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ECONOMIC RESEARCH INSTITUTE

ECONOMIC DEVELOPMENT AND POLICIES IN BULGARIA 2025: EVALUATIONS AND PROSPECTS

Focus:

Bulgaria's Electricity Sector and the Challenges of the Green Transition

Economic Research Institute
at the Bulgarian Academy of Sciences

ECONOMIC DEVELOPMENT AND POLICIES IN BULGARIA 2025: EVALUATIONS AND PROSPECTS

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Sofia
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The book analyses Bulgaria's economic status in 2024 and outlines medium-term development prospects, accounting for conjunctural challenges and structural specifics, particularly emphasising accession to the euro area. The central theme investigates the challenges, implemented reforms, and anticipated developments in Bulgaria's electricity sector.

The analysis and prognostic evaluations are intended for a broad spectrum of specialists, primarily governmental institutions, employer and trade union organisations, municipal and local governance structures, non-governmental organisations, the scientific community, and the general public. The conclusions regarding macroeconomic development and economic policies are interlinked with Bulgaria's economic conditions and developmental trends, while also considering regional and global dynamics and euro area integration.

The evaluations and forecasts provided herein are expert-based and reflect the views of the authors. The research project was discussed by an Expert Council and approved by the Scientific Council of the Economic Research Institute at the Bulgarian Academy of Sciences.

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CONTENTS

ABBREVIATIONS

b.p.	-	Basis points
BAS	-	Bulgarian Academy of Sciences
BGN	-	Bulgarian National Lev
BNB	-	Bulgarian National Bank
CEE	-	Central and Eastern Europe
CFP	-	Consolidated Fiscal Programme
CITA	-	Corporate and Income Tax Act
CO2	-	Carbon dioxide
EC	-	European Commission
ECB	-	European Central Bank
EP	-	European Parliament
ERM II	-	Exchange Rate Mechanism II
ESCB	-	European System of Central Banks
ESG	-	Environmental, social and governance criteria
ESM	-	European Stability Mechanism
ESO	-	Electricity System Operator
EU	-	European Union
FDI	-	Foreign direct investment
FPP	-	Photovoltaic power plant
GDP	-	Gross Domestic Product
GJ	-	Gigajaul
GNI	-	Gross national income
GVA	-	Gross value added
HICP	-	Harmonised Index of Consumer Prices
ICT	-	Information and Communication Technology
IMF	-	International Monetary Fund
INECP	-	Integrated National Energy and Climate Plan
MFF	-	Multiannual Financial Framework
MFI	-	Monetary-financial institutions
MoE	-	Ministry of Energy
MoF	-	Ministry of Finance
Mt CO2	-	Millions of tonnes of carbon dioxide equivalent
Mtoe	-	Million tonnes of oil equivalent
MW	-	Minimum wage
MWh	-	MWh
NEC	-	National Electricity Company
NEETs	-	Not in Education, Employment, or Training
NHIF	-	National Health Insurance Fund
NPISH	-	Non-commercial organisations serving households
NPP	-	Nuclear power plant
NRRP	-	National Recovery and Resilience Plan
NSI	-	National Statistical Institute
OECD	-	Organisation for Economic Co-operation and Development
p.p.	-	percentage point
PISA	-	Programme for International Student Assessment
PISB	-	Price Index of a Small Basket
PPS	-	Purchasing Power Standard
RES	-	Renewable energy sources
RRF	-	Recovery and Resilience Facility
SAFE	-	Security Action for Europe
SGP	-	Stability and Growth Pact
SME	-	Small and medium-sized enterprises
TELC	-	Labour-expert medical commission
TFEU	-	Treaty on the Functioning of the EU
TPP	-	Thermal power plant
VAT	-	Value-added tax
y-o-y	-	year-over-year

LIST OF FIGURES

PART ONE

PART TWO

LIST OF TABLES

PART ONE

PART TWO

The Economic Research Institute at the Bulgarian Academy of Sciences (BAS ERI) presents to the scientific community, institutions and the general public the latest analysis of the economic development of Bulgaria and the economic policies implemented. The book examines the state and development of the Bulgarian economy in 2024 and presents estimates of economic development in the medium term to 2027. The special thematic focus is on the Bulgarian electricity sector and the challenges of the green transition.

The aim is to analyse and assess the current economic processes in Bulgaria and to outline the possible trajectory of their development in the future. Specific research tasks include: 1) examining aspects of macroeconomic development in Bulgaria in 2024; 2) outlining the current challenges facing the economy in 2025 and the prospects of euro area membership; 3) forecasting economic dynamics in the medium term to 2027; 4) assessing the policies in place in the country, taking into account regional and global developments and trends; 5) making specific recommendations for economic policy in the country. Based on a structural macroeconomic model, a medium-term macroeconomic framework is proposed, reflecting various assumptions about both the dynamics of the external economic environment and the expected directions of economic governance.

The book consists of two parts. **The first part** analyses macroeconomic developments in the country in 2024 in terms of internally determined and regionally determined factors and processes, and comments on the main scenarios and projections in the medium term, taking into account the effects of euro area accession. The state of the *real sector of* the economy is presented by tracing the dynamics of economic activity, which is linked to ongoing processes in a comparative perspective in the European Union (EU) and the euro area. Emphasis is placed on regional and structural imbalances in the labour market and the potential of certain labour market groups to provide additional labour. *Fiscal sector* processes are analysed in the context of the assessment of the fulfilment of the Maastricht criteria on budget deficits and debt and changes in the European framework for economic governance. *Foreign trade relations* are commented on in relation to the economic situation and development expectations of Bulgaria's main trading partners, whose importance in terms of exports and imports of goods and services and capital flows is growing in the context of high uncertainty in the global economy and threats of trade wars in the first half of 2025. *Expectations and forecasts* for the Bulgarian economy in the medium term are based on the expected effects of joining the euro area, key assumptions about the development of the global economy, and are compared with similar analyses of leading institutions in the country and abroad. It tracks *the readiness and long-term sustainability of the Bulgarian economy on the path to euro area accession* and makes recommendations *for economic policy*.

The second part focuses on the challenges facing the Bulgarian electricity sector from the EU energy and climate policy. Based on a review of EU initiatives and the reformulation of the Green Deal and its transformation into a Green Deal for Growth, it traces changes in the structure of electricity consumption and recognises that the lack of a national approach developed in a National Energy Strategy is a prerequisite for not addressing a number of structural problems. Strategic options for the development of

Bulgaria's electricity sector are proposed, taking into account quantitative financial analyses and qualitative analyses of the impact of factors in the external environment.

The analysis is based on statistical data from national and international sources available as of 31.03.2025. The estimates and forecasts take into account geopolitical tensions, energy transformation, technological changes and the degree of absorption of EU funding and are based on the following key expectations for the effects of Bulgaria's accession to the euro area, in addition to full membership in the Schengen area from the beginning of 2025:

- positive impact on economic development on the basis of higher purchasing power and an accelerated rate of income convergence, which is likely to manifest itself towards the end of 2025 and intensify thereafter;

- initial price effect of accelerating inflation, which should be relatively short-lived;

- the creation of a predictable macroeconomic environment that has the potential to create new jobs and attract foreign investment, especially in the export-oriented and innovative sectors of the economy;

- the risk of an increase in the general government debt and an increase in dependence on financing from international capital markets, while maintaining the pro-cyclical nature of the fiscal policy;

- positives on foreign trade relations stemming from the elimination of transaction costs for currency translation, faster and cheaper interbank payments and reduced trade finance costs, which may partially offset the negative effects of tariff increases and trade wars, estimated at 1.6% of GDP;

- positive impact on credit ratings, elimination of foreign exchange risk and some containment of debt servicing costs, which should not lead to a weakening of fiscal discipline.

The book "Economic Development and Policies in Bulgaria 2025: Evaluations and Prospects" has passed the BAS procedures for professional competence. The expert opinions, assessments and expectations set out herein primarily reflect the views of the authors and do not necessarily involve the ERI at BAS.

SUMMARY

The moderate **dynamics of economic activity in 2024 and the associated narrowing of the deviation of GDP per capita from the euro area average (63.6% of the euro area average GDP in purchasing power parity standards (PPS), with economic growth of 2.8%)** were shaped by a number of conditions and preconditions. In foreign policy terms, of particular importance among them were the ongoing military conflict in Ukraine and the conflict in the Middle East, the relative stability of the growth rates of the world economy and of the economies of the US and China, and the stronger, albeit much lower, economic growth of the EU and the euro area. Domestically, 2024 was characterised by political instability and the rule of three governments, leading to the postponement of structural reforms and the delay or non-implementation of some of the National Recovery and Resilience Plan (NRRP) actions. Positive fiscal impulses were generated in the economy, linked to increases in public sector wages and pensions, compensation of businesses for high electricity prices and the application of differentiated value-added tax (VAT) rates. These were coupled with high lending activity and lower interest rates than in the euro area as a result of rising domestic savings and the absence of monetary policy restrictions beyond the mortgage lending restraint measures taken since October 2024. However, investment activity remained weak, and the main driver of demand-side economic growth continued to be final consumption with a negative contribution from net exports.

Inflation in Bulgaria slowed to 2.2% in 2024**, bringing the country closer to meeting the Maastricht inflation criterion for euro area membership**. The GDP deflator maintained higher growth (6.5%), which is an indicator that domestic factors underpin inflation dynamics in 2024. The increase in administrative prices, as well as the moderate increase in transport prices, continued to have a marked stimulating effect on inflation. Inflation was significantly influenced by continued significant wage increases, which, in the face of weak labour productivity gains, led to accelerated real wage growth. This had a depressing effect on aggregate supply, generating inflationary impulses from the production costs side.

In 2024, the labour market remained relatively calm and was characterised by an increasing economic activity rate (reaching 74%), a 71% employment rate and a 4.2% unemployment rate. However**, the labour market in Bulgaria continued to be marked by clear regional disparities related to the size and structure of the labour force as well as employment and unemployment rates.** Another problem is the limited readiness of the Bulgarian labour market for digital transformation, which stems from the low share of digitally skilled people and low technology penetration in enterprises. Bulgaria remains among the countries with the most unfavourable indicators and with a need for targeted measures to activate young people and their sustainable inclusion in the labour market. If Bulgaria manages to reduce the level of economic inactivity of people with disabilities to the EU average (45%), this would highlight the potential for inclusion of an additional 90-100 thousand people with disabilities of working age. **In the short term, Bulgaria's accession to the euro area is not expected to trigger major changes in the labour market**.

With a budget deficit of 3% of GDP on an accrual basis and 24.1% of GDP of consolidated government debt in 2024 (against benchmarks of 3% and 60% of GDP, respectively), Bulgaria fulfils the EU Maastricht deficit and debt criteria. After joining the euro area, an important change in the state budget will be the country's contribution to the European Stability Mechanism capital, which is expected to amount to BGN 1.1 billion and be payable in equal annual instalments over the first five years of euro area accession. A new element in the fiscal framework for the period 2026-2029 will be the increase in defence spending, with a derogation for its reporting under the Stability and Growth Pact. With insignificant disbursements under the Recovery and Resilience Facility and non-receipt of the second and third tranches of the NRRP, there is a risk of an increase in the general government debt and an increased reliance on financing from international capital markets. It is not prudent to finance increasing social spending and staff wages, as well as accelerating the implementation of defence and energy security investment projects, with a growing debt burden. This should be done by changing tax and social security policy and improving the efficiency of public spending. Given the interest rate dynamics in global markets and euro area membership, interest expenditure is expected to increase, and the fiscal buffer is expected to continue to be maintained at high levels as a buffer against future shocks to the fiscal.

The relatively slow economic development of the leading trading partners and the disinflationary processes in the world economy had a direct impact on Bulgaria's foreign trade in 2024, outlining the prospects in 2025. Exports of finished industrial components and subsystems highlight the strong dependence on the state of the German economy, to which over 22% of total exports of machinery, equipment and vehicles from Bulgaria in 2024 were directed. Bulgarian exports of goods to the US were between 2 and 2.5% of total exports in the period 2018-2024. Assuming that the 20% ad valorem duty on imports from the EU to the US is maintained, the subsequent direct effect of lower demand for European goods due to their appreciation and the absorption of losses by Bulgarian producers can be estimated at 0.2% of GDP (or around BGN 420 million). The indirect effects on the Bulgarian economy are derived on the basis of the structure of exports by commodity groups to Germany, Italy and Greece and are estimated at 2.35% lower total exports to Germany, 0.65% to Italy, and 0.33% to Greece. The cumulative indirect effect of reduced exports to the three countries is BGN 2.8 billion (or approximately 1.4% of GDP), and together with the direct effect rises to BGN 3.2 billion (1.6% of GDP). **The most probable medium-term consequence of the US offensive trade protectionism and the global uncertainty created is global stagflation** (a combination of high prices and low economic growth), which **will have a stagnating effect on Bulgarian exports both through a strong orientation and integration towards the euro area and directly in foreign trade relations with the US**.

In 2024, money supply dynamics remained close to the levels of late 2023. Overnight deposits, which remain the preferred form of saving by both households and non-financial corporations, were a major contributor to maintaining a relatively weak broad money rate. In 2024, the banking sector continued to operate in an unsustainable environment, driven by disruption and realignment of some supply chains as a result of sanctions imposed on Russia in relation to the military conflict in Ukraine. Amid growing uncertainty, **Bulgarian banks continued to be resilient and profitable, maintaining high levels of liquidity and capital buffers** amid intense lending rates, weakening rates of both revenue and

core banking costs, sharp increases in impairment charges and moderate growth in provision accruals. In 2024, the banking sector's profits reached a record high of BGN 3.7 billion (8% above the level achieved in 2023). A comparison with interest rates in the euro area shows that almost all CEE countries that have adopted the euro (Lithuania, Latvia, Estonia, Slovenia, Slovakia and Greece) have higher interest rates for corporate clients than Bulgaria. The average interest rate on home loans in Bulgaria is lower than in all euro area Member States (except Malta), which forms the expectation of a possible increase after the euro adoption date. It can be expected that **euro adoption will support Bulgaria's credit rating and lead to some containment of debt servicing costs**, which should not be associated with a weakening of fiscal discipline and rapid accumulation of public debt.

The short-term forecast of the Economic Research Institute at BAS is for GDP to grow at a rate of around 2.5-3.5% per year, driven mainly by European investment and domestic consumption, provided that the global and European economic environment does not deteriorate sharply. Domestic consumption is expected to remain relatively stable, underpinned by persistently low unemployment and income growth that is likely to slow from previous years. Declining (albeit still high) inflation could also support purchasing power. Despite the serious challenges of the global trade wars, some recovery in exports is expected due to the dynamic development of the services sector, the implementation of the rearmament programme and the advantages Bulgaria is realising in military exports, as well as the effects of joining the euro area. **Achieving political stability, the efficient and rapid absorption of the funds under the NRRP and cohesion programmes, the acceleration of structural reforms and active labour market policies and tackling demographic problems are key to the successful integration of the Bulgarian economy into the euro area.**

The fulfilment of the convergence criteria and the long-term sustainability of the Bulgarian economy for euro area accession are assessed. Despite the positive effects, risks and adverse consequences for some sectors of the economy are likely to materialise upon euro adoption if structural reforms, tight fiscal policy, the efficiency of public finances and good governance of state-owned enterprises are delayed and downplayed.

The recommendations addressed to **the country's economic policy** are aimed at successfully integrating the Bulgarian economy into the euro area, boosting investment activity, activating the inactive working population, pursuing fiscal consolidation and developing the potential of foreign trade relations and preserving the stability of the financial sector.

The focus topic analyses and assesses the challenges facing the Bulgarian electricity sector from EU energy and climate policy and initiatives. The specificities of electricity consumption in Bulgaria are analysed, showing that the Bulgarian economy is energy intensive (with a level of energy intensity above the EU average), which is a consequence of: 1) the structure of industry, dominated by manufacturing and extractive industries; 2) per capita electricity consumption lags significantly behind the EU average; 3) losses from electricity transmission and distribution are significant, although decreasing and approaching the EU average. It is estimated that the industries affected by the green

transition in the country account for about 1/3 of total electricity consumption. The accelerated electrification of transport in the EU has not yet been observed in Bulgaria. In the country, the electrification of transport is expected to be intensified, leading to an increase in electricity consumption. The challenges of increasing the share of renewables in the absence of the dynamic characteristics of coal-fired power plants are assessed, which makes balancing the electricity system difficult and unsustainable. On this basis, strategic options for the development of Bulgaria's electricity sector are proposed, taking into account quantitative financial analyses and qualitative analyses of the impact of external environmental factors. **As the EU electricity market model has not met the expectations to increase the welfare of people and the competitiveness of industry, Bulgaria's request to keep the TPP until 2038 and to accelerate the construction of the two new nuclear units of Kozloduy NPP is justified.**

PART ONE

ANALYSIS OF THE MACROECONOMIC DEVELOPMENT IN 2024 AND MEDIUM-TERM FORECASTS

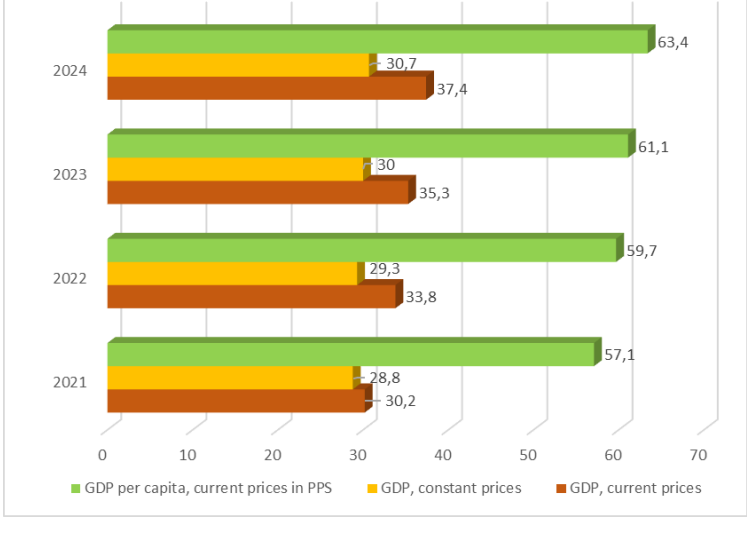
1. Real Sector and Labour Market

The analysis of real sector developments focuses on the dynamics of economic activity, inflation and labour market processes. Particular attention is paid to the features of the expenditure, income and production structure of GDP, the contribution of structural components to its growth and the identification of the main drivers of growth on the aggregate demand and aggregate supply side. The speed of real convergence of the Bulgarian economy to the euro area and the achieved level of convergence compared to other EU countries are discussed. Changes in the inflation process are highlighted, with an emphasis on its slowdown and convergence towards the Maastricht inflation criterion. Regional and structural imbalances in the labour market are outlined, as well as the potential of certain labour market groups, such as young people, people over 65 and people with disabilities, to provide additional labour. Emphasis is placed on the expected benefits and challenges in the real sector of joining the euro area.

1.1. Economic growth and income convergence with the euro area countries

In 2024, economic activity in Bulgaria accelerated, and GDP at current prices reached BGN 202 861.5 million (9.5% higher than its value in 2023). Nominal GDP per capita was BGN 31,520 (or EUR 16,110). It amounted to 37.4% of the euro area average, which was 2.1 p.p. higher than the level recorded in 2023 (Figure 1).

Figure 1. GDP per capita (% of the euro area average)



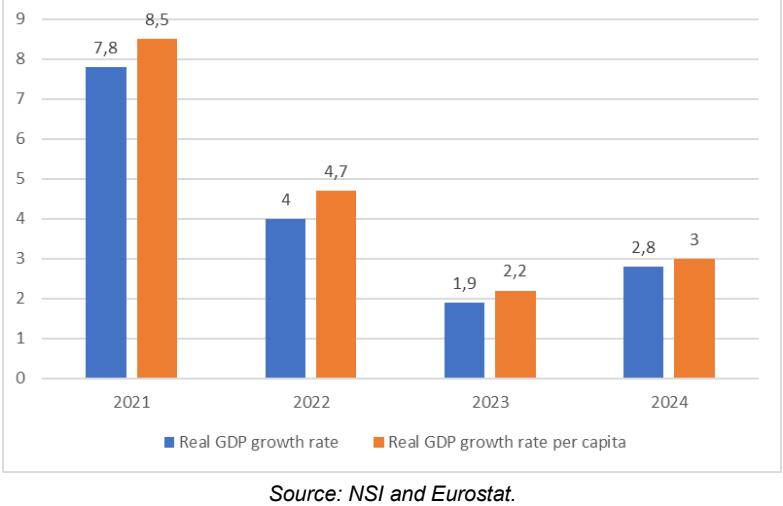
Source: Eurostat and own calculations.

Although the indicator remains the lowest in the EU, its lag behind the new Central and Eastern European (CEE) Member States is decreasing (with the exception of Poland and Croatia). Within the euro area, the gap remains unchanged only vis-à-vis Croatia, while vis-à-vis all other countries, Bulgaria's relative position is improving.

Due to the declining population in Bulgaria, the growth rate of real GDP per capita has traditionally been higher than that of real GDP (Figure 1). In 2024, the gap between the two indicators was 0.2 p.p., with the gap narrowing for the second year in a row. The GDP per capita growth rate exceeded six times the corresponding average growth rate in the euro area, ranking Bulgaria second after Croatia. However, real GDP per capita in 2024 stood at 30.7% of the euro area average, with a convergence of only 0.7 p.p. **GDP per capita in purchasing power standards (PPS) was 63.6% of the euro area average**, or 2.5 p.p. higher than in 2023. This corresponds to a narrowing of the gap with all other EU Member States and their monetary union.

The annual growth rate of real GDP in 2024 was 2.8% and was maintained at lower levels relative to 2022 and 2021, given the impact of the initial economic recovery from the COVID-19 crisis (Figure 2). Economic growth was 3.1 times higher than the euro area average growth rate and lower than the growth of only Malta, Croatia, Cyprus and Spain.

Figure 2. Economic growth rates (%)



Source: NSI and Eurostat.

1.2. Structural features and growth factors

The expenditure structure of GDP is characterised by an increasing relative share of final consumption, reaching its peak **after 2021** at 77.3%. Although lower relative to 2021 and 2022, the share of gross capital formation increased slightly relative to 2023, reaching 20.4% of GDP, with its positive dynamics being entirely the consequence of the increase in inventories. Net exports had a positive share in GDP of 2.3%, with exports of goods and services higher than their imports.

