected to support private sector investment include the projected increase in final demand for Bulgarian goods and services, a high level of capacity utilisation in the industrial sector,

<sup>10</sup> Bulgarian exports of goods posted a decline on an annual basis in the first nine months of 2023, due to both one-off country-specific factors restraining exports and weakening external demand. These one-off factors are related to the entry into force on 5 February 2023 of the ban on exports of oil and petroleum products produced from Russian oil to countries other than Ukraine, as well as to repairs carried out in 2023 in large enterprises in the manufacturing and electricity sectors. For further details, see the BNB [Macroeconomic Forecast](#), November 2023.

<sup>11</sup> The decrease in stocks of raw materials and finished products between January and September 2023 can be explained by the decreasing economic uncertainty in Bulgaria, falling prices of essential non-energy commodities in international markets and improved functioning of global supply chains.

<sup>12</sup> The forecast includes a technical assumption of no impact on production activity, exports volumes and imports of petroleum products as a result of the decision by the Bulgarian Parliament to ban exports of petroleum products of Russian origin from 1 January 2024 and imports and processing of Russian crude oil from 1 March 2024.

projected growth of credit to the private sector, as well as price declines in commodities and raw materials used in the industrial and construction sectors. Following the expected decline in 2023, government consumption is projected to increase in real terms in 2024, driven mainly by an increase in health spending and a rise in public sector wages, as these expenditure items reflect the updated medium-term budget forecast for the 2024–2026 period, adopted by the government on 24 November 2023.<sup>13</sup> Net exports are expected to contribute negatively to economic activity in 2024 owing to higher projected growth of imports relative to exports of goods and services. Exports growth will be driven by the assumption of accelerating external demand growth and the exhaustion of the negative impact of Bulgarian-specific one-off factors limiting exports in 2023. The increase in imports will be determined by projected growth of the relevant components of final demand and BNB's estimates of their import content, with the most significant importance for the change in the trajectory of imports relative to 2023 being the phasing out of the reduction in inventories accumulated in the economy, given their high import content.

In 2025, real GDP growth is expected to accelerate to 3.4 per cent which will be driven mainly by investments in fixed capital dynamics. They are expected to be supported by the implementation of projects funded under the NRRP and by European funds under the 2021–2027 programme period.<sup>14</sup> In addition, government consumption growth is expected to be sustained in real terms, with the forecast of its dynamics taking into account information on the projected higher healthcare expenditure in the updated medium-term budget forecast for the 2024–2026 period, published on 24 November 2023. 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 conditions 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 be retained 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 be close to neutral in 2023, before moving to a gradually widening deficit as a percentage of GDP in 2024 and 2025. Current account dynamics over the forecast horizon will be largely determined by the trade deficit, which is expected to widen as a percentage of GDP in 2024 and 2025, given the temporary nature of the weak imports of goods in 2023, which is mainly due to the reduction in inventories accumulated in the economy over the past two years. Given the current almost complete recovery in the number of foreigners' visits compared to pre-COVID-19 levels, we expect 2023 to be the last year of a more substantial increase in the services trade surplus as a share of GDP. For 2024 and 2025, we expect this surplus to stabilise as a percentage of GDP. The deficit on net primary income is expected to decline slightly over the forecast horizon, but to remain as a share of GDP at close to 2023 levels. Over the whole projection horizon, we expect the capital account surplus to rise as a percentage of GDP compared to its 2022 value due to the assumed increase in incoming capital transfers from the EU, including under the NRRP.

## Labour Market

Labour market conditions remained tight in the first nine months of 2023, reflecting an increase in domestic economic activity amid limited possibilities for increasing employment. Employment growth is expected to reach 0.6 per cent in 2023, supported mainly by the services sector. Despite a projected gradual increase in economic activity over the remainder of the projection horizon, employment growth is expected to slow down to 0.3 per cent in 2024 and the number of employed in the economy to remain almost

<sup>13</sup> Public wage growth is also partly reflected in the forecast of the annual growth of the government consumption deflator, and therefore, higher wages contribute to a limited extent to the change of government consumption in real terms in 2024.