Economic growth in Bulgaria in 2024 depends mainly on the growth rate of final consumption, which is 3.3 times higher than that recorded in 2023 (Table 1). Annual growth in final consumption stems mainly from an increase in household consumption due to an increase in gross household income by 18% and in credit to households and non-profit institutions serving households (NPISHs) by 20.8%, with an annual end-period inflation rate of 2.2%. The largest growth among the components of final consumption

expenditure in 2024 was in individual government consumption, with growth in collective consumption also being positive. **Total government consumption accounts for nearly one-third of the economic growth rate, with a larger role only in 2022 and a much smaller role in the following two years.** The marked difference from 2022 is the increasing relative importance of individual government consumption in total government consumption and the expenditure structure of GDP.

Table 1. Contributions of final use components to the GDP growth rate

	2021		2022		2023		2024	
	growth rate	contribution	growth rate	contribution	growth rate	contribution	growth rate	contribution
	%	p.p.	%	p.p.	%	p.p.	%	p.p.
Final consumption	6.5	5.1	4.9	3.7	1.3	1.0	4.3	3.3
Individual	7.9	5.4	4.0	2.6	1.4	0.9	4.5	3.0
of households	8.5	4.9	3.9	2.2	1.4	0.8	4.2	2.4
of NPISHs	11.4	0.1	15.1	0.0	-1.0	0.0	1.3	0.0
of government	4.3	0.4	4.4	0.4	1.5	0.1	6.2	0.6
Collective	-3.3	-0.3	12.0	1.1	0.7	0.1	2.8	0.3
Gross capital formation	9.7	2.0	9.2	1.9	-12.8	-2.9	4.1	0.8
Gross fixed capital formation	-8.3	-1.6	6.5	1.1	10.2	1.7	-1.1	-0.2
Change in inventories	n.a.	3.5	n.a.	0.8	n.a.	-4.6	n.a.	1.0
Net exports	n.a.	0.7	n.a.	-1.6	n.a.	3.8	n.a.	-1.3
Exports	11.6	6.5	12.1	7.5	0.0	0.0	-0.8	-0.5
Imports	10.7	5.8	15.3	9.1	-5.5	-3.8	1.3	0.8
Total	7.8	7.8	4	4.0	1.9	1.9	2.8	2.8

Source: Eurostat.

In 2024, investment activity remained weak and gross fixed capital formation declined for the first time since 2021. Comparisons with 2023 show an improvement in gross capital formation and a significant deterioration in gross fixed capital formation, which is an indicator of an even more unfavourable net investment position, given that consumption (depreciation) of fixed capital has traditionally had a higher relative weight in gross fixed capital formation. The low level of investment is a consequence of the high degree of foreign and domestic policy uncertainty, the uncertain economic environment, the delayed structural reforms in key areas and activities, the non-receipt of the second payment under the NRRP, the declining flow of foreign direct investment (FDI) and the labour shortage. These are also reflected in the lower growth in credit to non-financial corporations (9.9 percent) compared to households and NPISHs. In parallel, deposit growth of non-financial corporations has stabilised at around 10% and part of this can be interpreted as an indication of postponed investment projects.

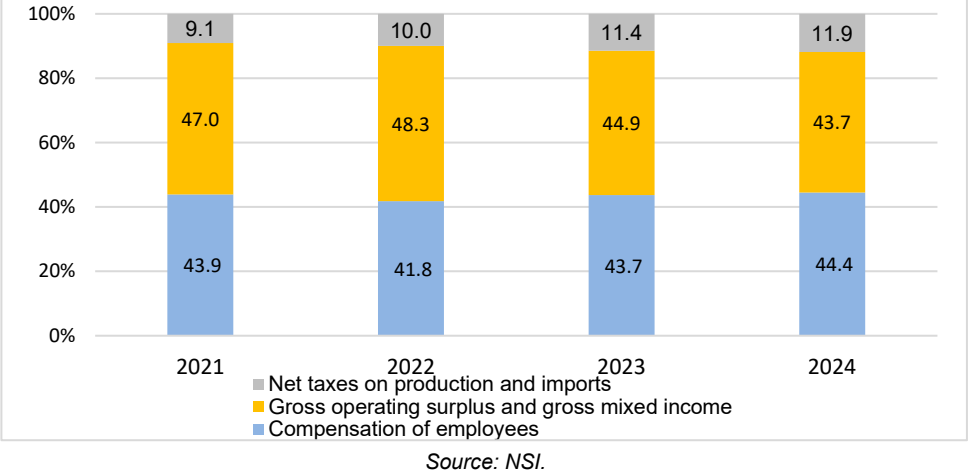
Insufficient investment activity negatively affects both short-term and long-term economic growth. The short-term impact is mainly through the adverse impact of low investment on aggregate demand. The long-run effect is realised by limiting the growth of aggregate supply due to the accumulation of less capital and the associated lower opportunities to create and apply new technologies.

Despite its positive contribution to nominal GDP, **net exports made a negative contribution to economic growth**, mainly due to a rebound in imports and, to a lesser extent, the first decline in exports over the period. The positive import performance was a consequence of the acceleration in economic growth and was entirely due to increased imports of goods, while imports of services were declining. The main reasons for the decline in external demand in 2024 were slowing economic growth in the country's main partners, the ongoing recession in Germany (-0.2%), the marked reduction in growth in Romania (from 2.4% to 0.9%) and its persistence at a low level (0.7%) in Italy, as well as the deteriorating competitiveness of the economy on the back of persistently high growth rates in nominal average labour costs.

Gross value added (GVA) accounted for 87% of GDP, with the relative weight declining for the second consecutive year. The maximum deviation was by 1.8 p.p. compared to 2022, indicating that it was not yet sufficiently stabilised after the 2020 crisis. In 2024, the growth rate of value added in constant prices was lower than the growth rate of real GDP, which was also typical for 2021 and 2022.

Compensation of employees had the largest share in the income structure of GDP, accounting for 44.4% of it and 51% of GVA (Figure 3). The value reached is the highest for the observation period and exceeds the share of the sum of gross operating surplus and gross mixed income. The positive dynamics can be seen as a natural process due to the lower level of incomes compared to the EU and the euro area, the high demand for labour with limited supply, the upward pressure on wages induced by high prices and the pursued policy of increasing incomes in the public sector. Despite this growth, the share of compensation of employees remains below the euro area average, with a deviation of 4.1 p.p.

Figure 3. Dynamics of the income structure of GDP (%)



Source: NSI.

The rising share in GDP of net taxes on production and imports is associated with a larger decline in the share of gross operating surplus and gross mixed income compared to an increase in the share of compensation of employees. Given that one part of gross mixed income is labour income, and assuming that this part grows at a similar rate to

compensation of employees, it can be assumed that the decline in the relative share of profits in income is even larger than reported. Although this conclusion is tentative according to the assumption made and given the consumption of fixed capital contained in gross operating surplus and gross mixed income, it is not without merit[1]**. The decline in the profit share of income is one of the possible explanations for the low investment activity, as it affects both domestic sources of finance and the general incentives and motivation of investors.**

The production structure of GDP is characterised by an increase in the contribution of services to 72% of GVA. This is associated with a reciprocal decrease in the contribution of agriculture, forestry and fishing (to merely 2.4%). The share of industry remains at its 2023 level (25.8%), which is close to its long-term value. This dynamic differs from the sharp increase in the industry share in 2022 (by 4.8 p.p.) and is consistent with long-term structural changes in the economy.

In the structure of GVA by 10 groups of economic activities, the largest increase is in the relative share of "Public administration, defence, education, human health and social work activities", which reaches its maximum in the long run (17.4%). Financial and insurance activities come next, with their share in the GVA structure approaching the 2021 value. The shares of the groups "Information and communication" and "Construction" increase and are at their highest levels for the period 2021-2024 (8.3% and 4.5%, respectively). "Real estate activities" and "wholesale and retail trade, transport, accommodation and food service activities" have declining contributions to total GVA. **A comparison of the disaggregated GVA structure in 2023 and 2024 shows internal stability in the industry sector and relative instability in the services structure.** This implies that the process of dampening of structural fluctuations after the shocks experienced from the COVID-19 pandemic and the start of the war in Ukraine is still ongoing and mainly affects agriculture, forestry and fishing and four of the tertiary sector activity groups.

The highest contributor to value-added growth (36.4%) was "Public administration, defence, education, human health and social work activities", which also had the highest growth rate (5.5%) (Table 2). A slightly lower contribution (31.8%) was made by the economic activity group "Wholesale and retail trade, transport, accommodation and food service activities", due to the highest relative weight of the economic activity with a lagging growth rate of 2 p.p. The second highest growth in value added was in construction (5.2%), with the lower relative weight of this activity determining its relative contribution to the growth of 9%. The same relative contribution was made by the economic activities "Information and communication", "Financial and insurance activities" and "Industry (except construction)". **The 1.2% growth in "Industry (except construction)" is much lower than both the economy as a whole and the growth reported in 2021.** For the other three economic activities in the services sector, it is within 1%, which, combined with the low relative weights in GVA, predetermines a zero or symbolic contribution to growth. Changes in the economic activity groups "Real estate activities" and "Professional, scientific and technical activities; administrative and support service activities" are in the direction of a significant decrease in the growth rates, which

[1] The analysis is based on gross operating surplus and gross mixed income data, as for methodological reasons fixed capital consumption data and corresponding net figures are published with a lag.

in the latter case is valid for the whole period 2021-2024, while in “Arts, entertainment and recreation; other service activities; activities of household and extra-territorial organisations and bodies“ they are towards improvement. Real GVA declines only in agriculture, forestry and fishing, with a decline lower than in 2023 and close to that reported in 2022, which predetermines a negative contribution to growth.

Table 2. Contributions of economic activity groups to the GDP growth rate

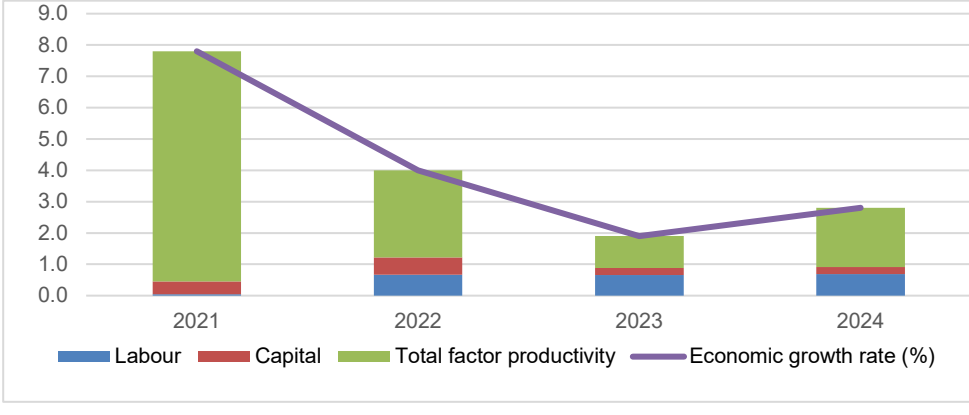
Economic sectors and economic activity groups	2021		2022		2023		2024	
	growth rate	contribution	growth rate	contribution	growth rate	contribution	growth rate	contribution
	%	p.p.	%	p.p.	%	p.p.	%	p.p.
Agriculture, forestry and fishing	30.1	1.0	-7.2	-0.3	-15.3	-0.6	-7.0	-0.2
Industry (except construction)	3.7	0.7	14.3	2.5	-5.3	-1.2	1.2	0.2
Construction	-10.8	-0.5	5.3	0.2	3.8	0.1	5.2	0.2
Wholesale and retail trade, transport, accommodation and food service activities	13.7	2.6	1.1	0.2	5.8	1.1	3.5	0.7
Information and communication	7.2	0.5	2.0	0.1	4.3	0.3	3.0	0.2
Financial and insurance activities	23.7	1.2	8.4	0.5	3.0	0.2	2.9	0.2
Real estate activities	7.0	0.6	3.8	0.3	8.0	0.6	0.5	0.1
Professional, scientific and technical activities, administrative and support service activities	14.0	0.9	5.4	0.3	3.8	0.2	0.5	0.0
Public administration, defence, education, human health and social work activities	0.9	0.1	7.0	1.0	2.9	0.4	5.5	0.8
Arts, entertainment and recreation; other service activities; activities of household and extraterritorial organisations and bodies	-2.2	0.0	-1.0	0.0	-3.0	0.0	0.8	0.0
GVA total	8.1	7.1	5.5	4.8	1.3	1.1	2.5	2.2

Source: Eurostat.

In the dynamics of the production structure of GDP in 2024 and in comparison with the other years of the 2021-2024 period, some positive aspects and problematic areas can be highlighted in terms of the potential for economic growth in the future. The growth of the economic activity group „Public administration and defence; compulsory social security; education, human health and social work activities“, insofar as it is related to education and health and if sustainable, is likely to contribute to human capital accumulation, which is particularly important given the labour supply constraints resulting from adverse demographic developments. On the positive side, the high growth rate of GVA in construction and the stabilisation in 2024 of the growth rate in financial and insurance activities are also positive. **The slowdown in the growth of the high-technology group of activities, “Information and communication“, signals a gradual decline in the scope for their expansion**. Also worrying is the persistent and marked slowdown in growth of the economic activity group "Professional, scientific and technical activities, administrative and support service activities" to the extent that R&D is affected. The continued decline in value added in agriculture, forestry and fishing, and at low levels, means increasing dependence on food imports and narrows the scope for securing domestic consumption in the event of possible shock-induced disruptions in international supply chains.

By applying the tools of economic growth accounting, it is shown that **the largest impact on growth from the aggregate supply side comes from an increase in total factor productivity** (Figure 4)[2]. It amounts to 1.9 p.p., or two-thirds of real GDP growth, allowing growth to be defined as intensive. The second most important factor is the increase in labour, measured by the number of persons employed in the national accounts, whose contribution is 0.7 p.p., or about 1/4. The contribution of capital, calculated on the basis of gross capital formation, is the smallest at 0.2 p.p., or 8%. The way the factors are ranked by degree of influence largely replicates their ranking in 2021, 2022 and 2023. The only exception is 2021, when labour's influence was very close to zero, and that of total factor productivity was at its maximum of 94%. The relative contribution of factor productivity in 2024 lags minimally behind 2022 but is much higher than in 2023. The role of capital is about the same in absolute terms but lower in relative terms, which is coupled with the declining relative importance of labour.

Figure 4. Contribution to growth of key supply-side factors (p.p.)



Source: NSI and own calculations.

Decomposing economic growth to its supply-side fundamentals reveals positive qualitative characteristics of growth associated with a distinct dominance of total factor productivity. **A serious problem is the very low contribution of capital**, which is even overestimated because of the more significant increase in inventories reflected in it. Given

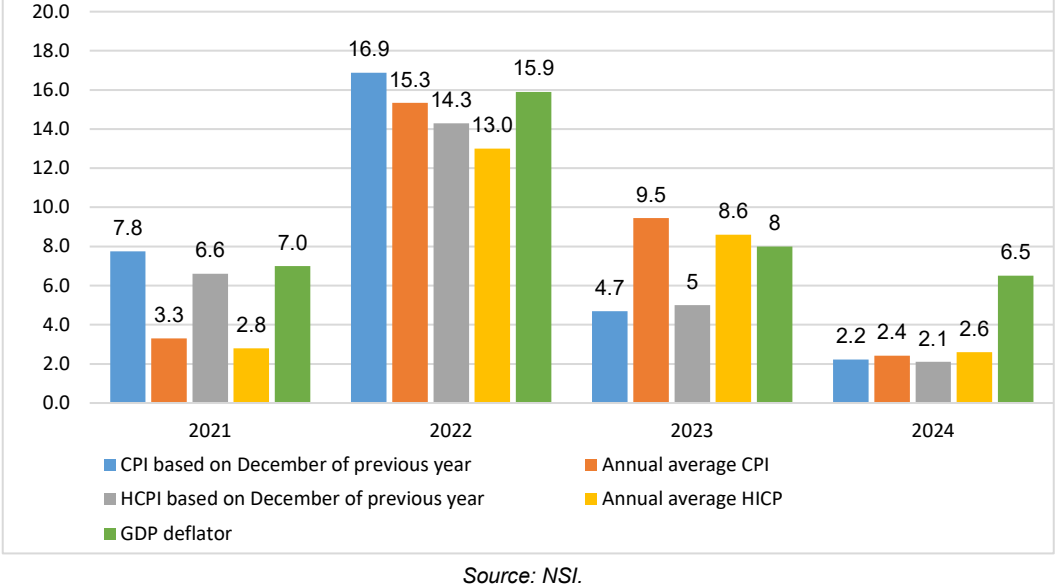
[2] In this framework, the measurement of the contribution of labour, capital and total factor productivity to economic growth is done through Eq:
$\frac{\Delta Y}{Y} = \alpha\frac{\Delta K}{\mathrm{K}}\ (1-\alpha)\frac{\Delta L}{\mathrm{L}} + \frac{\Delta A}{\mathrm{A}}$,
where: $\frac{\Delta Y}{Y}$ is the growth rate of real GDP, $\frac{\Delta K}{\mathrm{K}}$ is the growth rate of capital, $\frac{\Delta L}{\mathrm{L}}$ is the growth rate of employment, $\frac{\Delta A}{\mathrm{A}}$ is the residual-derived growth rate of total factor productivity, and α and $(1-\alpha)$ are the elasticities of GDP with respect to capital and labour, respectively. Assuming constant returns to scale, diminishing returns to labour and capital, and competitive conditions allows the weights α and $(1-\alpha)$ to be measured by the relative shares of the two factors in total factor income. The determination of the labour contribution is made by the employment growth rate and the calculation of the capital contribution is based on the assumption of a constant capital ratio $\frac{K}{\mathrm{Y}}$, taking the average of this ratio over the interval 2021-2024. The capital growth rate itself $\frac{\Delta K}{\mathrm{K}}$ is calculated using the formula $\frac{\mathrm{I}}{Y} / \frac{K}{Y} - 0.05$, i.e., by dividing the share of gross fixed capital formation in GDP ($\frac{\mathrm{I}}{Y}$) by the capital ratio and subtracting the depreciation rate assumed to be equal to 0.05 from the partial (Minasyan, 2008; Ganev, 2005).

that the relatively high growth rates realised immediately before the 2009 crisis were largely due to the increase in capital, it can be argued that its very low growth in much of the post-crisis period, including the period 2021-2024, is manifesting itself as a major constraint on growth from the supply side. **This calls for a systematic effort to boost investment activity by improving institutional quality and attracting foreign investors, and in the public sector – by implementing the capital programme more rigorously.** Moreover, the scope for accelerating growth through a more substantial increase in employment is too narrow due to low unemployment and a declining labour force.

1.3. Inflation dynamics

Inflation in Bulgaria slowed to 2.2% in 2024, and its rate, as measured by the main price indices, was the lowest since 2021 (Figure 5). The accumulated increase in the small basket price index (PISB) was 2.3% and, as in 2023, closely matched the increase in the overall consumer price index (CPI). Annual average inflation of 2.4%, according to CPI, was for the first time lagging behind that according to the Harmonised Index of Consumer Prices (HICP).

Figure 5. Annual inflation rates (%)



Source: NSI.

The GDP deflator maintained a higher growth rate of 6.5%, due to the increase in deflators of all components of domestic demand being higher than the increase in the CPI[3]. Among the component deflators, the deflators of individual consumption of the government and collective consumption reported the highest and accelerated growth (by

[3] The values of the deflators of the components of the expenditure structure of GDP are calculated using NSI data.

13.2% and 10.5%, respectively), with the latter even higher than in the peak inflation year 2022. The increase in the deflators of household consumption and gross capital formation was 4.9% and 8.5%, respectively, and lagging behind 2023. The exports deflator fell by 0.4% and the imports deflator rose by 0.1% (with falls of 2.7% and 2.4%, respectively, in 2023).

In 2024, inflation was highest in the first quarter, when the monthly growth rates of CPI and HICP, based on the corresponding month of the previous year, declined but remained above 3%. After their decline by 0.6 p.p. in April, they fluctuated within a narrow range, and their maximum deviations were 0.2 and 0.3 p.p., respectively. The next more serious decrease was recorded in August and September, when price increases reached their minimum of 1.2% according to CPI and 1.5% according to HICP. Subsequently, a further gradual increase in inflation was recorded, and in December, according to CPI, it surpassed its minimum level of August, while according to HICP, it continued to be lower. The average annual growth rates of CPI and HICP based on the previous 12 months have shown a steady decline, with around 6 p.p. for the January-December period.

In comparative terms, the disinflation process in Bulgaria is more rapid than in the EU and the euro area[4]. The growth rate of HICP in December 2024 compared to the same month of 2023 was 2.9 p.p. lower (with a decrease in the EU and euro area average within 0.5-0.8 p.p.). Similar dependencies, albeit with higher declines, are present in the average annual HICP growth – 6 p.p. for Bulgaria (vs. 3.8 p.p. and 3 p.p. for the EU and the euro area, respectively). The comparison of inflation measured by the HICP at the end of the period with other CEE countries shows higher values only relative to Lithuania and Slovenia, while the average annual HICP indicates an excess also in relation to Latvia.

The marked reduction in inflation, especially towards the end of 2024, brings Bulgaria closer to meeting the Maastricht inflation criterion for euro area membership. In December 2024, the annual average HICP exceeded the 2.5% reference limit by only 0.1 p.p.[5]. The comparison is made against Lithuania, Finland and Italy, where inflation on a 12-month basis is 0.9%, 1% and 1.1%, respectively. Although in January 2025 the HICP-based inflation in Bulgaria for the same month of the previous year accelerated to 3.8%, its annual average remained at its December 2024 level. In January 2024, the three countries were unchanged, with the reference limit rising by 0.03 p.p. following a minimal increase in inflation in Lithuania, with Bulgaria's non-fulfilment of the inflation criterion being only 0.07 p.p. Full compliance with this criterion was reported in February 2025, when higher prices in Bulgaria at the February 2024 base marked a new increase to 3.9%, but with the same increase compared to the previous 12 months. This is coupled with maintaining the already established three benchmark countries with the lowest inflation and raising it in Finland to 1.1% and in Latvia and Italy to 1.2%, as well as adding to the latter two countries Ireland, characterised by the same price

[4] The comparative analysis with inflation in the EU, euro area and CEE countries is based on HICP only and is based on Eurostat data.
[5] The reference limit is obtained by increasing the average of the three best performing EU Member States in terms of price stability by 1.5 p.p.

increase. In this situation, the reference limit increases to 2.67% and exceeds the annual average inflation in Bulgaria again by 0.07 p.p.

The assessment of the Bulgarian economy's compliance with the nominal criterion for price stability is conservative because the reference limit is based on inflation in the three countries with the lowest inflation rates. In fact, in forming the official assessment of compliance with this criterion, the convergence reports may single out the so-called statistically atypical countries whose inflation rates are not taken into account in the benchmark calculation because they are much lower than the euro area average or are strongly influenced by exceptional factors. The decision on which country is statistically atypical is taken by the European Central Bank (ECB), and Finland is considered as such in the 2024 Convergence Report. If a similar procedure had been applied to Bulgaria in 2025, it would most likely have meant that **compliance with the inflation criterion had already been achieved in December 2024 and it was characterised by a certain degree of sustainability**.[6]

Table 3. Contributions of aggregate groups of goods and services to the annual average HICP growth rate

Aggregate groups of goods and services	2021		2022		2023		2024	
	growth rate	contribution	growth rate	contribution	growth rate	contribution	growth rate	Contribution
	%	p.p.	%	p.p.	%	p.p.	%	p.p.
Food and non-alcoholic beverages	2.7	0.6	21.6	4.9	14.0	3.3	2.8	0.7
Alcoholic beverages and tobacco	1.0	0.1	3.2	0.2	6.5	0.3	5.7	0.3
Clothing and footwear	-0.9	0.0	6.7	0.3	5.9	0.2	-0.6	0.0
Housing, water, electricity, gas and other fuels	4.5	0.5	18.4	2.2	6.5	0.7	2.8	0.3
Furnishings, household equipment and routine household maintenance	2.4	0.2	11.4	0.7	8.0	0.5	1.0	0.1
Healthcare	0.8	0.1	3.2	0.3	11.5	1.0	3.3	0.2
Transport	8.3	1.0	18.9	2.6	0.0	0.0	0.7	0.1
Communications	-2.6	-0.2	0.7	0.0	5.5	0.3	-2.3	-0.1
Recreation and culture	3.5	0.2	6.4	0.5	7.6	0.6	-0.1	0.0
Education	4.9	0.1	7.4	0.1	9.5	0.2	6.9	0.1
Restaurants and hotels	0.7	0.0	15.2	0.9	12.2	0.9	8.2	0.7
Miscellaneous goods and services	3.3	0.2	6.2	0.3	10.8	0.6	4.4	0.2
Total goods	3.1	2.2	14.8	10.8	8.3	5.8	1.7	1.2
Total services	2.0	0.6	8.2	2.2	9.4	2.8	4.8	1.4
Total HICP	2.8	2.8	13.0	13.0	8.6	8.6	2.6	2.6

Source: Eurostat and own calculations.

The annual decline in inflation in 2024 is the result of a slowdown in price increases for most aggregate groups of goods and services (Table 3).[7] **The only exceptions are transport prices, which, after being held down, increase moderately** by 0.7%, **as well as prices of communications, clothing and footwear, and recreation and culture**, which fall by 2.3%, 0.6% and 0.1%, respectively. The price increase in transport

[6] For more detailed discussion on the flexibility of assessments in meeting the inflation criterion, see Rangelova, Bobeva, Sariyski, Zlatinov, Atanasov (2023).

[7] The analysis of the structural characteristics of inflation is based on the use of the annual average HICP only.

is much lower than in 2021 and 2022, while the price dynamics in communications and clothing and footwear show some similarity to 2021. The strongest deceleration in price growth is in food and non-alcoholic beverages; furnishings, household equipment and routine household maintenance; healthcare; housing, water, electricity, gas and other fuels; and miscellaneous goods and services. The 2.8% increase in food and non-alcoholic beverages lags significantly behind that recorded in 2022 and is close to that recorded in 2021. The 3.3% increase in healthcare prices is the second highest over the 2021-2024 period and slightly exceeds that observed in the peak inflation year 2022. For miscellaneous goods and services, the 4.4% price increase is higher than in 2021, while the 2.8% and 1% price increases for housing, water, electricity, gas and other fuels, and for furnishings, household equipment and routine household maintenance are the lowest since 2021, respectively.

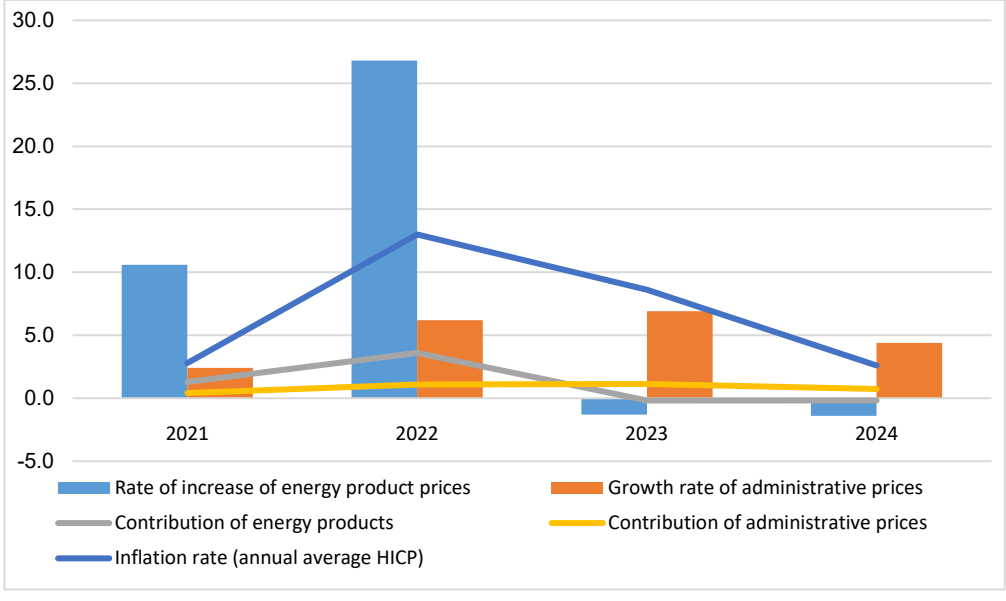
The food, non-alcoholic beverages, restaurants and hotel groups (26.9% each) have the highest and equal contribution to the 2024 inflation rate. For the first group, this is mainly due to the high relative weight in the HICP with relatively moderate price dynamics. For the second group, it is mainly a consequence of the highest price growth among all groups, with 8.2% at a relative weight in the index equal to only 1/3 of the weight of the first group. The reported relative contribution of restaurant and hotel prices to overall inflation is the highest for the group over the 2021-2024 period, while the same relative contribution of food and non-alcoholic beverages is the second lowest after 2021. The next most important groups are alcoholic beverages and tobacco, and housing, water, electricity, gas and other fuels, each accounting for 11.5% of total inflation. The equal contribution of the latter two groups is also associated with different combinations of HICP weights and price growth rates. In the case of alcoholic beverages and tobacco products, it is the larger price increase that determines the index, while in the case of housing, water, electricity, gas and other fuels, it is the more than twice higher weight in the index. The contribution of miscellaneous goods and services to the total HICP is 7.7% and is equal to that of healthcare, but in contrast, it depends more on price increases. Data at a higher level of aggregation and disaggregation in the HICP of goods and services price indices show that **inflation in 2024 is more strongly influenced by the rise in the price of services**, while in the period 2021-2023, the rise in the price of goods has a dominant impact.

Slower food price appreciation in 2024 is explained by the high price levels reached and more moderate price dynamics in international markets. The international impact on food prices remains positive, with the addition of domestic factors linked to increased production costs. The high starting price levels and changes in international markets also affect energy prices, causing them to fall (Figure 6). The relatively steady decline in energy prices indicates that the strong initial effect of the energy crisis on energy prices has now been overcome. Although there is still a lag effect of the crisis on transport prices, it is relatively weak.

The increase in administrative prices continues to have a pronounced stimulating effect on inflation, albeit at a lower rate than in 2022 and 2023, exceeding the overall inflation with a contribution of 0.7 p.p. This means that administrative price increases account for 26.9% of the HICP growth rate, which is its highest relative contribution over the 2021-2024 period. In the group of administrative prices, the higher growth rate (5.4%)

is for non-energy commodity prices, while for energy administrative prices it amounts to 2.3%[8].

Figure 6. Annual growth rates of energy and administrative prices (%) and contribution to the inflation rate (p.p.)



Source: Eurostat and own calculations.

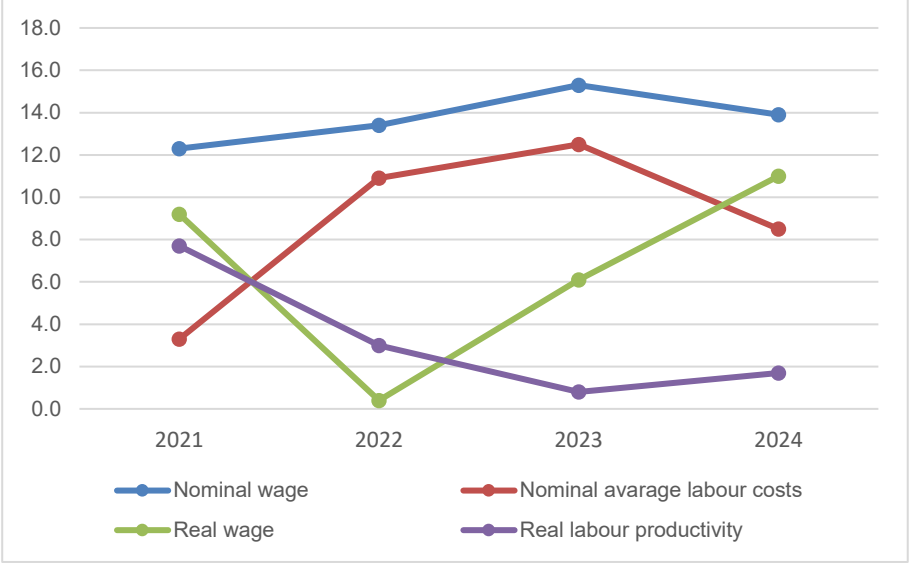
Inflation is significantly influenced by the continued substantial increase in wages (Figure 7). In nominal terms, its 14% increase corresponds to an 8.5% increase in nominal average labour costs, which, with a relatively persistent or weaker response from the allowance and other input costs, puts upward pressure on prices. These pressures are weaker than in 2022 and 2023, which can be seen as one reason for the much lower inflation. Thus, real wages are rising by 11%, which takes place while real average labour productivity is rising by only 1.7%. **The typically weak labour productivity growth in 2023 and 2024, with accelerated growth in real wages, has a depressing effect on aggregate supply and generates inflationary impulses from the production costs side.** At the same time, higher wages, combined with increased credit to the household sector, lead to higher consumption and induce demand-side inflation.

Inflation in 2024 depends mainly on the action of domestic factors. This can be gauged from the 2.5- and 2.7-times higher growth of the GDP deflator compared to the average annual HICP and the average annual CPI, respectively, and mainly from the dynamics of the import deflator and the foreign trade import price index[9]. In 2024, the import deflator increases by only 0.1%, while in 2023 it decreases by 2.4%. In contrast to the import deflator, the foreign trade import price index decreases not only in 2023 (by

[8] For more on the structural characteristics of inflation, see Kasabov, 2022.
[9] Data for the foreign trade import price index are from the NSI. They differ from the GDP deflator in the calculation of import values at CIF prices and in the elimination of some outliers.

3.7%) but also in 2024 (by 1.8%). In 2021, its dynamics are similar to those of the import deflator, and in 2022, it is lower by about 2 p.p., which is also indicative of a high import component of inflation in these years.

Figure 7. Annual growth rates of wages, nominal average labour costs and real labour productivity (%)



Source: Eurostat and own calculations.

1.4. Key parameters of the labour market in Bulgaria

In 2024, **the economically active population aged 15-64** in Bulgaria, according to the Labour Force Survey, **was 2945.6 thousand people**, with **the economic activity rate reaching 74%**. For the period 2022-2024, there was a slight decrease of 0.7% in the absolute number of economically active persons, leading to a gradual increase in the economic activity rate. The overall decrease in the number of economically active persons is mainly due to a decline in the 15-24 and 25-34 age groups. The number of young people aged 15-24 decreased by 2.9%, while the number of people aged 25-34 decreased by 4.9%. In absolute terms, the number of economically active persons in these two age groups decreases by approximately 4.5% in total (from 673.6 thousand persons in 2022 to 643.2 thousand persons in 2024). **The number of economically active persons in the age groups over 35 years remains relatively stable, changing the age structure of the labour force in favour of older groups.**

The number of employed persons aged 15-64 in Bulgaria in 2024 was 2820.8 thousand, with the employment rate reaching 71%. Between 2022 and 2024, there was a slight decline of approximately 0.7% in the absolute number of employed persons (Table 4). In contrast, the employment rate shows a smooth growth (from 70.6% in 2022 to 70.9% in 2024). This suggests a trend of a gradual decline in the country's employment

in absolute terms as a result of demographic processes and creates expectations for its sustained relative levels in the future due to labour shortages.

Table 4. Selected labour market indicators for the period 2022-2024

Indicator	Measure	2022	2023	2024
Employed persons aged 15-64	number (thousands)	2840.7	2821.7	2820.8
	coefficient (%)	70.6	70.7	70.9
Employed persons aged 65 and over	number (thousands)	99.9	110.2	112.1
	coefficient (%)	6.6	7.3	7.3
Unemployed persons aged 15-64	number (thousands)	124.7	129.7	124.8
	coefficient (%)	4.3	4.4	4.2
Share of unemployed for 12 months or more	%	54	52.3	51.6
Long-term unemployment rate	%	2.2	2.3	2.1
Labour force aged 15-64	number (thousands)	2965.4	2951.4	2945.6
	economic activity rate (%)	73.7	73.9	74.0
Persons aged 15-64 outside the labour force	Thousands	1057	1041.2	1033.3
Share of those who want to work	%	13.1	11.9	9.3

Source: NSI, Labour Force Survey.

There are clear differences in employment dynamics by age group. For the age groups between 15 and 44 years, a decline in the number of employed persons of about 4% is recorded. Age groups between 45 and 64 years saw a slight increase in the number of employed persons. **The most significant increase is observed for people aged 65 and over** (from 99.9 thousand people in 2022 to 112.1 thousand people in 2024, or an increase of 12%), which can be assessed positively insofar as it reflects the greater economic activity of older people in the labour market.

In 2024, the number of unemployed persons aged 15-64 in Bulgaria was 124.8 thousand and the unemployment rate reached 4.2%. For the period 2022-2024, the number of unemployed persons remained almost unchanged (124.7 thousand in 2022 and 124.8 thousand in 2024, representing a symbolic increase). **The unemployment rate also shows stability (4.2% in 2022 and 2024, with a slight increase to 4.4% in 2023).** These figures reflect the resilience of the labour market, with unemployment remaining at one of its lowest levels in two decades. This is happening against a backdrop of overall demographic pressures and a changing structure of the economically active population. The stability of unemployment at low levels in these conditions suggests that the leading factor in its persistence is not employment growth but rather the tight labour supply associated with the demographic shrinkage of the working-age population.

In terms of the age structure of the unemployed, in 2024, the highest number of unemployed was in the 35-44 age group (32.1 thousand people), followed by the 45-54 (31.2 thousand people) and 25-34 age groups (26 thousand people). The lowest number of unemployed was in the 15-24 age group (14.5 thousand people), but it had the highest unemployment rate (12.3%), reflecting the more difficult entry of young people into the labour market. In terms of dynamics, unemployment increased most significantly in absolute terms for the 35-44 age group (by 17.6%) and for the youngest 15-24 year olds (by 13.3%). At the same time, the 25-34, 45-54, and 55+ age groups show a decline – most significant for 25-34 (-13.6%) and 55+ (-5.6%). Similarly, unemployment rates declined for most age groups, with the exception of 15-24 and 35-44. The unemployment

rate rose for young people aged 15-24 (from 10.6% in 2022 to 12.3% in 2024) and for the 35-44 age group (from 3.5% to 4.1%).

The level of long-term unemployed with a duration of more than 12 months remained relatively stable (approximately 2%). This suggests that **reducing the overall unemployment rate needs to include better quality, integrated and effective measures targeting the long-term unemployed, who often have unfavourable characteristics in terms of sustainable employment**.

For the period 2022-2024, a reduction of 23.7 thousand inactive persons was reported (from 1.057 million in 2022 to 1.033 million in 2024). This can be seen as a positive signal of greater labour market inclusion and increased economic engagement. The largest growth in absolute and relative terms is observed for young people aged 15-24 (9.4% increase compared to 2022), while all other age groups show a decrease in the number of inactive persons. The largest decline is in the 25-34 age group (-22.6%), as well as in the 35-44 age group (by 13.5 thousand people), who are more likely to be in employment or training among those of working age. There is also a significant decrease in the 55-64 age group, where the number of inactive persons decreases by 5.5% to 250.4 thousand in 2024 as a result of the gradual increase in the retirement age.

In recent years, Bulgaria has seen a positive trend in the integration of young people who are neither in education nor employment (NEETs) and fall into the 15-29 age group. According to Eurostat, the share of this group has decreased from 14.7% in 2022 to 12.7% in 2024 and is approaching the EU average (11%). This steady trend has been observed since the peak in 2013, when the share of NEETs in Bulgaria reached 25.7% (compared to an EU-27 average of 16.4%). The positive dynamics can be interpreted as a result of increased efforts within youth employment policies, including initiatives such as the Youth Guarantee and other programmes aimed at improving skills and facilitating the transition from education to employment. However, the share of NEETs in Bulgaria remains above the EU average, underlining the need to continue and strengthen measures to support youth employment and education.

A specific group is the **discouraged (i.e., people who are not looking for work because they have lost hope that they can find a suitable job) aged 15-64, whose number in 2024 amounts to 23.2 thousand and has almost halved in two years, an** indicator of a more accessible and open labour market.

Although the number of discouraged persons is extremely low (having decreased more than 8 times in the last decade and approximately twice in the period 2022-2024 alone), this indicator can also be interpreted in another way. Over the same period, the total economically inactive population aged 15-64 has only declined by approximately 2%. This comparison gives rise to the hypothesis that **some people who previously identified themselves as discouraged are moving into the broader category of the economically inactive without demonstrating a willingness or effort to join the labour market**. Along these lines are the figures for inactive persons who want to work, whose share declines from 13.1% in 2022 to 9.3% in 2024. Thus, a low number of discouraged individuals is not always a sure sign of improvement but is sometimes an indicator of a permanent dropout from labour force participation and the inability of active policies to keep them in the labour market.

According to the Short-Term Employment and Labour Cost Statistics, **over the period 2022-2024, Bulgaria saw a gradual decline in the number of job vacancies** to 20.1 thousand in 2024. Despite the relative stability, the data show some slowdown in labour demand. **Traditionally, the largest vacancies have been recorded in manufacturing, trade, transport and communications, as well as in the hotels and restaurants sector**. These industries are not only among the largest employers but are also characterised by high dynamism and frequent turnover, which supports higher labour demand.

In addition to absolute numbers, labour demand shortages are also measured by the job vacancy rate (the proportion of unfilled positions relative to the total number of jobs). Over the period 2022-2024, this rate for all economic activities in Bulgaria fluctuated between 0.7% and 0.9%, with values remaining stable and relatively low. This reflects a limited supply of jobs but also some inertia in labour demand. The highest averages over the period were seen in public administration (approximately 2%), human health and social work (1.2%), and transportation, warehousing, and communications (1% to 1.4%). There are also relatively high levels in agriculture and forestry, and information and creative activities. **The highest vacancy rates are in sectors dependent on public funding, which is a negative signal about the economy's ability to generate new vacancies in the private sector.** This conclusion is confirmed by the NSI data, according to which in 2024, compared to 2023, the highest growth in employment by economic sector is observed in the Education sector (increase of 17.8 thousand people); the Public Administration sector (17.2 thousand people), and the Human Health and Social Work sector (6.1 thousand people). This occurs against the background of a decline in employment in the manufacturing sector (by 33.1 thousand people), in the agriculture sector (by 24.5 thousand people), and in the construction sector (by 11 thousand people).

Over the period 2022-2024**, Bulgaria experienced accelerated nominal labour cost growth**. According to Eurostat, hourly labour costs increased from €8.2 in 2022 to €10.6 in 2024, an increase of 29.3% in three years. Nominal labour cost growth was significantly above the EU average at 8.5% in 2022, 12.5% in 2023, and 10.9% in 2024. However, several countries with similar wage levels outperformed Bulgaria in terms of labour cost growth over the 2022-2024 period – these included Hungary (with a total growth of 31.8%), Romania (with 31.6%), and Croatia (with 31%), while growth was at a slower pace in Lithuania (24.4%) and Latvia (23.8%). At the same time, Bulgaria retains its status as the country with the lowest nominal labour costs in the EU, suggesting that the convergence process is continuing.

Over the period 2022-2024, Bulgaria maintained positive but moderate real labour productivity growth – 3% in 2022, 0.8% in 2023, and 1.7% in 2024. This profile is relatively stable, with no sharp fluctuations, placing the country in the middle of the ranking among CEE countries. In comparison, Poland reports steady growth of 4.1% in 2022 and 3.6% in 2024, while Romania has a peak of 4% in 2023 after a strong 2022 (3.2%) but a projected decline of -1% in 2024. Croatia is the country with the highest early growth (5% in 2022), but a decline of -2.2% is expected in 2024. Lithuania also shows volatility, with positive growth in 2022 (1%) and negative values in 2023 (-1.1%) and 2024 (-2.3%). Hungary remains with minimal growth in 2022 (0.2%), a decline in 2023 (-1.1%), but a recovery is expected in 2024 (2.6%). Slovakia performs solidly in the early part of the period (2.2% in 2022, 1.1% in 2023), but is forecast to decline again in 2024 (-1.3%).

Although **Bulgaria has shown a lower amplitude in labour productivity fluctuations, which provides it with some macroeconomic stability, albeit with a more limited potential for accelerated catch-up, the** level of labour productivity in Bulgaria remains the lowest relative to the EU average. With labour costs outpacing real labour productivity growth, Bulgaria's long-term competitiveness will depend on structural changes involving investment in human capital, technology and productive innovation.

1.5 Regional and structural imbalances in the labour market[10]

In 2024, Bulgaria's labour market continued to be marked by distinct regional imbalances related to both the size and structure of the labour force and employment and unemployment rates.

The best represented region remains the *Southwest,* where the labour force amounts to 985.8 thousand people and the economic activity rate is 76%. This confirms the role of this region as the economic engine of the country – it has high employment rates (73.8%) and the lowest unemployment rate (2.8%), although the absolute number of unemployed is the highest due to the size of the population (27.9 thousand people).

Similar stability, albeit on a smaller scale, is observed in the *South-Central* region, where the labour force is 569.7 thousand, the economic activity is 71%, the employment rate is 69%, and the unemployment rate is 3%, which outlines a relatively balanced, albeit less dynamic economic environment.