<sup>14</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.

unchanged in 2025 as a result of adverse demographic developments in Bulgaria leading to a shrinking labour force. The unemployment rate will rise slightly to 4.4 per cent in 2023, reflecting notably the deteriorated external environment, which contributed to the growth of newly registered unemployed in industry and to the increase in those registered with job centres with previous employment abroad<sup>15</sup>. At the same time, unemployment remained at a historically low level in 2023, in line with tight labour market conditions and a continued trend to higher labour demand relative to supply in the economy. The unemployment rate is expected to moderately decrease to 4.1 per cent in 2024 and 3.6 per cent in 2025 as a result of both projected economic growth and declining working-age population. Real labour productivity growth is anticipated to reach 1.1 per cent in 2023 and to gradually pick up to 2.2 per cent in 2024 and 3.4 per cent in 2025, driven by GDP growth acceleration. We expect growth of compensation *per* employee to be 13.8 per cent on average in 2023 and to slow down to 8.6 per cent in 2024 and 8.8 per cent in 2025 as a result of the slowdown in inflation. At the same time, tight labour market conditions and increasing labour shortages will continue to exert an upward pressure on wages in real terms, their pace exceeding the rate of labour productivity growth. As a result, increased wages will support the rise in households' real disposable income and private consumption over the whole projection horizon, but will also be reflected in higher unit labour costs for firms. Nominal unit labour costs growth is expected to be 12.6 per cent in 2023 and gradually slow down to 6.2 per cent in 2024 and 5.2 per cent in 2025. In turn, higher labour costs could reduce the price competitiveness of Bulgarian firms in the longer run, which would also limit exports growth opportunities.

## Monetary Sector

As a result of ample liquidity, intense competition and continued inflows of attracted funds in the banking system, the effects of monetary policy tightening in the euro area and of the increased minimum reserve rate to 12 per cent by the BNB on household deposit and lending rates remained limited by the middle of the fourth quarter of 2023. The ongoing rise in domestic interest rates contin-

ues to be relatively sluggish, with more significant increases observed in the non-financial corporate sector. Upward dynamics of deposit and lending rates is expected to continue until the beginning of 2025, before interest rates remain close to achieved levels until the end of the projection horizon, but slightly lower than in the previous forecast, reflecting updated market expectations of a more substantial decline in euro area short-term money market rates.

Annual growth of non-government sector deposits is expected to remain relatively high, but to slow down to 8.9 per cent at the end of 2023 and further to 8.0 per cent at the end of 2024 and 7.2 per cent at the end of 2025. The expected gradual increase in deposit interest rates, as well as moderation in wage growth are the main factors behind the projected dynamics of attracted funds in the banking system. Annual growth in credit to the non-government sector is anticipated to follow a downward trend, from 11.7 per cent at the end of 2023 to 7.4 per cent at the end of 2024 and 6.0 per cent at the end of 2025, mainly as a result of the expected rise in interest rates on new loans and slowing inflation.

## Inflation

Annual HICP inflation followed a downward trend in 2023 and stood at 5.0 per cent at the end of the year (compared with 14.3 per cent at the end of 2022).<sup>16</sup> These developments were mainly a result of a base effect of the fast rates of price increases in 2022 and of the fall in energy commodity prices in international markets during 2023.

Over the forecast horizon, expected inflation dynamics is largely driven by underlying technical assumptions about the trajectory of international prices of major energy and agricultural commodities, a projected degree and speed of their transmission to final consumer prices of core components and food and the effects of the initiated fiscal measures to support households and corporations. The forecast used information available as of 11 January 2024 on the following government measures: increases in the excise duty rate on tobacco products under the Law on Excise Duties

<sup>15</sup> Employment Agency data.