Another relatively better-performing region is the *Northeast.* It has the highest economic activity in the country (77.2%), coupled with 74.1% employment and a lower 4% average unemployment rate for a labour force of 396.2 thousand.

The Southeast region is also characterised by relative stability at 74.2% economic activity, 70.6% employment rate, and 4.9% unemployment rate.

The North-Central region shows similar levels of economic activity and employment (73% and 69% respectively) but with a higher unemployment rate (5.4%), indicating structural mismatches between labour supply and demand.

At the opposite pole is the *Northwest* region, which continues to be at a disadvantage. With a labour force of only 272.8 thousand people, this region registers the lowest economic activity rates – 70.5% and an employment rate of 63.5%. Unemployment reaches 10% and is more than twice the national average (4.2%), reflecting deep structural and demographic problems.

The analysis of regional disparities in 2024 shows a pronounced territorial imbalance. **Regions with better economic structure and investment concentration (such as the Southwest, dominated by the economic importance of Sofia city, and the Northeast) have been able to sustain higher levels of economic activity and**

[10] This analysis is based on the current NUTS2 regionalisation of the country. In the context of preparations for the new programming period after 2027, a proposal for a new territorial division has been discussed, according to which the current six regions would be restructured into four – North, East, South and Capital. This follows the Decision of the Council of Ministers of 26.03.2025, which instructs the NSI to negotiate with Eurostat on a change in the scope of NUTS2 planning regions. The expected change has the potential to correct some of the territorial imbalances described here.

employment, while the Northwest remains a vulnerable area where a weak economy, limited labour demand, and demographic erosion continue to undermine development opportunities.

Regional disparities are also evident in the wage structure, with the ratio of annual minimum-to-average wages by region a further indicator of differences in employment profiles. According to NSI data and our own calculations, in 2024 this ratio is 50% in the Northwest, North-Central, Southeast and South-Central regions and 46% in the Northeast region, suggesting relatively equal wage levels dominated by low- and medium-wage positions. A notable exception is the Southwest region due to the dominating influence of Sofia city, where the minimum wage makes up only 32% of the metropolitan average. This reflects the presence of a wider wage distribution and a higher share of high-wage positions associated with concentrated high-value-added economic activities. This further highlights the region's role as the most dynamic and economically vibrant in the country.

In addition to regional imbalances, some structural imbalances also stand out in the Bulgarian labour market. In 2024, the number of job vacancies remained relatively low, which was reflected in the direction of weaker dynamics of new labour demand. **The structure of available positions suggests some vulnerability of the labour market in terms of its efficiency and long-term potential.** On the other hand, although many employers claim that the shortage of skilled labour is a major problem (from 29.1% for trade to 43.7% for construction in April 2025, according to the NSI's Business survey in industry, construction, retail trade and the service sector), there are still few whose employees are actively participating in courses to upgrade their skills and qualifications. In 2024, the participation of employees in education and training in Bulgaria was only 2.4%, compared to an EU-27 average of 17.2%, according to Eurostat. This result ranks **Bulgaria among the countries with the lowest levels of participation in lifelong learning in the EU**. By comparison, some of the best-performing countries show significantly higher figures (Sweden – 40.8%, Finland – 30.1%, the Netherlands – 35.6%, and Denmark – 35.7%). These countries demonstrate a robust learning culture that supports the adaptation of the workforce to technological and economic change. At the same time, the low engagement of the Bulgarian workforce in learning activities beyond the initial career stage is a recurrent problem identified in previous studies and is a barrier to increasing human capital and labour adaptability (Beleva, 2023).

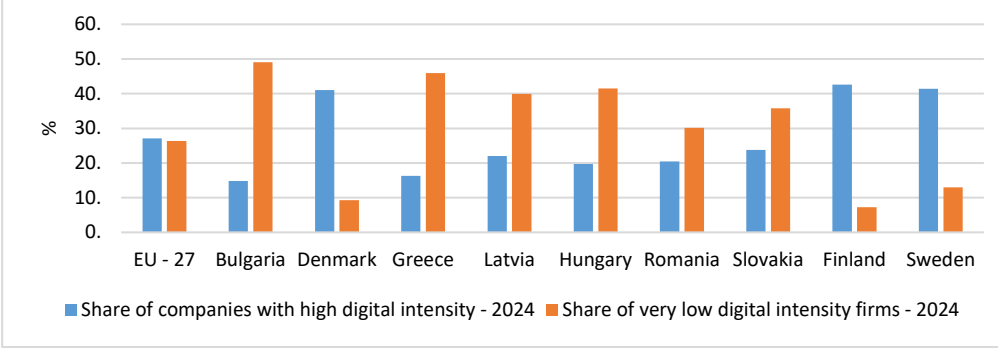
Structural imbalances can also be observed in terms of the age structure of employees. In 2024, the age structure of employees in Bulgaria clearly reflects the ageing of the workforce. The share of younger age groups is decreasing, while that of older age groups is increasing compared to 2014. In 2024, the youngest group (15-24 years) accounts for only 4% of all employees (compared to 5% in 2014). There is also a significant decline in the 25-34 age group (from 22% in 2014 to 17% in 2024), while the 45-54 and 55-64 age groups see growth over this period (from 25% to 29% and from 17% to 21%, respectively). Even among people over 65 years of age, participation doubles (from 2% to 4%).

Another problem is the limited readiness of the Bulgarian labour market for digital transformation compared to the EU average. According to the latest Eurostat data, in 2023, only 35.5% of Bulgarians aged 16-74 had at least basic digital skills (compared to the EU average of 55.6%). Bulgaria is among the countries with the lowest levels in the

EU, far behind leading economies such as Finland (79.5%), the Netherlands (78.9%), and Denmark (69.6%).

A similar pattern is observed at the enterprise level (Figure 8). In 2024, only 14.8% of firms in Bulgaria fall into the high digital intensity category (compared to an EU average of 27.1%). 49.1% of the country's enterprises have very low digital intensity (almost double the EU average of 26.4%). This puts Bulgaria among the countries with the lowest digital readiness at both the human capital and business levels. **The low share of digitally prepared people and low technology penetration in enterprises are key barriers to successful digital transformation**. To achieve sustainable modernisation, accelerated investment in digital skills and support for small and medium-sized enterprises (SMEs) in the digitalisation process is needed.

Figure 8. Proportion of firms with more than 10 people with high and very low digital intensity



Source: Eurostat, Digital Intensity by NACE Rev. 2 activity.

1.6. Potential employment reserves in the labour market

According to the NSI, there are three groups that have the potential to feed the labour market with additional labour: 1) persons who are underemployed but willing and ready to work more; 2) persons looking for work but not ready to start immediately; 3) persons not willing to work but ready to start if offered a suitable opportunity.

In 2024, the number of *persons who are underemployed but willing and ready to work more* was 10.3 thousand persons (a decrease of 1,300 persons compared to 2022). These individuals are already partially participating in the labour market but have the potential for further inclusion. The decrease could be interpreted as a sign of a shift towards fuller employment or as a limitation of additional job opportunities.

Between 2022 and 2024, the group of *job seekers who are not ready to start immediately* remained relatively stable in terms of numbers (12.7 thousand in 2022 and 13.6 thousand in 2024). Reasons for not being ready to start work may be related to health, family, logistical or other temporary constraints, and these individuals remain close to the labour market but with lower activity.

The third group with the potential to join the labour market are those *who do not want to work but are willing to start if offered a suitable opportunity*. The number of these

individuals is decreasing significantly (from 85.7 thousand in 2022 to 46.8 thousand in 2024). The decline of 45.4% can be seen in two ways – on the one hand, as a sign of activation of some of these people and their inclusion in employment, but on the other hand, as a possibility that some of them have dropped out of the labour market and have gone into permanent inactivity.

These three groups are formally seen as a potential reserve for the labour market, but their scale remains relatively limited against the background of overall employment and the needs of the economy. A considerably larger reserve lies in ***the group of economically inactive persons***, which merits further analysis by key subgroups. These are: young people aged 15-24 and students; adults aged 65+; people with disabilities; mothers with children and carers; and part-time workers.

Young people aged 15-24, including students

Among the subgroups represented, the situation is particularly striking for young people aged 15-24. Eurostat data for 2024 show clear differences between Bulgaria and the EU average in terms of labour market participation of young people (15-24 years). While the EU average employment rate in this age group is 35%, in Bulgaria it is only 17.3%. The picture is similar for economic activity (41.1% for the EU vs. 19.7% for Bulgaria). This means that **less than 1/4 of young people in Bulgaria are actively participating in the labour market**. It is particularly worrying that Bulgaria has the highest share of inactive young people among the countries considered – 80.3% of the population aged 15-24 are neither in employment nor actively seeking work (vs. 58.9% EU average).

The comparison with countries with high levels of youth participation (such as the Netherlands, Denmark and Switzerland) highlights even more clearly the scale of this challenge facing Bulgaria. In the Netherlands, youth employment participation reaches 76% and economic activity is 83.2%, with an inactivity rate of only 16.8%. Denmark and Switzerland also report significantly better results. Closer to Bulgaria are countries such as Greece, Italy and Romania, which are also characterised by low employment and high inactivity. In Greece, youth employment is 18.5%, in Italy 19.7%, and in Romania 19.2%. Economic activity in these countries ranges between 23.8% and 25.3%, while inactivity rates exceed 74.7%. However, **Bulgaria remains among the countries with the most unfavourable indicators and with a need for targeted measures to activate young people and their sustainable inclusion in the labour market.**

Considering the youth employment figures for Bulgaria (17.3% in 2024), as well as the EU figures (35%) and especially the highest figure for the Netherlands (76%), and assuming that the country can aim for results in this range, the potential for additional youth employment is significant. Estimates show that **if employment rates were to improve to the EU average, Bulgaria could engage an additional 107,916 young people.** With results similar to the Netherlands, the potential rises to 357,891.[11] It is important to underline that when referring to the labour market participation of these young people, a broader understanding is not necessarily referring to standard full-time employment but includes part-time, seasonal, casual or project work, as well as other

[11] The calculations are based on a total population aged 15-24 of 609 696 (according to NSI data for 2024).

new and flexible forms of employment tailored to the needs and opportunities of this age group.

Adults aged 65+

Based on Eurostat data for 2024, **the average employment rate among people aged 65+ in the EU is 6.7%, while in Bulgaria it is 7.3%. This puts the country slightly above the average, but far from the leading countries.** By comparison, Iceland, although small in population, is the leader (22.1%), followed by Estonia (18.3%), Latvia (15%), Ireland (14.5%), Sweden (13.7%), Norway (13.6%), and Lithuania (13.2%). Significantly lower employment rates among the over-65s were observed in Romania (2.2%), France (4.3%), and Belgium (3.7%). This puts Bulgaria closer to the more active Northern European countries than to countries with minimal participation of the elderly in employment, which is a positive signal in the context of an ageing population and limited labour resources. However, the gap with the leading examples in Europe remains significant, suggesting untapped potential and the need for additional (voluntary) policies to promote employment among older people, including by improving health status, working conditions, adapting the working environment and implementing flexible forms of employment for people of retirement age.

With a reference employment rate of around 14% (observed in countries such as Sweden, Norway, Latvia and Lithuania), there is potential for additional growth of approximately 7%. With a total population aged 65+ in 2024, according to NSI data of 1,544,245, this equates to approximately 108 thousand people who could be attracted into employment – not only standard but also flexible.

People with disabilities

According to Eurostat data for 2024, the participation of people with disabilities[12] in the labour market in Bulgaria is low compared to the EU average. Economic activity among disabled people in the 15-64 age group in Bulgaria is only 11.3% (compared to an EU average of 55.5%). This puts the country in last place in the EU, far behind countries such as Finland (72%), Estonia (69.9%), Denmark (60%) and the Netherlands (64.4%). At the same time, the **share of economically inactive people with disabilities in Bulgaria reaches 88.7%, almost double the EU average** (44.5%).

The gap in employment rates between people with and without disabilities – the so-called employment gap – is also extremely high in Bulgaria, reaching 35.4 p.p. (2024). This places it among the worst-performing countries, alongside Ireland (38.2 p.p.) and Belgium (33.5 p.p.). By comparison, the lowest employment disparities are found in Luxembourg (19.1 p.p.), the Netherlands (20.9 p.p.) and Finland (20.4 p.p.), where inclusion of people with disabilities is significantly more effective.

[12] According to the Eurostat methodology, a person with a disability is considered to be anyone who reports limitations in usual activities due to health problems, distinguishing between two degrees – a limitation to some extent and a severe limitation.

According to NSI data from 2019, there are 227 thousand people in the country[13], certified by the Labour Expert Medical Commission (TELC) with more than 50% permanently reduced working capacity, of which only 49.7 thousand people employed and merely 4 thousand people unemployed, which means that approximately 180 thousand people (76%) are economically inactive[14]**. If Bulgaria manages to reduce the level of economic inactivity to the EU average (45%), this would open up the potential for inclusion of an additional 90-100 thousand people with disabilities of working age.** This requires targeted and sustainable policies[15], such as adapting the working environment, incentives for employers, developing supported employment services and improving coordination between institutions to overcome barriers to employment for this vulnerable group.

Inactive persons due to family and personal reasons

Persons aged 15-64 out of the labour force for family and personal reasons represent another potential group for labour market activation. According to NSI data for 2024, they number 238 thousand people, of whom 172 thousand are women. The main reasons for their inactivity are often related to caring for children, elderly or sick family members, highlighting the need for better care services and work-life balance measures. If provided, these could motivate a return to the labour market of some of this group of working age.

Part-time employment

All of the potential labour market groups mentioned above could benefit from more flexible forms of employment, especially part-time work, a form of employment that currently remains underdeveloped in Bulgaria.

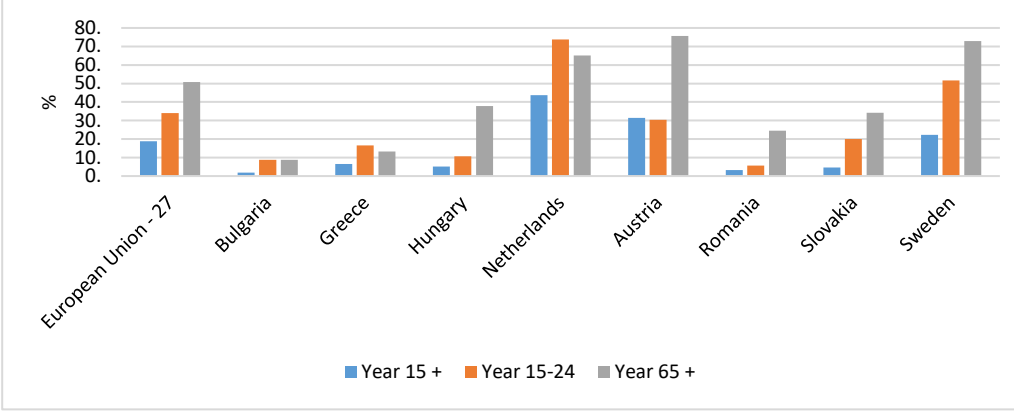
According to Eurostat data for 2024, the share of part-time workers among all persons aged 15+ in the EU is on average 18.8% (Figure 9). This share reflects the flexibility of the labour market and the opportunities to combine work with education, care or transition to retirement. **In Bulgaria, only 1.8% of employees work part-time or reduced hours –** one of the lowest rates in the EU, together with Slovakia and Romania. By comparison, this model is deeply integrated into the work culture in the Netherlands (43.7%) and Austria (31.5%).

Particularly strong differences are observed for specific age groups. Among young people aged 15-24, the EU average is 34%, while in Bulgaria only 8.7% of young people work part-time (compared to 5.7% in Romania and 10.6% in Hungary). Flexible employment is widely used by young people as a transition between education and work in the Netherlands (73.8%) and Sweden (51.6%).

[13] These data are confirmed by the 2021 Population Census, which estimates that the working-age population aged 16 and over with a permanent disability of more than 50% amounts to 240 672 persons, and persons over working age with a degree of disability of over 50% are 337 845 persons.
[14] World Bank (2022). Disability Inclusion and Social Protection in Europe and Central Asia: Key Findings and Ways Forward.
[15] Policy suggestions are also contained in Analysis of Labour Market Integration of Persons with Disabilities: Measures, Incentives and Challenges, developed in 2023 by the Economic and Social Council.

The situation is similar for people aged 65+. In the EU, on average, 50.8% of employees in this age group work part-time, while in Bulgaria, the share is only 8.8%. The country ranks last, alongside Greece (13.3%). On the other hand, this is a common form of post-retirement employment in Sweden (73%) and Austria (75.7%).

Figure 9. Part-time employment in 2024 (% of total employment by age)



Source: NSI, Labour Force Survey.

These data show that hourly and flexible employment is underdeveloped in Bulgaria, especially among young people, the elderly and other vulnerable groups (such as people with disabilities). The development of part-time employment (through more flexible regulations, incentives for employers and supported employment services) could significantly improve the labour market inclusion of these groups. This would create opportunities for additional earnings, social activity and smoother transitions between stages of working life.

Despite the identified potential reserves in the labour market, their activation requires significant efforts and resources, including the need for a qualitative transformation of active employment policies. This is conditioned by the fact that these groups form a relatively stable part of the inactive population in the long term. The analysis of Lukanova and Hubenova (2024) shows that in Bulgaria transitions from inactivity to employment or unemployment are significantly less frequent compared to the EU average, which indicates lower mobility and a more closed labour market, especially for these inactive segments of the working-age population.

1.7. Prospects for real sector and labour market developments in the short term

A slight slowdown in economic growth is expected in 2025 compared to the recorded growth in 2024. Externally, these expectations are conditioned by the situation of Bulgaria's main trading partners – the slow recovery of Germany's economy and the slowdown in Romania's growth due to the additional tariffs on imports introduced by the US, which will limit the scope for faster growth in external demand. Economic growth will also depend on political stability and the stabilisation of expectations of economic agents. Favourable external factors could be a reduction in tensions in the Middle East and a

resolution of the military conflict in Ukraine, and in economic terms – a more favourable development of the European economy than expected, as well as a fall in oil prices. **A positive impact will come from imminent euro area accession, which is likely to manifest itself towards the end of 2025 and be amplified thereafter as a result of income convergence.** The increase in public sector wages and their impact on the private sector will lead to a continued increase in average labour costs, as well as an increase in household consumption, which will maintain its demand-side leading contribution to growth. **The delayed absorption of NRRP funds will contribute to the low investment activity in early 2025 and its acceleration thereafter, especially with a positive convergence report from the EC and ECB.** Public consumption growth is projected to be relatively stable with a declining impact on GDP growth compared to 2024. Export growth rates are expected to be positive but lower than import growth, and the external trade balance is expected to be a negative contributor to growth.

Inflation is projected to rise slightly in 2025 as a result of accelerating price dynamics globally and in the EU following increased tariffs in the US. Inflation-stabilising factors are the expected decline in oil prices and lower prices of imported food. Domestic factors related to the increase in government revenues, the rise in excise duties on alcoholic beverages and tobacco, and the price of electricity for household consumers will have a determining impact. A means of containing inflation is continued compensation for high electricity prices to non-household consumers, which prevents their pass-through to consumer prices. In such a scenario and in the absence of stronger external shocks, inflation would be lower in the first half of 2025 and would accelerate in the second half and early 2026**. With euro area membership from the beginning of 2026, this factor would be compounded by the traditional initial price effect associated with the adoption of the single currency, which should be relatively short-lived.**

In the short term, Bulgaria's accession to the euro area is not expected to cause serious labour market shocks. Croatia's experience shows that the effects on employment and wages in the immediate aftermath of the changeover are limited. With the changeover to the euro, it becomes easier for employees from other countries (especially euro area countries) to assess the real value of wages in Bulgaria. This can facilitate both the attraction of foreign labour and the retention of Bulgarian employees. Some sectors (such as tourism) may see a slight increase in prices and tourist arrivals after the introduction of the euro, leading to increased revenues and, in some cases, the possibility of higher bonuses and wages. Full Schengen accession from early 2025 also has an impact in this respect.

In the long run, the impact on the labour market will depend on a number of interrelated factors – the country's ability to attract sustainable investment, labour productivity growth rates, the quality of institutions and the effectiveness of the employment policies implemented. **The euro area creates a predictable macroeconomic environment that can accelerate wage convergence and create new jobs, especially in export-oriented and innovative sectors of the economy. But the benefits are not automatic – they require active government policy, education reforms to focus on practical skills, flexible labour markets, and restructuring in favour of higher value-added sectors.** While positive in potential, the long-term effect of euro area accession on the Bulgarian labour market will depend primarily on the country's capacity to exploit the opportunities presented to it.

2. Public Finances and Fiscal Sustainability

Fiscal sector processes are analysed in the context of the assessment of the fulfilment of the Maastricht criteria on the budget deficit and government debt as an important condition for Bulgaria's accession to the euro area as of 1 January 2026. The dynamics of the budget parameters in 2024 are monitored, taking into account the planned revenues and expenditures in the medium-term budget framework (MTBF) for 2025-2028, assessing the impact of tax policy on revenues and public policies on expenditures, as well as the extent to which the reported cash expenditures under the Consolidated Fiscal Program (CFP) and outstanding liabilities in 2024 may affect the fiscal deficit for 2025. The changes that need to occur in fiscal policy are highlighted as a priority in order for Bulgaria to maintain the sustainability of its public finances in the medium term. The absorption of the National Recovery and Resilience Plan (NRRP) funds by August 2026 and the 2021-2027 EU Partnership Agreement are seen as a fiscal stimulus for both to accelerate economic growth and to increase budgetary allocations for policies related to improving the quality of human capital and the well-being of the population. The European Commission's proposal to increase defence spending in EU Member States is discussed, based on the new EU White Paper on Defence and the new ReArm Europe Plan initiative and their deficit impact derogation under the Stability and Growth Pact (SGP).

2.1. Fiscal sustainability and Bulgaria's euro area membership

European legislation coming into force in 2024, linked to the adoption of the reformed EU economic governance framework, expands the time horizon, rules and quality requirements for Member States' budgetary frameworks. The medium-term fiscal framework is extended from three to four years. This aims to align fiscal policy and the parameters of the budgetary framework with the priorities of preserving fiscal sustainability in the medium term through revenue measures and expenditure policies, ensuring a move towards a fiscal balance. Bulgaria's medium-term fiscal framework for the period 2025-2028 is reflected by the European Commission as part of the convergence report, assessing Bulgaria's readiness to join the euro area. Therefore, not only the implementation for 2024 but also the set budgetary parameters and policies for 2025-2028 should provide certainty for compliance with the Maastricht criteria in the medium term.

In the updated MTBF for the 2025-2028 period, the general government accrued deficit is within the 3% of GDP benchmark, with a downward trend to 2.2% in 2028, a sign of gradual fiscal consolidation over the medium term. The government's MTBF document proposes a cash deficit of around 3% of GDP for 2025-2026 and a reduction to 2.7% and 2.4% in 2027 and 2028. With a fiscal policy with a four-year horizon, Bulgaria's fiscal frameworks should be consistent with achieving a balanced budget with fiscal policy changes in the revenue and expenditure sides of the CFP, providing budget revenues net of European funding and approaching a public expenditure rate of 40% of GDP.

The new economic governance framework introduces the indicator "net nationally financed primary expenditure" as a key indicator for assessing the predictability of public expenditure and the sustainability of the structural fiscal deficit. Their level

should be sustainable in order to achieve the medium-term budgetary balance objectives and to maintain a low level of general government debt in line with the Maastricht criteria. For the first time, in September 2024, Member States presented National Medium-Term Fiscal-Structural Plans. At the Eurogroup meeting of euro area Member States on 17 February 2025, the Minister of Finance presented the country's readiness to join the euro area as of 1 January 2026. At the end of February 2025, the Government sent the National Medium-Term Fiscal-Structural Plan 2025-2028 and a request for the preparation of ad hoc convergence reports.

After joining the euro area, another important change in the government budget will be the country's contribution to the capital of the European Stability Mechanism (ESM).[16] For euro area Member States with a GDP per capita lower than 75% of the EU average, a temporary adjusted key is used to determine the contribution for a period of 12 years from the date of euro adoption. The allocation among euro area Member States of their contributions to the ESM's capital is based on the key for their paid-up capital at the European Central Bank. Bulgaria's indicative adjusted capital contribution to the ESM is estimated to total BGN 1.1 billion, payable in equal annual installments over the first five years of Bulgaria's accession to the euro area.

A new element in the fiscal framework for the period 2026-2029 will be the increase in defence spending, with a derogation for its reporting under the SGP. Following the change in US foreign policy regarding the military conflict in Ukraine, the EC has complemented the EU Defence and Security Strategy[17] with a new ReArm Europe programme. The European Commission's March 2025 proposal provides for an additional €800 billion over four years, €150 billion of which in loans to Member States through the new Security Action for Europe (SAFE) financing facility via the European Investment Bank, and €650 billion through national investments in their defence industries. The new instrument will be set up under Article 122 of the EU Treaty, which allows the EU to provide financial assistance to a Member State facing "severe difficulties caused by natural disasters or exceptional occurrences beyond its control" without the approval of the European Parliament. The EC proposes a derogation for defence spending, and that it should have a neutral impact on the Maastricht deficit calculation. This is expected to enable Member States to provide the necessary defence and security funding through EU and national funding without affecting the budget deficit in a negative way. On the other hand, if these expenditures are financed through public debt, they inevitably increase the country's indebtedness. The European Commission's proposal is for 'controlled use' of the exemption clause. It is discussed that the deficit of the Member States can increase by 1.5 p.p. above the current level of 3% of GDP, provided that the additional spending is spent only on defence.[18] The Bulgarian government proposes that unspent EU funds under the Recovery and Resilience Facility (RRF) from Member States could be used for defence investment.

[16] It is an international financial institution whose function is to mobilise funding and provide financial assistance in the form of loans on strict conditions for the benefit of euro area Member States that are experiencing or threatened with serious financing problems, with the aim of preserving the financial stability of the euro area as a whole.

[17] European Commission. (2024). Report: Safer Together – Strengthening Europe's Civilian and Military Preparedness and Readiness, https://commission.europa.eu/priorities-2024-2029/security-and-defence_en.

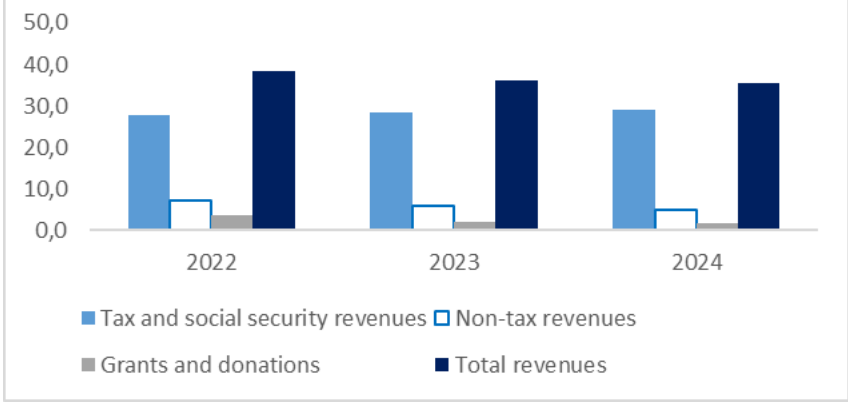
[18] Euro News, https://www.euronews.com/my-europe/2025/03/04/von-der-leyen-pitches-800bn-defence-package-ahead-of-eu-leaders-summit.

Research by the ERI at the Bulgarian Academy of Sciences analyses in a comprehensive way the advantages and challenges Bulgaria faces from the euro area membership. The studies critically analyse the fulfilment of the Maastricht criteria during the ERM II stay, the preparedness of the institutions, the legal framework and the communication strategy for the introduction of the euro as a payment unit. It is stressed that membership in the euro area is an opportunity to strengthen convergence, integration, stability and prosperity of the country, but among the important conditions is the pursuit of sound economic and fiscal policies to ensure accelerated economic growth (ERI at BAS, 2023; Rangelova et al., 2023).

2.2 Budget revenues and tax policy

Total budget revenues under the CFP for 2024 amounted to BGN 72 billion, or 35.6% of GDP. They recorded a nominal increase of BGN 5 billion compared to 2023, but failed to fulfil the plan by BGN 5.6 billion. The reported reduction in total budget revenues as a share of GDP of 0.6 p.p. compared to 2023 (Figure 10) constrains financial resources for public spending. That is also applied to public investments through national and EU grant funding from the EU programmes and funds in 2024, as a year in the middle of the EU Multiannual Financial Framework (MFF) 2021-2027. The second and third tranches of the Recovery and Resilience Facility were planned but not received in 2024. The significant decrease in non-tax revenue as a share of GDP by 1.1 p.p. compared to 2023 was due to the reduction in revenues from greenhouse gas emission allowances, concessions and other state and municipal tax revenues. These revenues need to be carefully planned and tax policy changes implemented to ensure sustainable revenues for nationally financed expenditure up to 40% of GDP.

Figure 10. Budget revenues for 2022-2024 (% of GDP)

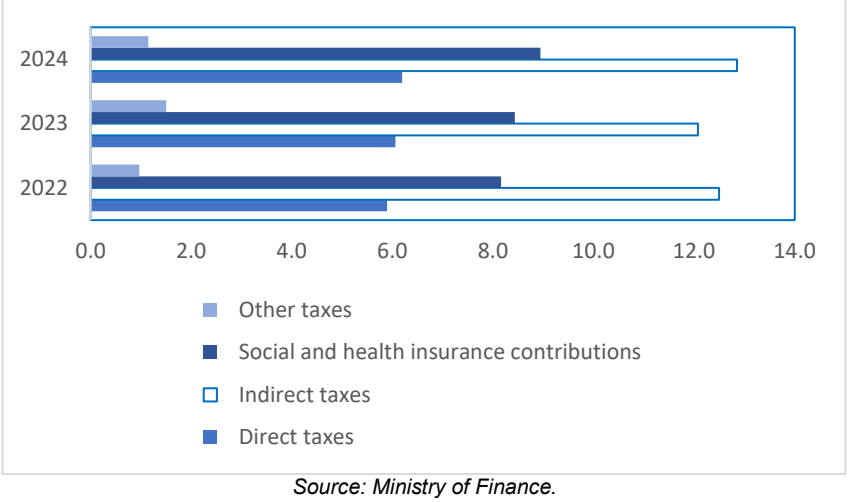


Source: Ministry of Finance.

Tax and social security revenues amounted to BGN 58.7 billion for 2024 and accounted for 29.1% of GDP. Despite the nominal growth, tax and social security revenues were realised as about BGN 1.5 billion less than planned (Figure 11). Tax policy remained unchanged in 2024 in terms of the main rates of direct and indirect taxes, but a number of tax reductions helped to reduce indirect taxes as a share of GDP by around 1

p.p. relative to the pre-COVID-19 crisis period. The increase in the share of direct taxes in the tax revenue structure (by around 0.6 p.p. in 2024) was in line with reaching the European average levels of taxation.

Figure 11. Main tax and social security revenue groups (% of GDP)



Source: Ministry of Finance.

In line with European legislation and with a view to converging to the European average levels of taxation, additional changes were introduced in tax policy in 2024, some of them reducing direct tax revenues and others increasing indirect tax revenues. The main changes were related to an increase in the threshold for registration under the VAT Act in order to meet European requirements, for which Bulgaria has obtained a temporary derogation[19]; an increase in the legally recognised costs of the activity of freelancing, which reduced the taxable income from the exercise of the specific activity; an increase in the excise duty rates on tobacco substitutes and on e-cigarette liquids, regardless of whether they contain nicotine; the use of increased tax allowances for children[20]; application of the introduced temporary solidarity contribution, which is paid for excess profits generated by EU's companies and economic activity sites, operating in the crude oil, natural gas, coal and oil refining sectors[21].

Direct tax revenues grew by 11.2% on an annual basis (BGN 12.5 billion). The main factors for the increase in direct tax revenues were related to the increase of the minimum wage to BGN 933 (by 19.6% compared to 2023) as of 1 January 2024, higher wages in the public sector, as well as an increase in the maximum social security threshold from

[19] The EU decision to allow the Republic of Bulgaria to derogate from Council Directive 2006/112/EC of 28.11.2006 on the common system of value added tax was adopted by the Council of the EU on 14.11.2022 and published in the Official Journal of the EU on 17.11.2022 (L 297/69).
[20] Under Articles 22c and 22d of the Personal Income Tax Act at the rate of BGN 6,000 per year for one under-age child, BGN 12,000 for two under-age children, BGN 18,000 for three or more under-age children and, respectively, BGN 12,000 per year for children with disabilities, with the possibility of advance use during the year.
[21] The modalities and implementation of Chapter III of Council Regulation (EU) 2022/1854 of 06.10.2022 on emergency intervention to tackle high energy prices are regulated in the Corporate Income Tax Act (CITA).

BGN 3,400 to BGN 3,750. The higher minimum wage led to an increase in the minimum social insurance threshold, which had a positive effect on direct tax revenues. Corporate revenues, which include corporate tax and taxes on dividends, liquidation shares and income of domestic and foreign legal entities, were negatively affected by the tax relief for SMEs through the shift of corporate tax from the central to local level.[22] That was a positive measure to increase investment in municipalities with higher-than-average unemployment in the country, financed at the expense of the EU Next Generation EU funds. Tax breaks for families with children and children with disabilities are another important measure to tackle negative demographic trends and stimulate fertility, but have a negative impact on direct tax revenues. Other income policies that reduce direct tax revenues are related to food vouchers, which became electronic since 1 January 2024. The total food voucher allowance for 2024 was increased to BGN 1.6 billion, reducing direct tax receipts by around BGN 160 million. Despite the introduction of a national surtax for multinational enterprise groups (MNEs) in connection with Council Directive (EU) 2022/2523 of 14 December 2022 to ensure a global minimum level of taxation for MNEs and large-scale domestic groups in the EU, the effect of its introduction is expected after 2024.

Indirect tax revenues grew by 13.8% year-on-year to €25.9 billion in 2024. In 2024, the VAT rate for the general tourism service was restored, which had a positive impact on indirect tax revenues. Continued tax relief for bread and bakery products (zero VAT rate) and for restaurants (9% VAT rate) is abolished in 2025, an important measure to restore fair taxation for all businesses. As a permanent measure, the reduced VAT rate (of 9%) on the supply of books, food suitable for babies or small children, and baby nappies and similar hygiene items also reduced indirect tax revenues. Despite these tax reductions, increased household consumption resulting from higher incomes and inflation contributes to an increase in nominal VAT and excise revenue. The increase in excise duty rates for all tobacco products with the introduction of an excise duty calendar for four years ahead, starting from 1 March 2023, had a positive effect on excise revenue. The aim was a balanced increase in the minimum excise duty on cigarettes and other categories of tobacco products, including e-cigarette liquids containing nicotine. The abolition of the temporary measure of exemption from excise duty on electricity, LPG and natural gas used as motor fuel, in accordance with Article 15 of Council Directive 2003/96/EC of 27 October 2003, restructuring the Community framework for the taxation of energy products and electricity, also contributed positively.

Revenues from other taxes reached BGN 2.3 billion in 2024, decreasing by BGN 0.5 billion compared to 2023. Although other taxes[23] were introduced under the Corporate Income Tax Act to offset the contribution made from the excess profits generated by Regulation (EU) 2022/1854 companies operating in the crude oil, natural gas, coal and refining sectors, their revenue did not offset the abolition of the "obligations to society" charge (it is reported as non-tax revenue, which is reflected in a decrease in both non-tax and total revenues in 2024). The revenues of the Electricity System Security Fund budget

[22] On 06.06.2023, a positive decision of the EC was issued on compliance with the Regional State Aid Guidelines (2021/C 153/01) for the application of a new tax relief scheme pursuant to Article 184 in conjunction with Article 189 of the TCGA, to be applied until 31.12.2027.

[23] These taxes replace the revenues from the "obligations to society" charge spent as subsidies to compensate for high energy prices in 2022.

from the new taxes amounted to BGN 600 million, which was BGN 300 million less than the revenues received in 2023.

The deterioration of the Corruption Perceptions Index in Transparency International's 2024 survey[24] shows the need for expansion of e-services and digitalisation of fiscal control, including for high fiscal risk goods. This can contribute to increasing the effectiveness of prevention and counteraction against tax fraud and evasion and tax avoidance. The exchange of information on cross-border payments is a good measure to increase controls in order to properly account for and charge VAT on e-commerce in the EU and to reinforce controls on excise warehouses.

Revenues from social security and health insurance contributions amounted to 18 billion, increasing by 2.4 billion in 2024. The growing share of social security revenues in the budget revenue structure had a positive effect on total revenues, but the challenges of covering the needs of the pension system require additional unpopular measures, such as a gradual increase in social security contributions and in the maximum insurable income, which are foreseen in the MTBF for 2025-2028. Attracting additional labour from third countries in certain sectors with labour shortages would provide additional resources for the pension system and public finances in the medium term.

Non-tax revenue of BGN 9.7 billion for 2024 recorded a decrease of BGN 1.2 billion vs. 2023. The underperformance of BGN 600 million compared to what was planned in the medium-term budgetary framework indicates an unjustified overestimation of non-tax revenue levels in the planning. Revenues from the sale of greenhouse gas emission allowances were reported much lower, but other non-tax revenues from state, municipal and court fees, tolls, property revenues and income, and concession revenues were also overestimated in the MTBF for 2024-2026. The sale of greenhouse gas emission allowances was influenced by the trend in allowance prices and the projected net quantities of greenhouse gas emission allowances that Bulgaria realises on the European Energy Exchange.

Grants and donations amounted to BGN 3.5 billion for 2024. Although they went down by BGN 400 million from 2023, the main revenues were from EU grants, which had been clearly overestimated, including the unreceived second and third tranches under the Recovery and Resilience Facility (RRF). The unsatisfactory implementation of the projects financed under the 2021-2027 Partnership Agreement also highlights significant capacity issues for the administration and beneficiaries.

Both the European Commission, in its reports on Bulgaria, published as part of the European Semester[25], and the International Monetary Fund (IMF)'s 2024 Article IV Consultation Report on Bulgaria underline the **need to change tax policy and reconsider proportional income taxation in order for the country to tackle inequality**.[26] A review of direct tax rates to increase the equity of the tax system and have a greater impact on inequality is also recommended in the World Bank's Public Finance

[24] In 2024, Bulgaria received 43 points (compared to 45 points in 2023), ranking 67th out of 180 places in the world ranking and second to last in the EU – ahead of Hungary, which received 42 points. Transparency International official website, https://transparency.bg/coming-corruption-perception-index-2024/.
[25] European Commission (2024). Country Report Bulgaria 2024, SWD (2024) 602 final.
[26] IMF Executive Board Concludes 2024 Article IV Consultation with Bulgaria.

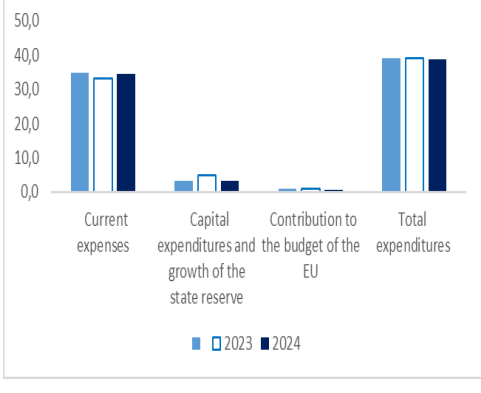
Review of Bulgaria.[27] The latest Organisation for Economic Co-operation and Development (OECD) 2023 Review of Bulgaria draws attention to the need to finance the growing cost pressures associated with ageing, infrastructure and workforce skills through more efficient tax collection and higher environmental taxes.[28]

2.3. Budget expenditure and spending policy

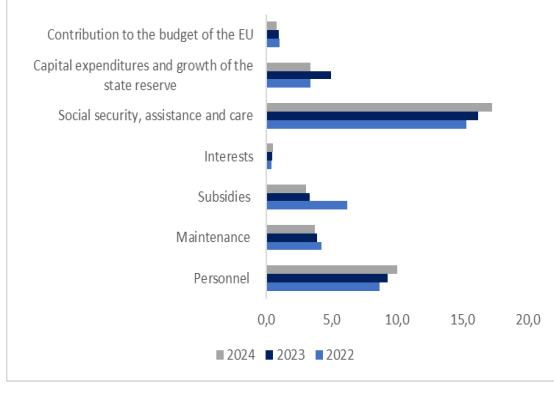
In 2024, total budget expenditures under the CFP were BGN 78.2 billion (38.8% of GDP), which is BGN 5.6 billion less than planned in the MTBF for 2024-2026 (Figure 12). The underperformance of planned CFP revenues, especially capital expenditure and EU-funded projects, affected expenditure performance. The expenditure underperformance in 2024 was also used as a buffer to meet the target level of a cash fiscal deficit of BGN 6.1 billion (3% of GDP planned in the MTBF), but had a negative impact on public investment and economic growth. There was also a continued increase in personnel expenditure as a share of GDP and in total expenditure, which was no longer offset by a reduction in maintenance expenditure.

Figure 12. Budget expenditure for the period 2022-2024 (% of GDP)

a) Main groups of budget expenditures



b) Budget expenditures by economic categories



Source: Ministry of Finance.

Personnel expenditure recorded BGN 20.2 billion for 2024 (10% of GDP and 25.9% of total expenditure), which was BGN 2 billion more than planned in the MRBF for 2024-2026. The negative trend of increasing expenditure on administration required optimising its size and efficiency by promoting and introducing access with electronic identification (eID) by businesses and the population to electronic public services at the central and local levels. Electronic identification of all EU citizens is a priority by 2030, and Bulgaria (with 10%) is among the countries with the lowest level of use of e-public services by business and population. On the other hand, e-public services have reached

[27] World Bank. (2023). Bulgaria Public Finance Review 2023.
[28] OECD. (2023). OECD Economic Surveys: Bulgaria 2023.

77.2% in terms of digitalisation (92% for businesses and 67.5% for citizens), compared to 79% for the EU (85.4% for businesses and 79.4% for citizens).[29]

Full electronic identification of businesses and citizens would allow the use of e-public services, which would naturally lead to the dropping out of paper documents and reducing the public administration. Direct communication with the tax, customs and other state and municipal administrations should be reduced to the minimum, which would also be the most effective measure to fight corruption. The digitalisation of public services and the electronic identification of businesses and citizens are among the effective measures to reduce the number of staff in the public sector and the pressure on overall budget expenditure while gradually bringing salaries closer to average European standards. Investment in public infrastructure is also a necessary measure to improve the quality of public services.

For social security, assistance and care services, the government spent BGN 34.8 billion for 2024 (17.3% of GDP and 44.6% of total spending), up by BGN 4.7 billion on an annual basis. It is worrying that there is a sustained upward trend in social spending compared to 2023 – both as a proportion of GDP (by 1 p.p.) and as a share of total spending (by 3.2 p.p.). Increases in spending on social security, assistance and care, and tackling fuel poverty are necessary public policies to gradually move towards European average standards (Peneva, 2024), the financing of which must be secured through appropriate revenue measures. The persistent trend of population ageing requires urgent and adequate measures to ensure the stability of the pension system. The permanent net migration of Bulgarian citizens should be replaced by a skilled workforce with an appropriate professional profile, which would ensure the stability of the labour market and, through it, the sustainability of social security revenues and the fiscal position in the medium term.

State subsidies remained at the same level as in 2023 at BGN 6.1 billion (3% of GDP and 7.8% of total expenditure). A large part of the state subsidies were health insurance payments, which were provided to hospitals for health services rendered through the National Health Insurance Fund (NHIF), as well as funds that state-owned enterprises and the private sector received from EU grants and funds for the NRRP and other European projects. A major contributor to the reduction in subsidies in 2023-2024 compared to 2022 was the change in the compensation mechanism for business and residential electricity customers.

Interest expenditures amounted to BGN 1 billion for 2024 (0.5% of GDP and 1.3% of total expenditure), up by BGN 170 million compared to 2023. The gradual rise in interest expenditure limits the financial resources of the CFP for other important expenditures, and only fiscal consolidation through revenue or expenditure measures can stop the increase in government debt and its servicing costs. Interest expenditures on domestic government debt were kept as a proportion of GDP, while those on external government debt were increased by 0.1 p.p. In 2024, there was little change in the interest rate and currency composition of government debt with the issuance of US dollar-denominated bonds, while the prevalence of fixed-rate debt obligations of the central

[29] EU Digital Decade (2024).

government subsector was maintained.[30] The maintenance of a Baa1 investment-grade credit rating with a stable outlook and recent credit agency assessments continues to ensure low interest rates for euro government bond issues in international markets. **With the change in interest rates in global markets and euro area membership, interest expenditures are expected to increase**. **However, greater government debt borrowing to finance the planned deficits in 2025-2028 could be at a declining risk premium if the country joins the euro area and maintains fiscal discipline.**

Capital expenditure of BGN 6.8 billion for 2024 recorded a decrease of BGN 2.4 billion on an annual basis. The delay in the implementation of projects financed by the RRF, as well as the weak implementation of the 2021-2027 Partnership Agreement projects, were among the reasons for the low level of public investment spending. On the other hand, **part of the BGN 4 billion of outstanding commitments announced by the Minister of Finance for 2024 are capital expenditures that have been completed but are not accounted for in cash-based spending, which understates the positive growth impact of investments already made.** In the absence of a regular government in 2024, the implementation of the NRRP and Partnership Agreement projects was delayed, requiring further acceleration of the capital programme and optimisation of current expenditure to secure national funding for projects that cannot be delivered within the NRRP's timeframe until August 2026. In order to optimise the capital programme with national and European funding over the medium term, the efficiency of public spending must become a priority, which will allow to meet the long-term needs of the pension system without compromising fiscal sustainability. Institutional control over the quality of investment project implementation would free up resources to finance maintenance and further infrastructure development. Public procurement reforms can improve the efficiency of public spending. Digitalisation of public services and reform of SOE management to improve the transparency of public procurement are prerequisites for promoting investment.