<sup>16</sup> HICP data at the end of 2023 were published after the cut-off date of the macroeconomic forecast. Average annual inflation was 8.6 per cent in 2023, from 13.0 per cent in 2022.

and Tax Warehouses for the period 2024–2025<sup>17</sup>, extension of the reduced tax rates on the supply of bread and flour of 0 per cent and on restaurant and catering services of 9 per cent VAT until the end of June 2024 and the end of December 2024, respectively.<sup>18</sup>

Annual inflation is expected to slow down to 3.1 per cent at the end of 2024 and to remain at the same level at the end of 2025<sup>19</sup>. The expected downward dynamics of inflation is mainly a result of assumed declines in oil and agricultural commodity prices in international markets in 2024. At the same time, upward pressures on firms' production costs stemming from continued high unit labour costs growth and labour shortages in Bulgaria are projected to remain elevated and to continue to have a pro-inflationary impact on consumer prices in the short and medium term. Another domestic pro-inflationary factor is expected to be the projected robust private consumption, implying a limited pass-through of falling international commodity prices by firms to final consumer prices in Bulgaria. As a result of these developments, core components, followed by food, are expected to continue to have the highest positive contribution to overall annual average inflation until the end of the forecast horizon. Goods and services with administratively controlled prices and tobacco products are another group that is expected to make a significant positive contribution to inflation over the period 2024–2025, with the forecast assuming that administratively controlled prices will rise in proportion to labour costs of firms, excluding central gas supply<sup>20</sup>, tobacco products

and water supply and sewerage services<sup>21</sup>. The resulting growth rate of administratively controlled prices was increased further on an expert basis to include the average estimated error observed historically in this group's inflation<sup>22</sup>.

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<sup>17</sup> The excise duty calendar was adopted by the [Law on Amendment to the Tax and Social Insurance Procedure Code](#) (available in Bulgarian only), published in the *Darjaven Vestnik*, issue 100 of 16 December 2022 (available in Bulgarian only).

<sup>18</sup> The period for the reduced VAT rate on the supply of bread and flour and supply of restaurant and catering services was extended until 30 June 2024 and 31 December of 2024, respectively by the [Law on Amendment of the Law on the Value Added Tax](#) (available in Bulgarian only), published in the *Darjaven Vestnik*, issue 106 of 22 December 2023.

<sup>19</sup> The projected average annual inflation amounts to 4.1 per cent in 2024 and to 3.1 per cent in 2025.

<sup>20</sup> The forecast includes a technical assumption that the price of central gas supply will follow the dynamics of the natural gas price in international markets.

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<sup>21</sup> The forecast envisages increases from 1 January 2024 in the prices of water supply and sewerage services approved by Decision of the Energy and Water Regulation Commission (EWRC) of 22 December 2023 changing the service prices of 26 water supply and sewerage (WSS) companies in the country which were adopted along with the business plans. An exception is made for Sofia Water Supply and Sewerage, with the assumption that the approved increase in service prices will become effective in the third quarter of 2024. The projected price increase in water supply and sewerage services for 2025 is in line with the prices of water supply and sewerage services for household customers projected in the business plans.

<sup>22</sup> See the highlight [Assessment of the Size and Factors Behind the Inflation Forecast Error in the Post-COVID-19 Pandemic Period](#).

# F FORECAST REVISIONS

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Compared with the November 2023 [Macroeconomic Forecast](#), current expectations imply slightly lower real GDP growth over the whole projection horizon. Additional reporting data on economic activity in the third quarter of 2023, the updated medium-term forecast announced by the government for the 2024–2026 period and changes in the technical assumptions for the external environment are major contributors to the revisions in the GDP and its components forecast over the whole projection horizon compared to the November 2023 forecast.

For 2023, real GDP growth has been revised downwards by 0.1 percentage points, which is driven by the projected stronger negative contribution of changes in inventories compared to the November 2023 forecast. This revision is only partly offset by the projected stronger growth in domestic demand. As regards the components of domestic demand, revisions have been made towards low growth in fixed capital investment compared to a decline in the November 2023 forecast, which is partly offset by lower expected private consumption growth in the current macroeconomic forecast compared to the previous one. These changes mostly reflect new reporting data for the third quarter of 2023. The contribution of net exports to the GDP change in 2023 is the same as in the November 2023 forecast.