The country's contribution to the EU budget was BGN 1.6 billion for 2024 (0.8% of GDP and 2% of total expenditure). In addition to the traditional EU own resources, it included the financial contribution to the instrument established in 2023 to provide support to Ukraine.[31]

The European Commission's 2024 European Semester Report for Bulgaria draws attention to **two important reasons for the low competitiveness of the economy: 1) a lack of education, training and skills, including among minorities and disadvantaged groups, which hampers productivity, labour supply; and 2) the**

[30] On 28 August 2024, the Ministry of Finance placed bonds in three tranches on the international capital markets, denominated in EUR and USD, the third of which consists of USD-denominated bonds with a maturity of 12.5 years, a volume of USD 1.5 billion and an interest coupon of 5%.

[31] Through the Contribution Agreements, Bulgaria and the other Member States undertake, in accordance with the conditions set out in Regulation (EU) 2022/2463 and the Agreement, to cover the so-called "interest subsidy" in the period 2024-2027, in connection with the eventual interest bearing by the EU on the loan of up to EUR 18 billion granted to Ukraine in the form of the Macro-Financial Assistance+ facility.
Traditional own resources are customs duties and the remaining own resources on a GNI basis are VAT, non-recycled plastic packaging waste, Bulgaria's participation in the financing of the gross reduction for Austria, Denmark, Germany, the Netherlands and Sweden, and for a corrective contribution for the non-participation of relevant Member States in certain freedom, security and justice policies, including the respective amounts for the so-called "VAT balances and GNI balances".

green/digital transition. Recent research by the ERI at the BAS assesses and makes recommendations for the necessary structural reforms in public finances to create the conditions for accelerated convergence and sustainable economic growth.[32] Some of these studies focus on assessing the impact of the COVID-19 pandemic on the quality of human capital in Bulgaria, while others focus on the financing of the education system through delegated budgets and the challenges facing the education system to bring PISA educational indicators closer to European average levels (Zareva, Kirova, 2024; Velkova, Kirilova, 2025; Paliova, 2025). A study for CEE Member States assesses the impact of the tax system and expenditure structure on income inequality (Stefanova, 2024). Another study looks comparatively at the state of government efficiency indicators in Bulgaria and provides recommendations for their improvement (Petranov, 2022).

2.4. Challenges to the Implementation of the National Recovery and Resilience Plan and the Partnership Agreement

The negotiation of contracts under the NRRP and Partnership Agreement projects approved by the EC in April and July 2022, respectively, is ongoing, but apart from the first tranche[33] from the RRF, the country has not yet received any other tranches. The EC, in its opinion, acknowledges that out of the 62 milestones and targets set, 53 have been met, while 8 milestones and 1 target have not been satisfactorily met, and in the absence of implementation within six months after the formal disclosure of the assessment, the country may not receive these funds in 2025.

Non-receipt of the EU tranches from the NRRP and the Partnership Agreement poses a fiscal risk over the 2025-2028 period, because the NRRP projects, not implemented with RRF funds by the end of 2026, will need to be completed with national public funds, putting additional pressure on budget expenditures and the fiscal deficit. The second and third tranches are foreseen in the 2024 CFP but have been frozen by the EC at this stage. In the period of political instability and frequent parliamentary elections in 2022-2024, reforms have been postponed and there is a high risk that when the Plan is revised in 2025, under Article 21 of Regulation (EU) 2021/241, there will be changes in the values of the individual tranches depending on how the milestones and targets included in them are reallocated. **The uptake of the RRF funds is insignificant** – 8.5% of the total budget has actually been disbursed, with 8,397 contracts concluded out of 25,956 proposals submitted. The unfinished process of renegotiation of the NRRP with the EC and the lack of legislative approval of the proposed changes hamper implementation, leading to the risk of non-utilisation of EU funds.

In the programming period 2021-2027, the programmes are also aimed at improving transport connectivity, the environment, the business environment, human capital, innovation and infrastructure, protecting the EU external borders, and tackling poverty. In regional development, 12 EU programmes are implemented under the three strands of European territorial cooperation – cross-border, transnational and interregional – co-financed by the European Regional Development Fund, the Instrument for Pre-Accession

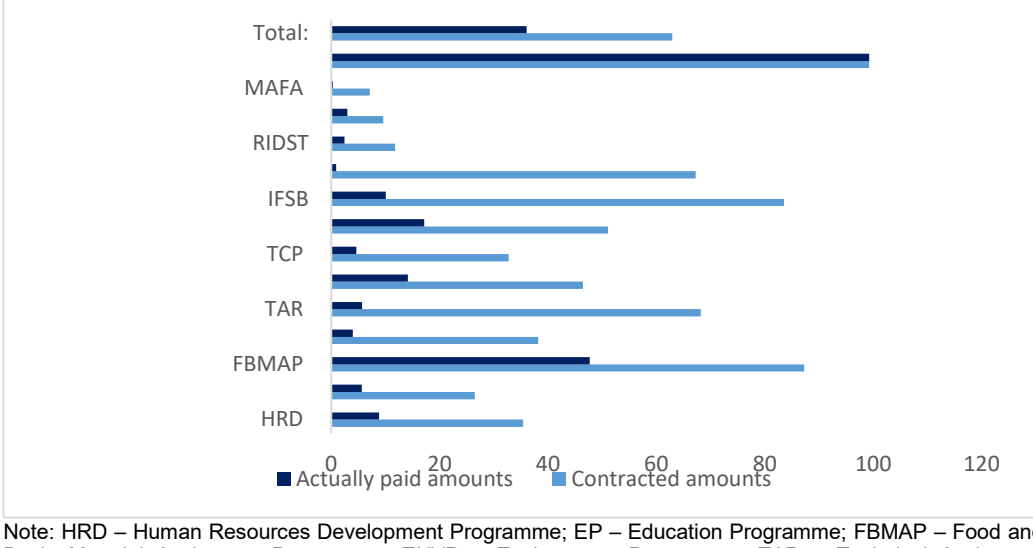
[32] See Economic Research Institute at the Bulgarian Academy of Sciences, Annual Reports 2022, 2023 and 2024: Economic Development and Policies in Bulgaria: Estimates and Expectations. Sofia, Institute of Economic Research at BAS.

[33] The first and only tranche of EUR 1.37 billion until March 2025 was received in December 2022.

Assistance II and the European Neighbourhood Instrument. European funding for home affairs and security policy is important for the EU's border surveillance. It is complemented by EU funds and funding under other international programmes and treaties to which the EU funds accounts regime applies. These include the Asylum, Migration and Integration Fund, the Internal Security Fund, the Instrument for Financial Support for Border Management and Visa Policy 2021-2027, projects, programmes and grant agreements.

The accumulated delays resulting from the late approval of the European legal framework, and therefore of the programmes themselves, are one of the reasons for the slower-than-expected pace of implementation of the 2021-2027 programmes (Figure 13). The contracted funds under the MFF 2021-2027 at the end of 2024 were 63% of the total budget, while the actual disbursements under the European projects were 36%. Some of the programmes, such as the Transport Connectivity and Environment Investment programmes, follow longer procedures for approval of contracts and expenditure by national and EU authorities for EU funds, which partly explains the delay. Acceleration in the remaining years of the programming period is possible, and payments from the EC, unlike RRF, will be made until 2030. The best-performing programmes are the Food and Basic Material Assistance, the Asylum, Migration and Integration Fund, and the Competitiveness and Innovation in Enterprises.

Figure 13. Implementation of the Partnership Agreement as of 31.12.2024 (% of total budget)



Note: HRD – Human Resources Development Programme; EP – Education Programme; FBMAP – Food and Basic Material Assistance Programme; ENVP – Environment Programme; TAP – Technical Assistance Programme; CIEP – Competitiveness and Innovation in Enterprises Programme; TCP – Transport Connectivity Programme; AMIFP – Asylum, Migration and Integration Fund Programme of the Republic of Bulgaria; IFSB – Programme of the Republic of Bulgaria under the Instrument for Financial Support for Border Management and Visa Policy; ISF – Programme of the Republic of Bulgaria under the Internal Security Fund; RIDST – Programme Research, Innovation and Digitalisation for Smart Transformation; DRP – Development of Regions, MAFA – Maritime Affairs, Fisheries and Aquaculture.

Source: Council of Ministers, https://www.eufunds.bg/bg.

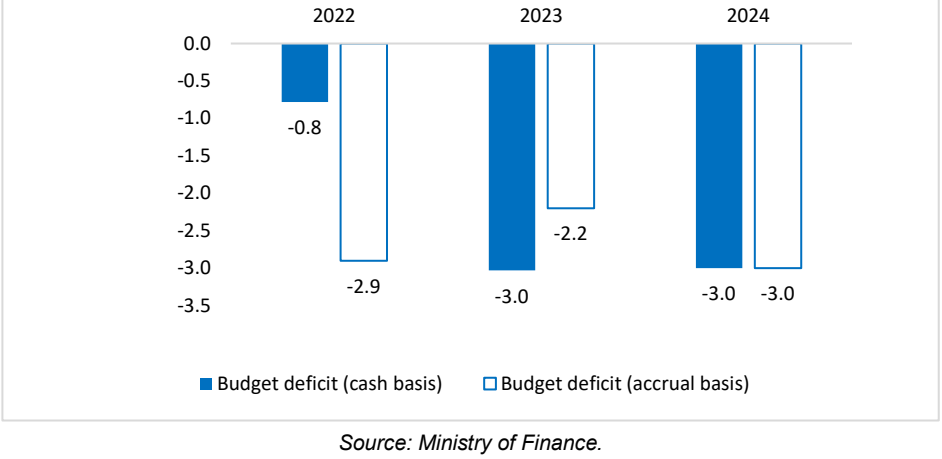
The Transport Connectivity and Environment programmes are 33% and 38% contracted, with 22 and 71 contracts, respectively. The low implementation by the end of 2024 (4% for Environment and 5% for Transport Connectivity programmes) was insufficient for transforming the economy through innovation, improving competitiveness and a smooth green and digital transition in line with new priorities at the European level. Their absorption could accelerate economic growth by several percentage points per year only if used to improve the economic environment and the quality of human capital by implementing structural reforms and ensuring fiscal sustainability. Estimates of the impact of EU funds for 2021-2027 on economic growth show that it would increase between 1 and 4 percent above the baseline scenario annually (Paliova, 2024; Paliova, Hubenova-Delisivkova, 2022).

2.5 Budget deficit and government debt

Consistent increases in public spending as a share of GDP, without the necessary changes in the tax and social security policy, led to budget deficits over a relatively long period. On the other hand, to ensure the stability of public finances in the medium term, maintaining budget deficits is only justified during periods of crisis. The lack of a stable policy environment has led to a pro-cyclical fiscal policy that has not ensured a gradual fiscal consolidation towards a balanced budget after the COVID-19 crisis.

Under the Maastricht criteria, the budget deficit and the consolidated government debt are calculated for the general government sector, which is different in scope from the CFP. The deficit is calculated on an accrual basis according to the European System of National and Regional Accounts 2010 (ESA 2010) methodology. General government includes the institutional units of central government, social security funds and local governments.

Figure 14. Budget balance for 2022-2024 (% of GDP)



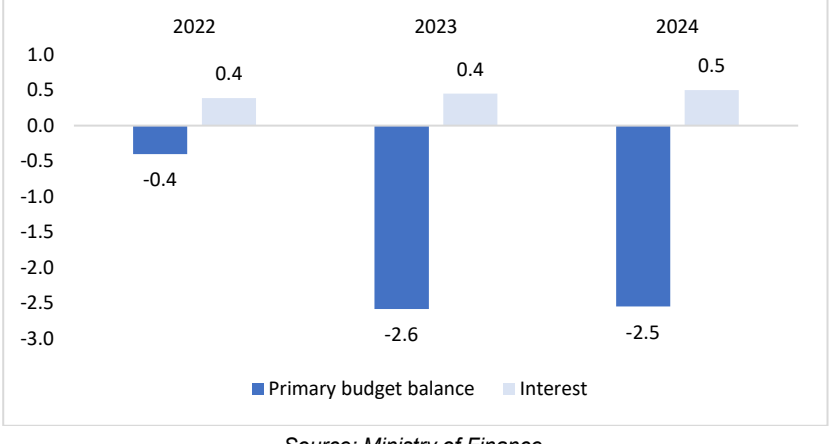
Source: Ministry of Finance.

Bulgaria's general government budget deficit on an accrued basis for 2024 is BGN 6.158 billion and amounts to 3% of GDP (Figure 14). Although, within the Maastricht

criteria, from 2024, the maintenance of a budget deficit in the conditions of economic growth is unacceptable, as accelerated economic development and growth imply restoring fiscal discipline and balancing the budget. The CFP budget deficit (on a cash basis) is BGN 6.1 billion (again 3% of GDP), which is within the planned deficit under the MTBF for 2024-2026. Compliance with this criterion is supported by the reciprocity of measures on the expenditure side of the budget, which are mainly in capital expenditure to compensate for revenue underperformance, negatively affecting the fiscal multiplier of public capital expenditure on growth.

The primary fiscal balance for 2024 recorded a deficit of 2.5% of GDP (Figure 15). **Interest expenditure of 0.5% of GDP still exerted a weak but increasing pressure on the fiscal balance.** The projected deficits and the provision of buffers in the fiscal reserve for strategic projects, related to the energy system and the green transition guaranteed by the state in the period 2025-2028, will be a factor for an increase in public debt, and the interest expenditures are expected to rise, limiting public resources for other policies.

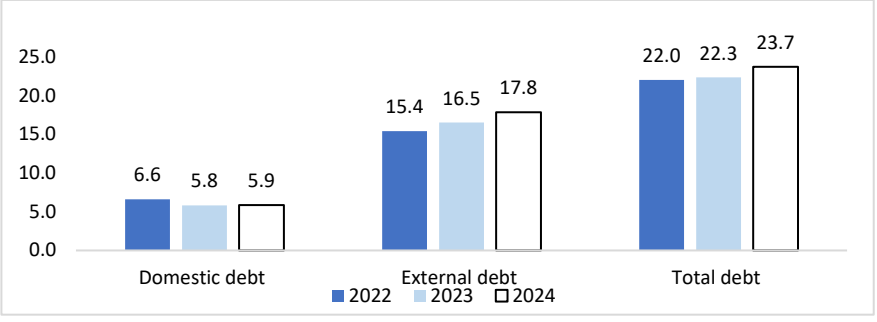
Figure 15. Primary budget balance and interest expenditure for 2022-2024 (% of GDP)



Source: Ministry of Finance.

The consolidated government debt for 2024 amounted to 24.1% of GDP (BGN 48 846 million), including BGN 47 779 million (23.7% of GDP) of the Central Government subsector. In the consolidated government debt, the largest share is of the central government subsector, which increased less as a share of GDP because of the rise in nominal GDP in 2024 (Figure 16). Although its increase is inevitable, given the budget deficits that have been incurred, the provision of maturing debt and the replenishment of the fiscal reserve, its rise needs to be contained through appropriate fiscal policies that ensure a balanced budget in line with the business cycle. The debt of the other subsectors (Local Government and Social Security Funds) is relatively low, as the budgetary units at these sectoral levels have legal constraints to use their borrowings to finance investment projects and/or to refinance projects with European funding.

Figure 16. General government debt 2024 by source of financing (% of GDP)



Source: Ministry of Finance.

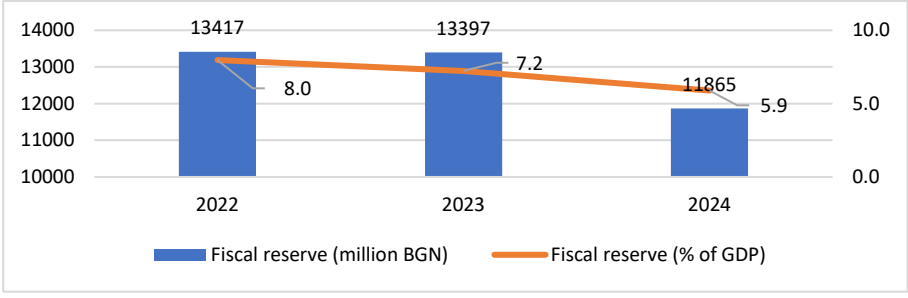
Dependence on financing from international capital markets is increasing. The external debt of the central government subsector increased to 75% of the total government debt of the subsector (vs. 74% in 2023 and 70% in 2022), and the domestic debt decreased to 25% in 2024, respectively, increasing the risk of rising interest expenditure when new government debt is issued in international capital markets. Instruments with the largest relative share are bonds issued on international capital markets, which increased to 64% of total debt. Government securities, issued on the domestic market, and loans decreased in the structure of the government debt of the central government subsector. Government debt obligations with a remaining maturity of more than 10 years accounted for 32%, 5 to 10 years for 31%, 1 to 5 years for 29% and those up to 1 year for 7%.

The government-guaranteed debt increased to BGN 1 billion (0.5% of GDP) in 2024, compared to BGN 687 million (0.4% of GDP) in 2023. Around 46% of government guarantees have been provided to finance strategic projects in the energy sector, followed by guarantees for loan financing from the Bulgarian Development Bank for co-financing projects with EU funds, and investments in educational infrastructure. The government-guaranteed debt maintains its ratio to GDP, and although it is considered a contingent liability of the government, it could become additional government debt if the guarantees are activated. Local government units have restrictions on issuing guarantees and social security funds cannot issue guarantees by law.

Although Bulgaria's consolidated government debt is one of the lowest as a proportion of GDP among EU Member States, its increase should be limited in order to avoid burdening the government budget with increasing interest expenditures in the medium term. The country's social and investment needs are significant; however, they should not be financed by a growing debt burden but by changing tax and social security policies and improving the efficiency of public spending.

The fiscal reserve declined by BGN 1.5 billion year-on-year in 2024, amounting to BGN 11.9 billion (Figure 17). Maintaining it at the mandatory level of BGN 4.5 billion, set in the annual state budget law, provides buffers in case of crises and a liquidity buffer when government guarantees are activated. The fiscal reserve includes the State Fund for Guaranteeing the Sustainability of the State Pension System and EU grants (the so-called "Silver Fund"), which cannot be used to finance the budget deficit.

Figure 17. Fiscal reserve for the period 2020-2024



Source: Ministry of Finance.

2.6. Prospects for the fiscal sector in the short term

In the current economic environment and with challenges from rising social and defence spending, the budget deficit is expected to be around 3% of GDP for 2025 and 2026 and gradually decline thereafter. The ratio of general government debt to GDP is projected to increase to around 30% of GDP by the end of 2026. The fiscal risk of an increase in general government debt is expected to increase and the fiscal buffer is expected to continue to be maintained at high levels as a buffer against future fiscal shocks. This requires fiscal policy to be countercyclical to ensure a reduction in the budget deficit and inflation, and to create the conditions for real convergence and catching up. Tight fiscal discipline and the countercyclical nature of policy should be gradually restored.

Together with the envisaged fiscal consolidation in 2025-2028, national budget revenues (excluding EU grants) are expected to be around 37% of GDP in this period. Due to rising social spending and staff wages, as well as the acceleration of the implementation of defence and energy security investment projects, national budgetary expenditure (excluding defence investment spending above the 2% of GDP target and EU projects) will not exceed 40% of GDP. This could ensure a gradual fiscal consolidation over the period 2025-2028. The optimistic projections of VAT revenues and social security contributions in the coming years, high personnel expenditures (increasing by 6 p.p. of GDP in 2024), and the use of national budget funds, amounting to 7.2 billion BGN, mainly through the Bulgarian Development Bank (BGN 4 billion) and the Bulgarian Energy Holding (BGN 2.75 billion), which under certain circumstances could be reclassified by Eurostat as capital transfers, could affect the budget deficit under the Maastricht criteria.

Long-term education, social and investment needs, and rising defence spending should be financed by the NRRP, the 2021-2027 Partnership Agreement and the newly established Defence Fund at a European level. With reported spending on European projects for the 2021-2027 programming period at 2% of GDP in 2024, the uptake of European funding is expected to increase. In the event of non-implementation of projects financed by the Recovery and Resilience Facility, the fiscal risk of increasing national resources to complete the started projects remains substantial. EU grant funding has so far provided investments to improve public sector infrastructure, increase the share of renewable energy sources (RES), energy efficiency and digitalisation of the economy, but in the future, it will also be used for defence.

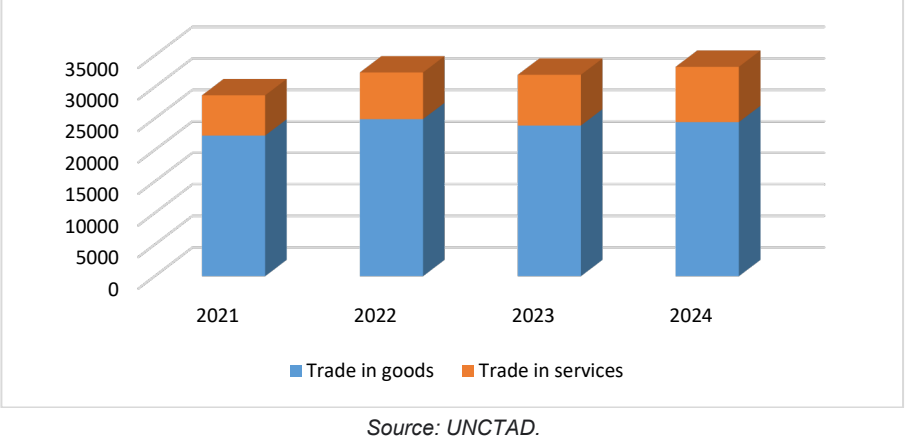
3. External Economic Environment and External Sector Challenges

The analysis of the external sector processes focuses on the dynamics of the external environment, in particular the euro area and Bulgaria's main trading partners. Their economic situation has a direct effect on the Bulgarian economy in terms of exports and imports of goods and services and capital flows, which is intensifying in the context of high uncertainty in the global economy and threats of trade wars in the first half of 2025. Emphasis is placed on the commodity structure of exports and imports, and an assessment is made of the direct and indirect effects on the Bulgarian economy of the change in US trade policy in the face of deteriorating international competitiveness of the Bulgarian economy. The positive effects on the country's foreign trade relations upon joining the euro area are considered as a compensatory mechanism that can partially dampen the negative consequences of trade wars. It is also recognised that the dynamic development of the services sector in Bulgaria is increasingly important for maintaining a balanced current account balance in the balance of payments.

3.1. Foreign trade dynamics and global economic development

In 2024, world trade in goods and services grew by approximately 4% year-on-year to **reach a record $33 trillion** (according to UNCTAD). A key factor in overcoming the decline in world trade from 2023 is the growth in trade in services (9% y-o-y), which increasingly exceeds 25% of world trade (Figure 18). These developments are primarily driven by the dynamic development of the global tourism sector and the increasing exchange of digital and professional services, following the intensive digitalisation of the global economy.

Figure 18. Global trade in goods and services, 2021-2024 (USD billion)



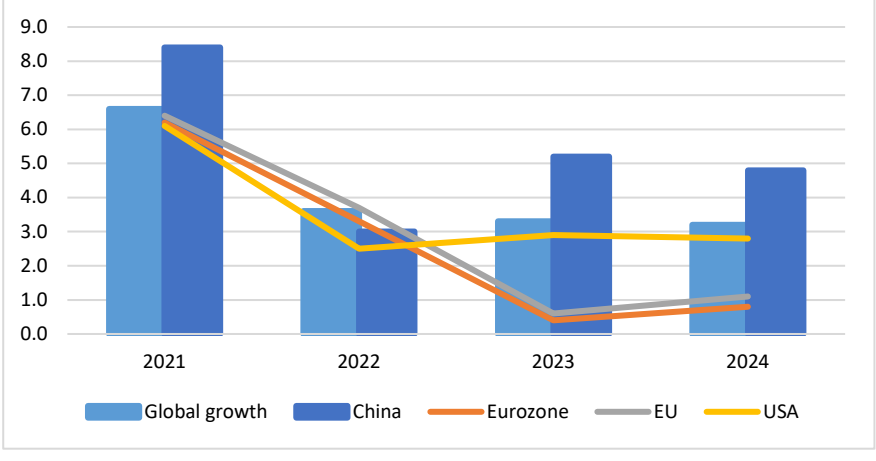
Source: UNCTAD.

The annual growth in trade in goods is significantly lower (2.3%), mainly due to geopolitical tensions and military conflicts in certain regions of the world, hampering global supply chains. Additional challenges to trade in goods are emerging in early 2025. **Offensive US trade protectionism and threats to impose unprecedentedly high**

tariffs on China are causing a high degree of uncertainty in the global economy and concerns about slowing economic growth. This **is a prerequisite for a significant reduction in trade in goods, which could further accelerate trade in services.**

External trade dynamics in 2024 reflect uneven economic development across regions and leading trading partners (Figure 19). The recovery of the services sector and robust private consumption in some EU Member States contribute to the realised economic growth of 1.1% y-o-y. The euro area is also seeing an acceleration in real GDP growth (0.8% in 2024) amid **growing concerns of stagflation in the German economy, with zero economic growth in 2024, persistently low levels of private investment, subdued domestic demand and a decline in industrial production**.

Figure 19. Economic growth, 2021-2024 (%)



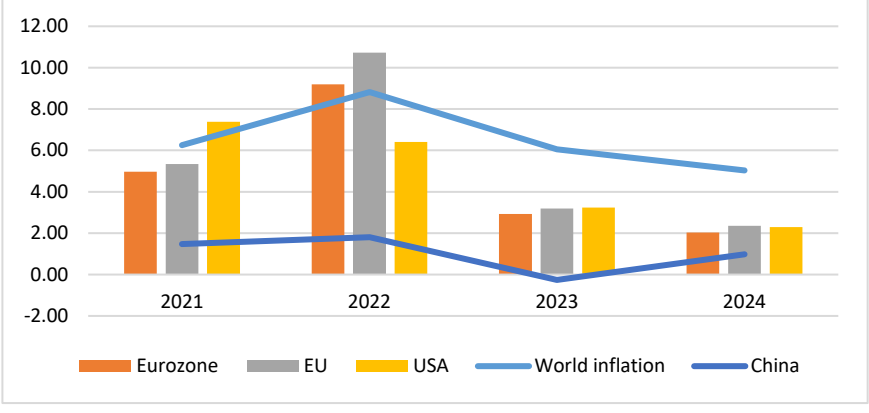
Source: International Monetary Fund.

A specific factor is the EU Green Deal initiatives, which essentially have the effect of additional taxation on economic activity and limit domestic demand and production. In an attempt to counter these developments and stimulate the euro area economy, the ECB cut its key interest rates seven times between June 2024 and April 2025. In less than a year, the deposit facility rate fell from 4% to 2.25%, also motivated by uncertainties over the introduction of tariffs on European exports by the US. In 2024, the EU undertook a reform of the Stability and Growth Pact, aiming to build a more flexible fiscal framework and boost investment.

In 2024, the US remained on an upward trajectory with economic growth of 2.8% and unemployment around 4%, close to full employment and supported by the government's substantial capital programme, while keeping the key interest rate within a range of 4.25-4.5%. **Domestic demand remains a key driver of US economic growth, with a trade deficit of approximately 3% of GDP**, a $133.5 billion increase from 2023, motivated by the controversial tariff hike in the first quarter of 2025. The widening of the US trade deficit in 2024 is driven by a strong US dollar and robust domestic demand, which stimulate US imports mainly targeted for manufacturing purposes – industrial metal products, capital goods, automobiles and their parts.

Despite the expansionary nature of macroeconomic policy, the overlay of factors stagnating for China's economy (lower domestic consumption, credit constraint in the real estate sector, with rising household indebtedness and high structural youth unemployment) **caused real GDP growth to slow to 4.8%** in 2024. Further downward pressure in 2025 is expected from the escalating trade war with the US and domestically from ineffective fiscal stimulus and structural reforms.

Figure 20. Annual inflation, 2021-2024 (%, end of period)



Source: International Monetary Fund.

In 2024, global inflation continued to slow, reaching 5% at the end of the year (Figure 20). This was due to the decline in energy and input prices as a direct consequence of the lower oil price, the normalisation of supply chains and their supply, the after-effects of the restrictive monetary policy pursued by leading central banks, and the exhaustion of base effects by 2022, when global inflation rose significantly. **In the EU, the euro area and the US, inflation is approaching the 2% target**, supported by a relatively stable labour market, low wage growth and the increasing digitalisation of the economy, which is slowing inflationary pressures from the services sector. The continued decline in producer prices in China due to a complex set of reasons (including high structural unemployment among the younger population, limited incentives for investment in productive capacity and real estate, and normalisation of supply chains, which is associated with lower transport and logistics costs) underpins the low annual inflation rate of 1%.

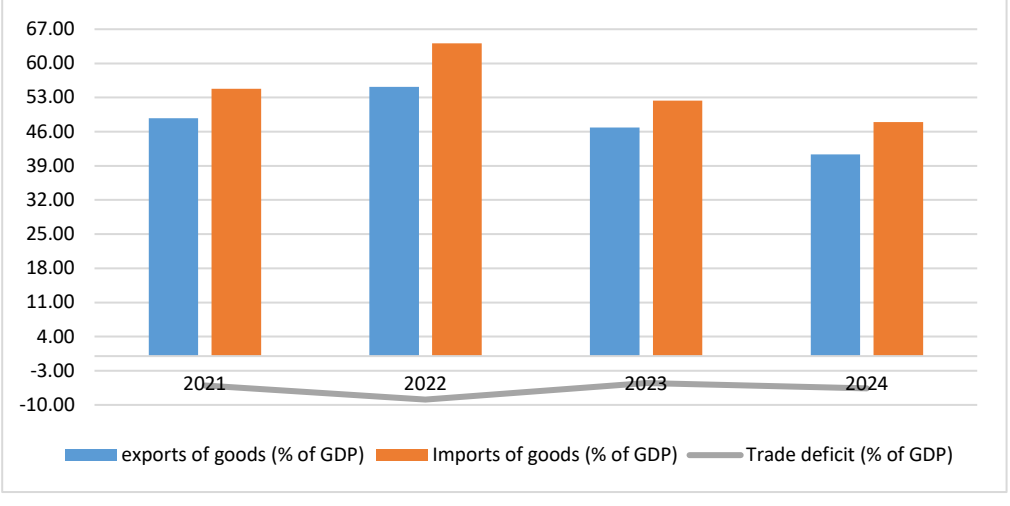
The relatively slower economic development of the leading trading partners and the disinflationary processes in the world economy had a direct impact on Bulgaria's foreign trade in 2024, shaping the outlook in 2025.

3.2. Analysis of Bulgaria's foreign trade in goods and implications of trade wars

In 2024, exports of goods from Bulgaria maintained the negative growth rate of 2023 and decreased by 3.34% (with 0.25% nominal growth in imports of goods on an annual basis). The trade deficit continued to widen and stood at 6.6% of GDP in 2024 – its highest value since 2015. Merchandise exports slightly exceeded 40% of GDP, which is identical to the

value recorded when Bulgaria joined the EU in 2007 (Figure 21). The above dynamics show the **strong dependence of Bulgarian exports on economic conditions in the euro area (in 2024, over 48% of merchandise exports are to the euro area)[34] and Germany in particular, as well as on the slowdown in international prices of key commodities such as food and petroleum products.** According to the IMF, in 2024, the food price index[35] rose by 2.7% year-on-year and the energy price index[36] by 1.26%. Other specific factors in 2024 are the annual repairs and maintenance of large factories in the industrial clusters around Sofia and Plovdiv, which lead to a reduction in exports of automotive parts and chemical products, as well as the continued concentration of low FDI in the non-tradable sector (according to BNB data, in 2024 over 2 billion euros are FDI in trade and the financial sector) and its serious decline in the extractive industries (according to BNB data, FDI declines by 226 million euros year-on-year).

Figure 21. Foreign trade in goods 2021-2024 (% of GDP)



Source: Eurostat.

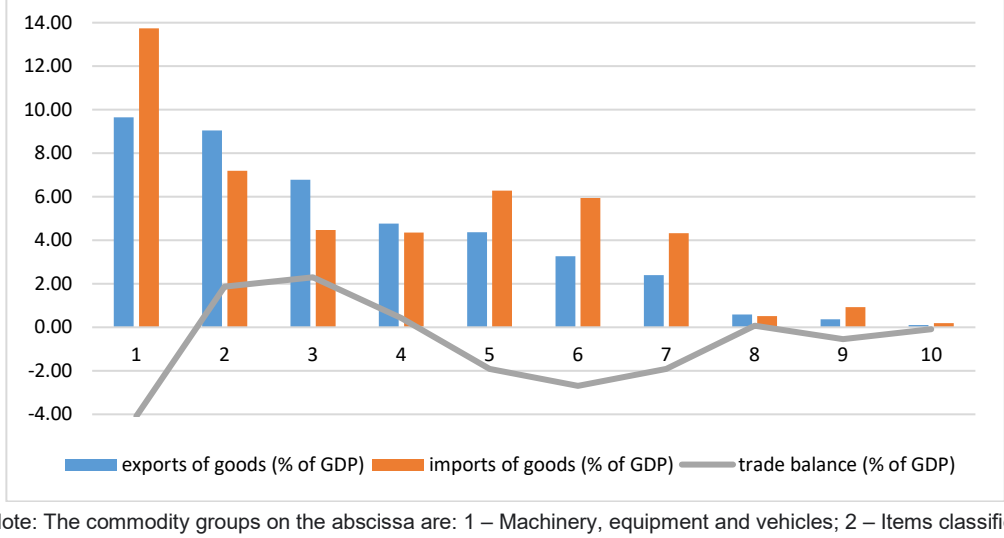
Specialisation in foreign trade with respect to certain commodity groups can be traced through the parallel analysis of commodity exports and imports. Despite a 4.5% year-on-year decline, the structure of exports by commodity group (Figure 22) is steadily dominated by the share of machinery, equipment and vehicles (9.7% of GDP in 2024), whose imports exceed 13.7% of GDP. In 2024, nearly 70% of exports of investment goods include electrical machinery and apparatus (43% of total exports in the commodity group), automotive parts (13%), and general machinery and other equipment (12%), indicating the participation of Bulgarian enterprises in global value chains and especially machinery clusters in the EU. Exports of finished industrial components and subsystems

[34] Based on the estimates made by the ERI at BAS in the Annual Report 2019 "Economic Development and Policies in Bulgaria: Estimates and Expectations. Focus Topic: Structural Imbalances and Risks to the Economy", "an estimated 1 p.p. change in the output gap in Germany would translate into a 0.58 p.p. change in the output gap in Bulgaria" (p. 114).
[35] Food and Beverage Price Index, 2016=100.
[36] Fuel (Energy) Index, 2016=100, includes Crude oil (petroleum), Natural Gas, Coal Price and Propane Indices.

also underline the strong dependence on the state of the **German economy, which accounts for over 22% of total exports of machinery, equipment and vehicles from Bulgaria in 2024**. Exports of investment goods are less dependent on exchange rate dynamics in international markets, which are essential for trade in raw materials and supplies.

The ratio of exports of precious and non-ferrous metals, textiles, paper, rubber, leather, and similar products to GDP is slightly lower than the share of investment goods exports, which stands at 9.1%, with the commodity group maintaining a positive trade balance for 2024 of approximately 2% of GDP. **Exports of non-ferrous metals continue to account for an increasing share of exports of commodities and materials (consistently above 1/5)**. This is not only due to well-established advantages in mining with shrinking domestic processing capacity for mined ore, but also to increased demand for copper and lead for the production of renewable energy components from some EU Member States and China, leading to a subsequent increase in international non-ferrous metal prices.

Figure 22. Exports and imports by commodity group in 2024 (% of GDP)



Note: The commodity groups on the abscissa are: 1 – Machinery, equipment and vehicles; 2 – Items classified mainly by type of material; 3 – Miscellaneous finished products, n.e.c.; 4 – Food and live animals; 5 – Chemical substances and products; 6 – Mineral fuels, oils and similar products; 7 – Unprocessed (crude) inedible materials (excluding fuels); 8 – Animal and vegetable fats, oils and waxes; 9 – Non-alcoholic and alcoholic beverages and tobacco; 10 – Goods and transactions, n.e.c.

Source: Eurostat.

The trade surplus in a variety of finished products such as prefabricated structures, heating appliances, medical and optical equipment, furniture, clothing and footwear is over 2% of GDP. Bulgaria's trade advantages in this commodity group are due to the recovery of international tourism, travel and the construction sector, as well as the accelerated implementation of GVA infrastructure projects in other EU Member States. Despite being part of this commodity group, foreign trade in clothing and footwear has maintained a negative trade balance due to the inability to maintain a price advantage over bulk imports from Turkey and China, as well as the reorientation of the Bulgarian

textile industry towards tolling and the use of imported textile raw materials. In contrast to the textile sector, however, a **positive trade balance in food and live animals continues to be observed in 2024. This is due to increased production in the livestock sector** (especially pigs and poultry) **as well as the maintenance of competitive prices for agricultural produce in international markets.** However, the strong dependence of domestic consumption on imports of basic food commodities remains, contributing to the inflationary dynamics in the country.

Foreign trade in chemicals and products, mineral fuels and oils, and unprocessed raw materials continued to register a persistent negative trade balance (over 6.5% of GDP) in 2024. The reasons for these dynamics are complex and include both the repercussions of the military conflict in Ukraine and related trade and financial sanctions, as well as purely price effects stemming from fluctuations in the exchange rates of the euro and the Russian rouble against the US dollar and oil prices on international markets. Structurally, they reveal the **strong dependence of the Bulgarian economy on energy imports, which makes it vulnerable to the conjuncture of world markets and international relations.**

The observed developments in foreign trade in goods are realised in a relatively **larger increase in the export price index (3.25%) compared to the increase in the import price index (1.94%)** (Figure 23). In 2024, there was a near doubling of the export price index for animal and vegetable fats, oils, and waxes (from 57.7 in 2023 to 94.5 in 2024), and a more substantial increase in the export price index for unprocessed (raw) inedible materials, excluding fuels (18%), and chemicals and products (13.5%). Despite the upward price dynamics in these commodity groups, in 2024, the trade deficit in these commodities exceeded 3.75% of GDP, i.e., imports exceeded exports by approximately BGN 7.6 billion. **The most significant decline in the export price index is observed among some of the commodity groups with a positive trade balance – machinery, equipment and vehicles (-8%) and miscellaneous finished products, n.e.c. (-6.2%)**. This reflects deteriorating economic conditions in the country's main trading partners, most notably Germany, as well as the expansion of their physical volume and the exploitation of trade advantages in their production.

Figure 23. Export and import price indices for commodities for 2021-2024

Source: NSI.

In terms of the import price index, the increase is again largest for the price index of animal and vegetable fats, oils and waxes (by 44% y-o-y) and to a much lesser extent for the price index of unprocessed (raw) materials not fit for consumption, excluding fuels (12.3%). The noticeable increase in vegetable oil prices in 2024 was due to adverse weather conditions in spring, difficult supply chains due to the military conflict in Ukraine and increased trade in biofuels. **The recorded dynamics of import prices in 2024 show that their change is mainly driven by processes in the agricultural sector rather than feedstock markets.** This conclusion is confirmed by the negative change in the import price index for food and live animals (-6.3%) and non-alcoholic and alcoholic beverages and tobacco (-4.2%). Specific factors are related to the recovery in world wheat and corn production and the decline in world prices of sugar and tobacco.

Given the trade confrontation between the US, the EU and China in the first quarter of 2025 and the possible effects on the world economy of trade wars, it is necessary to see to what extent direct and indirect effects on the Bulgarian economy can be expected in terms of exports to the US and Bulgaria's main trading partners in the euro area – Germany, Italy and Greece.[37]

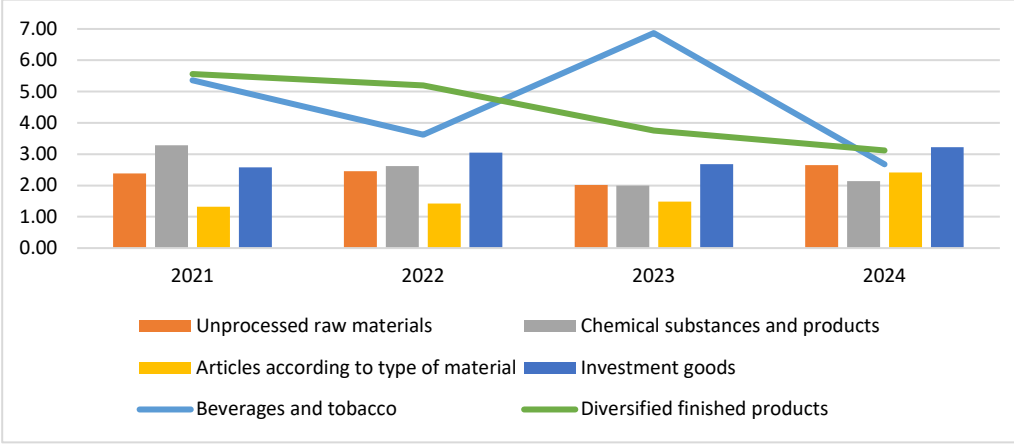
According to Eurostat data, **in the period 2021-2024, Bulgarian exports of goods to the US are between 2 and 2.5% of total exports** and far outstrip imports of US goods, which are approximately 1% of total imports of goods into the country. In 2024, exports of investment goods (including parts for machinery, equipment, and vehicles and manufactured finished products for consumption or assembly) account for the largest relative share, exceeding 3 percent of total merchandise exports (Figure 24). With some fluctuation over the years, exports of non-alcoholic and alcoholic beverages and tobacco (reaching almost 7% of total merchandise exports in this group in 2023), while exports of raw materials and materials from the extractive and agricultural industries and chemicals hover around 2% of total merchandise exports. Assuming that the 20% ad valorem duty on imports from the EU to the US is maintained[38]**, the subsequent direct effect of lower demand for European goods due to their appreciation and the absorption of losses by Bulgarian producers can be estimated at 0.2% of GDP, or around BGN 420 million.**[39]

[37] The Economic Development and Policies in Bulgaria 2024: Estimates and Expectations of the Bulgarian Institute of Economics analyses the structure of Bulgarian exports of goods by major trading partners. Germany, Italy and Greece consistently account for 60% of total exports of goods in the euro area, which makes Bulgarian exports highly dependent on the economic situation in these countries and determines the high share of foreign value added in the final export output of foreign EU enterprises. This issue is also addressed by Marinov, 2017.

[38] According to the latest data, from 05.04.2025 the USA imposes a general duty of 10% on all goods, which from 09.04.2025 is supplemented by another 10% for goods produced in the EU. The overall duty rate for the EU amounts to 20%.

[39] The calculations are indicative and are made under the assumption that the elasticity of foreign demand for Bulgarian goods with respect to US prices is 1, i.e. their appreciation is directly and reciprocally passed on in lower demand. In theoretical terms, such an assumption is motivated by the size of the US market and its highly competitive structure where, by restricting the volume of imports from certain countries, these countries are forced to reduce their selling prices, thus the duty is borne not only by domestic consumers by raising the price of the goods, but also by foreign producers who, in order to stay in the market, lower their own prices. The second important assumption is that the manifestation of the described effects is characterised by a certain lag (delayed action) and can be expected in the medium term in line with the J-curve effect. More on the theoretical assumptions made can be seen in Krugman, Obstfeld, and Melitz, 2018 .

Figure 24. Share of exports to the US in the respective commodity group relative to total world exports in the commodity group in 2021-2024 (%)



Source: Eurostat.

The indirect effects on the Bulgarian economy of the US raising tariffs on European goods depend on the structure of exports by commodity group to Germany, Italy and Greece (Table 5). In 2024, over one-third of Bulgaria's exports of unprocessed (raw) inedible materials (excluding fuels) and about one-fifth of items classified mainly by type of material, as well as machinery, equipment and vehicles, were destined for Germany. More than 15% of exports of industrially manufactured finished products for consumption or assembly were to the Italian market, while mainly agricultural products were exported to Greece – approximately 10% of total exports of food, live animals, and beverages and tobacco, and about 25% of trade in animal and vegetable fats, oils and waxes.