Real GDP growth in 2024 is revised downward by 0.2 percentage points, due to a lower projected increase in fixed investment by both the private sector and the general government sector. Private investment dynamics is in line with the projected lower growth of final demand and more limited capacity of firms to finance investment projects with own funds. The projected lower investment growth of general government is consistent with the information from the updated medium-term forecast for the period 2024–2026, which foresees lower nominal government investment in 2024 than projected in the previous BNB macroeconomic forecast. At the same time, higher expenditure on healthcare and compensation of public sector employees, as set out in the

updated medium-term forecast for 2024, are the reason behind the upward revision of government consumption growth in 2024. In the current macroeconomic forecast, exports in 2024 are expected to grow at a lower pace than in the previous forecast due to revised assumptions about external demand for Bulgarian goods and services. At the same time, growth of imports of goods and services has also been revised downwards, whereby the contribution of net exports to the change in economic activity remained unchanged compared with the previous forecast.

For 2025, growth in economic activity was reduced by 0.2 percentage points compared to that in the November 2023 macroeconomic forecast, mainly driven by lower projected growth of general government fixed capital investment in real terms, which reflects information from the updated medium-term forecast for the period 2024–2026. At the same time, private and government consumption growth rates have been revised upwards in 2025 and partly offset the downward revision of public investment. A factor behind the expected higher private consumption growth is the projected weaker pass-through of euro area interest rate increases to interest rates in Bulgaria, which is the reason why Bulgaria's credit activity is stronger in the current forecast than in the previous one.

Headline inflation outlook at the end of 2024 and at the end of 2025 is unchanged from the November 2023 macroeconomic forecast, although the HICP components have been revised. In view of further data releases and the revision of the external assumptions about international commodity prices, the rates of change in core components and food prices have been revised downwards at the end of 2024. At the same time, inflation forecast in the energy product group at the end of 2024 and in late 2025 has been revised towards a stronger decline (by -0.4 percentage points compared to the previous forecast) and a weaker decline (by 0.9 percentage points) due to updated assumptions on international crude oil price developments. Aver-

age annual inflation for 2024 has been revised slightly towards slower consumer price increases compared to our previous forecast (from 4.3 per cent to 4.1 per cent), reflecting downward revisions in industrial, energy and food prices stemming from assumptions about faster deceleration in core inflation in the euro area and more pronounced declines in oil and food prices in euro. An upward revision has been made for the group of administratively controlled prices over the period 2024–2025 largely due to new information as of 11 January 2024, which relates mainly to water supply and sewerage services prices and natural gas prices set by the regulators.

### GDP and Inflation Forecast Revisions (January 2024 *vis-à-vis* November 2023)

Annual Rate of Change, per cent	January 2024 Forecast				November 2023 Forecast				Revision (percentage points)			
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025
GDP at constant prices	3.9	1.8	2.5	3.4	3.9	1.9	2.7	3.6	0.0	-0.1	-0.2	-0.2
Private consumption	3.8	5.8	3.7	4.2	3.8	6.3	3.7	4.0	0.0	-0.5	0.0	0.2
Government consumption	5.5	-0.6	2.9	2.7	5.5	-0.6	1.0	2.1	0.0	0.0	1.9	0.6
Gross fixed capital formation	6.5	1.0	5.3	8.2	6.5	-2.9	9.0	10.1	0.0	3.9	-3.7	-1.9
Exports of goods and services	11.6	-1.5	3.4	3.6	11.6	-0.7	4.4	3.8	0.0	-0.8	-1.0	-0.2
Imports of goods and services	15.0	-6.3	5.4	5.2	15.0	-5.6	6.2	5.4	0.0	-0.7	-0.8	-0.2
HICP at end of period	14.3	5.0	3.1	3.1	14.3	6.1	3.1	3.1	0.0	-1.1	0.0	0.0
Core inflation	11.9	5.3	4.9	4.0	11.9	6.2	5.0	4.0	0.0	-0.9	-0.1	0.0
Energy products	15.9	-0.6	-4.0	-0.8	15.9	2.0	-3.6	-1.7	0.0	-2.6	-0.4	0.9
Food	25.0	6.0	2.5	3.3	25.0	7.8	2.7	3.9	0.0	-1.8	-0.2	-0.6
Goods and services with administratively controlled prices and tobacco products	6.9	5.4	3.1	2.4	6.9	5.1	2.3	2.3	0.0	0.3	0.8	0.1

Source: BNB.

# RISKS TO THE FORECAST

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The baseline scenario of the forecast is characterised by a 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 the global and domestic macroeconomic environment. As regards the international environment, these risks are mainly related to the likelihood of a further deterioration in external demand and higher international commodity prices than projected in the technical assumptions due to the military conflicts in Ukraine and the Middle East, as well as to the likelihood of a stronger than projected transmission of the monetary policy tightening effects in the euro area to the Bulgarian economy. A major internal risk to the economic activity forecast arises from the possibility of 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 probability of stronger than projected growth in private consumption as a result of higher household propensity to consume than set out in the forecast. Significant uncertainty about the forecast of exports and imports stems from the possible realisation of economic effects following the decision of the Bulgarian National Assembly<sup>23</sup> on the early termination of the derogation granted to Bulgaria by

the EU in respect of imports and processing of Russian oil<sup>24</sup>.

The uncertainty of the forecast of 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<sup>25</sup> (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 2024, 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 3.9 per cent.

Risks to the food inflation forecast are assessed as balanced. Lower increases in consumer prices compared to the baseline scenario are likely to materialise in case of a stronger than expected fall in international prices of energy and agricultural commodities, due to deterioration in global

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<sup>24</sup> The forecast makes a technical assumption that the production and export capacity of the Bulgarian economy, as well as the prices of oil products in the country will not be negatively affected by the abrogation of the derogation. The abrogation of the derogation poses risks to the forecast of a lower contribution of net exports to real GDP growth and a higher than projected inflation for 2024 and 2025.

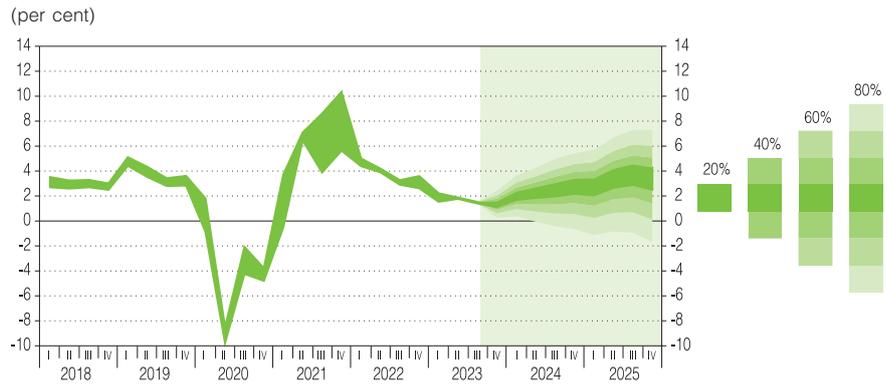
<sup>25</sup> The fan chart is constructed on the basis of the so-called asymmetric exponential distribution. To present the forecasting team's estimate of the uncertainty of projected values, it is necessary to estimate the general uncertainty of the forecast (by determining the dispersion  $\sigma$  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 highlights entitled *Measurement and Presentation of Uncertainty in Forecasting Economic Indicators*, *Economic Review* (issue 1 of 2012).

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<sup>23</sup> See [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 106 of 22.12. 2023.

economic activity, as well as to a possible faster pass-through of falling international prices by firms to domestic consumer prices, especially in the food and energy product groups. At the same time, a further rise in geopolitical global tensions could lead to renewed domestic price pressures stemming from international commodity prices. In addition, Bulgaria could see an increase in the prices of energy products due to changes in the supply and cost of domestically produced oil products as a result of the withdrawal of the derogation for the processing of crude oil from Russia. A possible strengthening of the link between wages and consumer prices in the context of increasing labour shortages and strong private consumption beyond the level reported in the forecasting model would create a precondition for higher than projected core inflation, notably in the services group. A risk of higher inflation also stems from the likelihood of larger increases in administratively controlled prices of water supply and sewerage services, natural gas, electricity and heat for household consumers than foreseen in the baseline scenario. The fan chart of inflation suggests that with a probability of 60 per cent, annual inflation in consumer prices is expected to range between 0.8 and 5.8 per cent at the end of 2024.

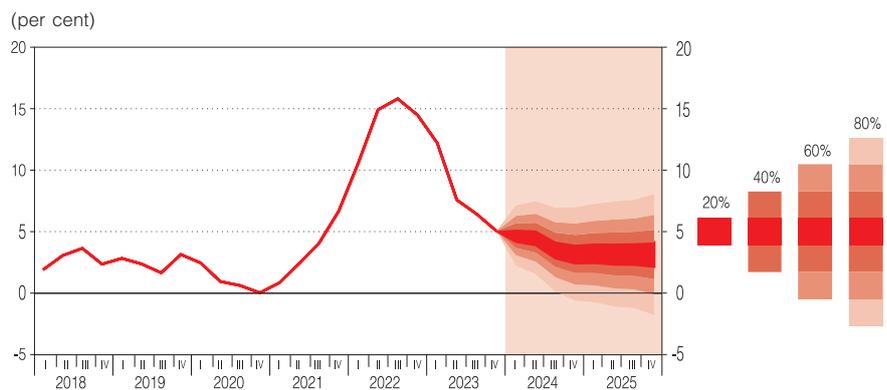
### Fan Chart of the Expected Annual Rate of Change in Real GDP



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	1.8	2.5	3.4
Private consumption	3.8	5.8	3.7	4.2
Government consumption	5.5	-0.6	2.9	2.7
Gross fixed capital formation	6.5	1.0	5.3	8.2
Exports of goods and services	11.6	-1.5	3.4	3.6
Imports of goods and services	15.0	-6.3	5.4	5.2
<b>HICP at end of period<sup>1</sup></b>				
Core inflation	14.3	5.0	3.1	3.1
Energy products	11.9	5.3	4.9	4.0
Food	15.9	-0.6	-4.0	-0.8
Goods and services with administratively controlled prices and tobacco products	25.0	6.0	2.5	3.3
Goods and services with administratively controlled prices and tobacco products	6.9	5.4	3.1	2.4
<b>Employment</b>				
Unit labour costs	-0.3	0.6	0.3	0.0
Labour productivity	9.5	12.6	6.2	5.2
Unemployment rate (share of labour force, per cent)	4.3	1.1	2.2	3.4
Unemployment rate (share of labour force, per cent)	4.2	4.4	4.1	3.6
<b>Claims on the non-government sector</b>				
Claims on corporations <sup>2</sup>	12.5	11.7	7.4	6.0
Claims on households	10.2	7.1	4.9	4.1
Claims on households	14.6	15.4	10.0	8.5
Deposits of the non-government sector	14.3	8.9	8.0	7.2
<b>Share of GDP</b>				
Balance of payments current account	-1.4	0.0	-0.5	-1.3
Trade balance	-5.9	-3.8	-5.0	-5.6
Services, net	6.1	7.0	7.0	7.1
Primary income, net	-3.2	-4.4	-4.1	-4.0
Secondary income, net	1.6	1.2	1.6	1.2
<b>Annual rate of change</b>				
<b>External assumptions</b>				
External demand	7.2	0.8	2.6	3.2
Average annual Brent oil price (in USD)	41.7	-17.1	-8.3	-3.1
Average annual price of non-energy products (in USD) <sup>3</sup>	4.6	-4.8	2.1	2.6
Brent oil price at the end of period (in USD)	11.0	-4.3	-11.0	-3.5
Price of non-energy products at the end of period (in USD)	-3.7	1.5	3.5	3.3

<sup>1</sup> Reporting data on HICP for 2023.

<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.