Table 5. Share of Bulgarian exports to the respective trading partner of total exports in the commodity group, 2024 (%)

Trading partner / Commodity group	Germany	Italy	Greece
Share of total exports of goods	***15.26***	***6.98***	***5.23***
Food and live animals	6.25	2.99	10.53
Non-alcoholic and alcoholic beverages and tobacco	3.07	5.00	11.25
Unprocessed (raw) inedible materials (excluding fuels)	33.39	1.42	2.78
Mineral fuels, oils and similar products	0.31	2.09	1.84
Animal and vegetable fats, oils and waxes	0.85	5.74	24.55
Chemical substances and products	7.64	4.75	6.06
Articles classified mainly by type of material	21.00	15.05	6.15
Machinery, equipment and vehicles	22.30	5.60	2.61
Miscellaneous finished products, n.e.c.	11.67	7.02	4.06
Goods and transactions, n.e.c.	4.17	1.46	0.00

Source: Own calculations based on Eurostat data.

Outside the euro area, Romania and Turkey occupy an increasingly important place in Bulgaria's trade. **Romania ranks after Germany as a major trading partner**, to which around 9% of Bulgarian merchandise exports have been steadily directed over the years

(the same share of the Romanian market in trade in manufactured consumer or assembly products and machinery, equipment and transport equipment). Significant potential in exports to Romania exists in trade in chemicals and products (over 16% of total exports in the commodity group in 2024), as well as in mineral fuels, oils and similar products (over 12%). The Romanian market is also steadily replacing the Greek market as the preferred export market for Bulgarian companies, as a direct consequence of the accelerated growth rates of the Romanian economy**. Although the trade balance with Turkey remains negative at around 2.5% of the country's total merchandise trade in 2024, trade advantages can be realised both in the traditional exports of processed food and live animals**, animal and vegetable fats, oils and waxes, **due** to geographical proximity, and in **processed metals and copper products**, whose exports consistently exceed 9% of total exports in the commodity group.

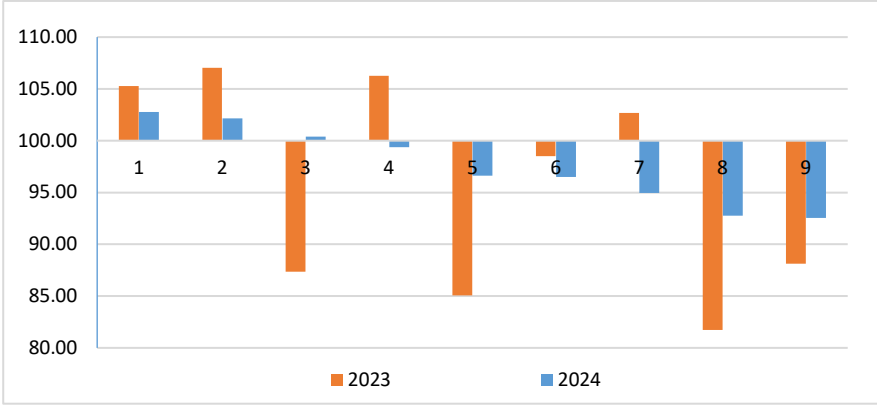
In terms of the regional structure of imports, EU Member States account for approximately 57% of total merchandise imports in 2024 (vs. 39% from the euro area). There continues to be a significant decline in **imports from Russia, which have shrunk more than 5-fold in just 1 year and account for 1.25% of total imports into the country** (vs. a value of over 21% in 2012). This is due to the EU-wide sanctions related to the military conflict in Ukraine and the premature removal of the derogation for imports of Russian oil and petroleum products as of 01.03.2024. While imports of goods from China continue to hover around 5% of total imports, trade with Turkey in terms of imports continues to grow and by 2024 accounts for over 9% of the total value of imported goods into the country. This process is largely a consequence of the depreciation of the Turkish lira with the still high inflation in the country, which slowed down to 44.4% y-o-y by December 2024.

3.3. Analysis of Bulgaria's international competitiveness

With Bulgaria's trade deficit set to widen in 2024 and high uncertainty in the global economy, which is actually threatened by trade wars and a high degree of trade protectionism, **the international competitiveness of the Bulgarian economy is deteriorating, posing risks to integration into the euro area.**

Although the 2023 downturn was contained, the terms of trade continued to deteriorate in 2024 (Figure 25). Only two commodity groups show an improvement – items classified mainly by type of material, which include precious and non-ferrous metals, and mineral fuels, oils and similar products. The most significant increase in terms of trade is recorded for chemicals and products (up 13%), whose exports, however, are down (down 3% y-o-y). This reflects the base effect from 2023, when export prices of chemical products fell dramatically. In 2024, the substantial rise in international prices of basic and speciality chemicals, with their demand growing mainly in the automotive sector, creates additional opportunities for Bulgaria's export industry that are not being sufficiently exploited. In all other commodity groups, a **deterioration in the terms of trade** is reported**, which is most pronounced in agricultural production** and reflects the loss of competitiveness in maintaining higher import prices for similar agricultural products.

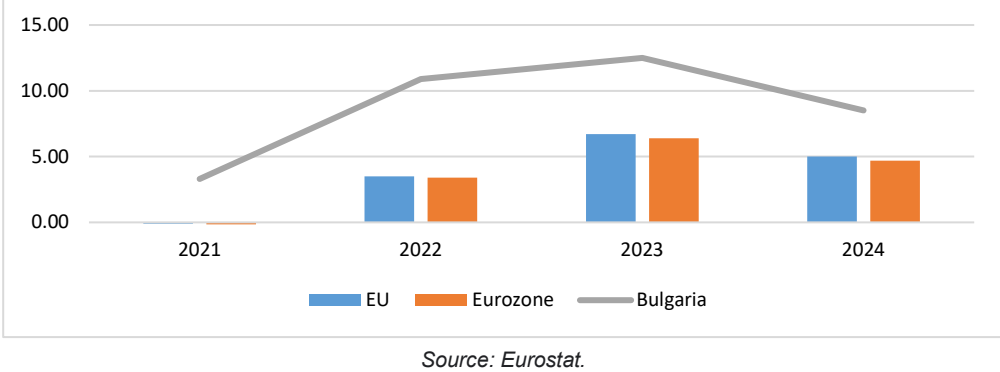
Figure 25. Terms of trade by commodity group in 2023 and 2024.



Note: A terms-of-trade value above 100 indicates an improvement in the terms of trade (higher export price index relative to import price index), while a value below 100 indicates a deterioration in the terms of trade. The commodity groups on the abscissa are: 1 – Articles classified mainly according to the type of material; 2 – Mineral fuels, oils and related products; 3 – Chemical substances and products; 4 – Machinery, equipment and vehicles; 5 – Animal and vegetable fats, oils and waxes; 6 – Non-alcoholic and alcoholic beverages and tobacco; 7 – Miscellaneous finished products. n.e.c.; 8 – Food and live animals; 9 – Unprocessed (raw) inedible materials (excluding fuels).

Source: NSI.

Figure 26. Annual change in the nominal labour cost index (2015=100) in the period 2021-2024 (%)



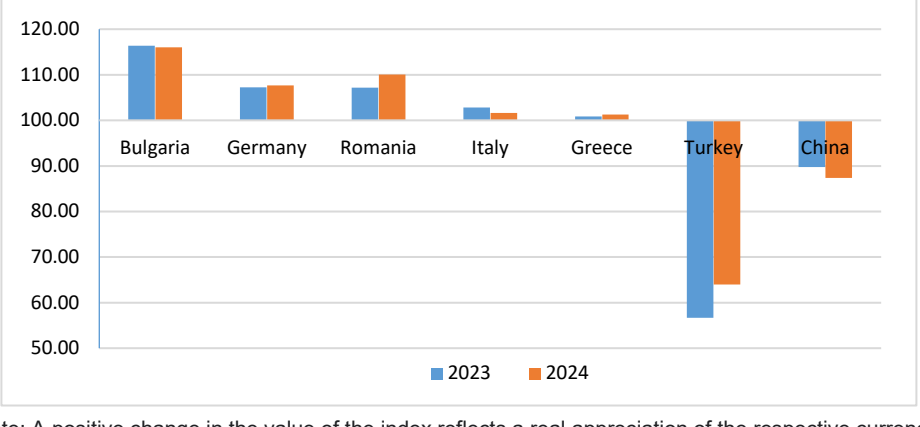
Source: Eurostat.

As a catching-up country, Bulgaria has consistently maintained higher rates of change in nominal labour costs on an annual basis compared to the EU and the euro area (Figure 26). After a record 12.5% rise in nominal labour costs in 2023, their growth slows to 8.5% in 2024, far below the levels of Romania (17.8%), Croatia (13.7%) and Hungary (12.2%). The slower growth in nominal labour costs reflects lower exports of goods to the euro area in 2024. It is often debated whether such dynamics should be seen as an indicator of improving cost competitiveness of export production or more broadly as a measure of income convergence in the context of euro area accession. Grodzicki & Skrzypek (2020) stress that maintaining low labour costs is an important condition for lower-income countries to integrate successfully into global supply chains.

On the other hand, according to Collignon & Esposito (2020), labour cost dynamics may be much more due to income convergence processes than to a deterioration of cost competitiveness in developing countries. In support of the ambiguity in interpreting changes in nominal labour costs comes the suggestion that they may reflect the distribution of labour and capital income, and that their increase may be an indicator of a change in the proportion between wages and firms' profits, without directly affecting international competitiveness[40]**. The analysis of the commodity structure, trade specialisation and price dynamics of Bulgarian exports shows a high cyclical dependence on euro area processes, which is a much stronger factor in foreign trade than changes in labour costs**.

Compared to 2015, the **Bulgarian lev has appreciated the most according to the consumer price index against 42 trading partners**, with an annual change of -0.29% in 2024 (Figure 27). This is a direct reflection of maintaining a fixed exchange rate against the euro under the country's currency board. The appreciation of the real exchange rate in Bulgaria indicates that there are preconditions for a deterioration of the trade balance with the loss of a price-competitive advantage in terms of exports, which, among the trading partners considered, can also be said for Romania (2.7% increase in 2024). Italy and Greece have maintained a relatively stable real effective exchange rate throughout the period since 2015 (the index remains around 100), while a real appreciation of the euro is observed in Germany in 2023 and 2024 (the index rises to 107.7). Although the currencies of Turkey (-36%) and China (-12.7%) depreciated the most in real terms, the value of the Turkish lira increased by approximately 13% in the last year (the nominal imports of Turkish goods to Bulgaria increased by approximately the same amount in 2024). **The depreciation of the currencies of Turkey and China creates further preconditions for the acceleration of trade flows to Europe and effectively displaces euro area trading partners whose prices remain unchanged in real terms.**

Figure 27. Real effective exchange rate deflated by the consumer price index against 42 trading partners (index 2015=100)



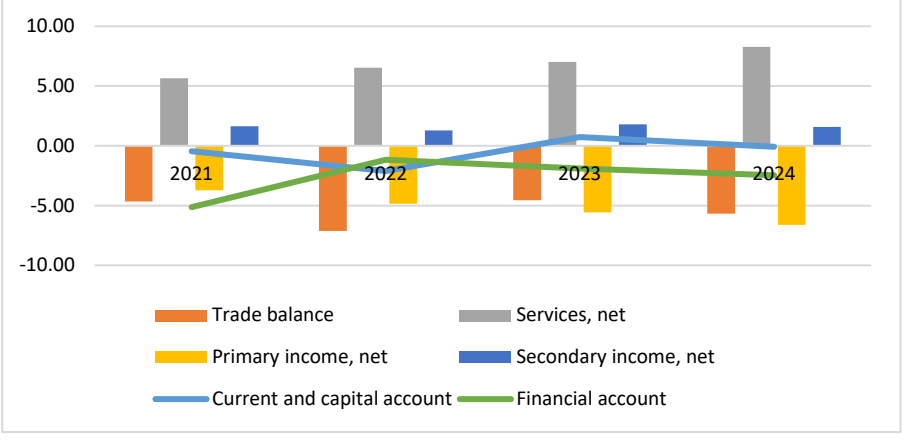
Note: A positive change in the value of the index reflects a real appreciation of the respective currency.
Source: Eurostat.

[40] A similar process is observed in the IT sector in Bulgaria, according to a study by Ivanova, Raleva and Atanasov, 2023.

3.4. Balance of payments and external debt position

In 2024, the current and capital account balance of the balance of payments was close to balance, accounting for -0.1% of GDP (Figure 28). The external trade surplus of BGN 4.7 billion (2.3% of GDP) due to positive net exports of services offsets the widening trade deficit and, together with the positive capital account balance, balances the negative primary income in excess of 5% of GDP.

Figure 28. Key balance of payments indicators 2021-2024 (% of GDP)



Source: Bulgarian National Bank.

In 2024, exports of services remained around 15% of GDP and exceeded BGN 30 billion. Expanding services exports are in line with global trends and are mainly driven by travel and tourism services (which are growing by 4.3%), as well as telecommunication, computer and information services (with an annual growth of 6.8%), given the development of the outsourcing business in Bulgaria. In services exports, passenger and air transport led the way, while more than two-thirds of the trips made during the year were for personal purposes and tourism, giving a boost to the development of the services sector. Relatively similar is the structure of service imports, the value of which is twice as small and accounts for 7.3% of GDP in 2024.

The traditionally negative primary income balance declined by 15.6% y-o-y in 2024. This was due to a doubling of receipts from employee compensation (exceeding BGN 2 billion) **and income from portfolio investments** (rising by 45% year-on-year to BGN 1.02 billion). The dynamics were mainly driven by rising EU wages due to inflation dynamics in 2022 and accelerated nominal labour cost growth[41], as well as expanded opportunities to invest the country's growing savings in foreign financial institutions. **The main contributor to the persistent negative primary income was the outflow of income from direct investment**, which declined by 12 percent in 2024 and was 6.8 percent of GDP.[42] Apart from the persistent failure to create sufficiently good conditions

[41] Changes in the European labour market and wage policies between 2000 and 2022 are discussed by Lukanova, Hubenova-Delisivkova, 2024.
[42] In 2024, Bulgaria introduced a national FDI screening mechanism in line with Regulation (EU) 2019/452. The Regulation aims to ensure a coordinated approach to the screening of FDI in strategic sectors that are relevant

for the reinvestment of profits from direct investment and the decline in FDI in 2024 to 3.1% of GDP, this adverse process for the Bulgarian economy was fuelled by facilitated profit repatriation and rising domestic credit, which was over 12.7% of GDP at the end of 2024. Net secondary income shrank by about 1/3 y-o-y, due to a doubling of receipts for the general government sector because of the non-utilisation of the NRRP tranches.

For the first time since 2019, the balance of payments financial account balance was positive at 0.2% of GDP in 2024, due to the asset side almost doubling. The substantial increase came from the banking sector's outward foreign exchange and deposits, amounting to more than BGN 2.5 billion (up from BGN 674 million in 2023), and the tripling of non-resident holdings of equities and investment fund shares to BGN 1.6 billion. In addition to the macroprudential measures taken by the BNB, the **unfavourable trend of greater accumulation of foreign assets of residents and capital transfer from less developed to more developed countries within the EU continues**, which is becoming a persistent feature of the Bulgarian economy[43]. FDI shrank by 37% year-on-year, with the most significant decline coming from the USA, Luxembourg, Switzerland and Russia, totalling over BGN 2.3 billion. This was accompanied by the cessation of foreign enterprises in the Bulgarian economy and job losses in the second half of 2024.

At the end of 2024, the gross external debt increased by 9.2% year-on-year and was 47.4% of GDP. Public sector external debt rose by 13.4% p.a. as a result of government Eurobond issuances on international capital markets in 2024. Private sector external debt grew by 7.2% relative to 2023, mainly due to an increase in long-term loans to commercial banks and short-term commercial loans and advances to non-financial corporations. **Although still rising, the country's external debt dynamics remained sustainable and the debt burden was lower compared to other EU Member States.**

3.5. Prospects for the development of foreign trade in 2025 and in the medium term

In early 2025, there were divergent risks stemming from **global uncertainties about the development of trade wars**, which are likely **to lead to an acceleration in global inflation**. Higher tariffs are expected to have a direct effect on the prices of consumer and industrial goods in developed countries and hence to create upward pressure on wages to offset falling purchasing power. The practice of imposing higher tariffs on final goods would discourage developing countries from investing in the industrialisation of their economies and they are likely to concentrate their exports mainly on raw materials and supplies. Thus, imports of finished goods would become relatively more expensive for these countries, and disrupted supply chains in the transfer of production to developed countries further create pressure on prices. The above concerns about rising inflation reinforce the perception **of imminent global stagflation** (a combination of high prices and low economic growth) **as the most likely medium-term consequence of US offensive trade protectionism and the resulting global uncertainty**. These circumstances will have a **stagnating effect on Bulgarian exports, both in terms of strong orientation and integration towards the euro area, and directly in foreign**

to the security and functioning of the EU economy. The ERI at BAS contributed to its development and implementation.

[43] These aspects of the development of the Bulgarian economy and other CEE countries are discussed by Petranov, Zlatinov, 2023.

trade relations with the US, which are expected to amount to BGN 3.2 billion (1.6% of GDP). The most seriously affected will be higher value-added industries, whose exports are directly directed to Western Europe (especially Germany), and to a lesser extent, regionally-oriented industries, which direct their production to the increasingly important foreign trade market of Romania, Turkey and Greece.

Bulgaria's accession to the euro area will have an offsetting effect, due to the additional increase in foreign trade with Member States upon adoption of the single currency and the elimination of transaction costs for currency translation, faster and cheaper interbank payments and reduced trade financing costs. An additional factor that will encourage trade flows, especially with the main trading partners (Romania and Greece), is Bulgaria's full admission to the Schengen area from the beginning of 2025, the benefits of which are estimated at BGN 1.6 billion per year, according to the BSI. **In terms of export profile, Bulgaria ranks alongside Latvia, Lithuania, Estonia and Croatia, which, through their membership in the euro area, are achieving higher purchasing power and an accelerated rate of income convergence.**

In addition to the already realised reduction in the ECB's key interest rates, a positive effect of higher trade in services globally, through which to offset restrictions on commodity flows, would be realised on the service-oriented economies of the EU, such as France, Italy and Spain, and hence on the euro area as a whole. This would also have an accelerating effect on tourism and services flows in Bulgaria, which are increasingly important for maintaining a balanced current account balance of payments. It is also expected to **create the conditions for increased FDI, which will allow for an intensification of production, additional transfer of technology and management practices that directly affect the competitiveness of export-oriented sectors of the economy, and income convergence.**

4. Monetary Aggregates and the Banking Sector

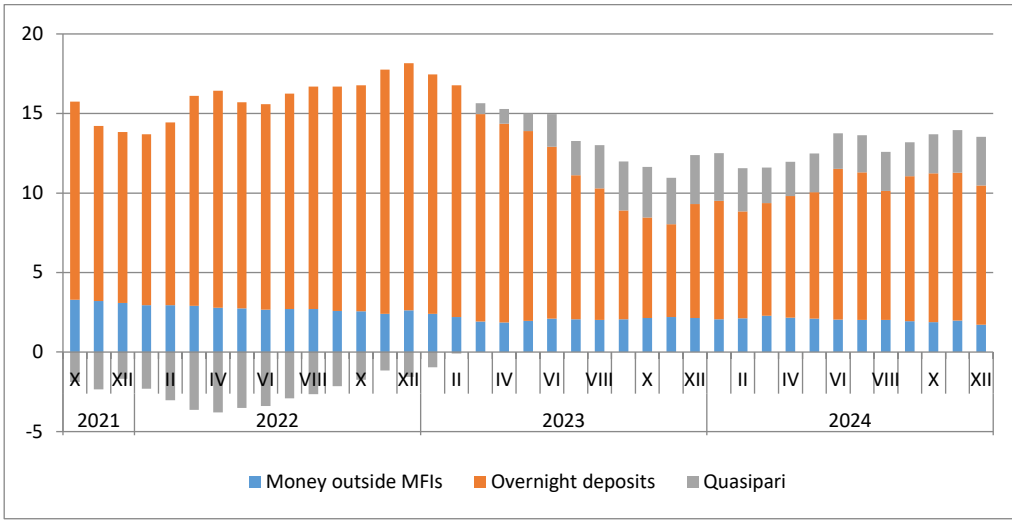
The analysis covers the impact of the first steps towards lower interest rates taken by the major central banks on the dynamics of market interest rates, money supply and the subsequent effects on economic activity and propensity to consume. The results of the confrontation between the pressure on effective nominal interest rates under the influence of declining benchmark indices (alongside expectations for further steps in the same direction) and the impulse towards an increase in the market cost of borrowing due to rising inflation expectations, in parallel with the charging of an increasingly higher risk premium by financial intermediaries, are examined. The impact of the economic sanctions against Russia on the solvency of borrowers and on indicators of loan portfolio quality, profitability and capital adequacy of Bulgarian banks is taken into account, as well as the impact of the termination of certain fiscal incentives on economic activity and, consequently, on the volumes of new business in the banking sector. Part of the analysis is devoted to the dynamics of the market for fixed income instruments (mainly government securities) and, in particular, to the expectations for growth in volumes in this market from the point of view of financial intermediaries and their potential to participate in this market.

4.1. Dynamics of monetary aggregates in 2024

In 2024, money supply dynamics remained close to the levels of late 2023. Overnight deposit growth reported for individual months in 2024 ranged between BGN 6.5 and BGN 9.3 billion on an annual basis (vs. BGN 7.2 billion as of December 2023) (Figure 29). This was due to the dynamics of funds attracted from the two largest sources remaining relatively constant. Household deposits grew after 2021 between BGN 11.1 and BGN 12.1 billion on an annual basis, while the holdings of non-financial corporations maintained growth between BGN 5 and BGN 8 billion. The latter range was formed in the autumn of 2023 as a result of the disrupted rhythmicity of receipts in retail trade and industry, leading to the need to compensate for the resulting shortfall in own-source revenues to ensure the continuity of business processes affected by the sanctions against Russia.

A similar change in dynamics was observed in broad money (monetary aggregate M3), whose growth slowed down to 11-13 billion BGN on an annual basis in the autumn of 2023 and fluctuated in this range throughout 2024. The main contributor to maintaining a relatively weak broad money rate was overnight deposits, which remained the preferred form of saving by both households and non-financial corporations. Their growth slightly increased and averaged BGN 9.1 billion in the last three months of 2024 (vs. BGN 7.2 billion on average in the first three months of 2024), but remained significantly lower than the growth in the first months of 2023 (over BGN 14 billion on an annualised basis) as the impact of sanctions became more noticeable and inflation started to slow.

Figure 29. Dynamics of the components of monetary aggregates (12-month growth, BGN billion)



Source: Bulgarian National Bank, own calculations.

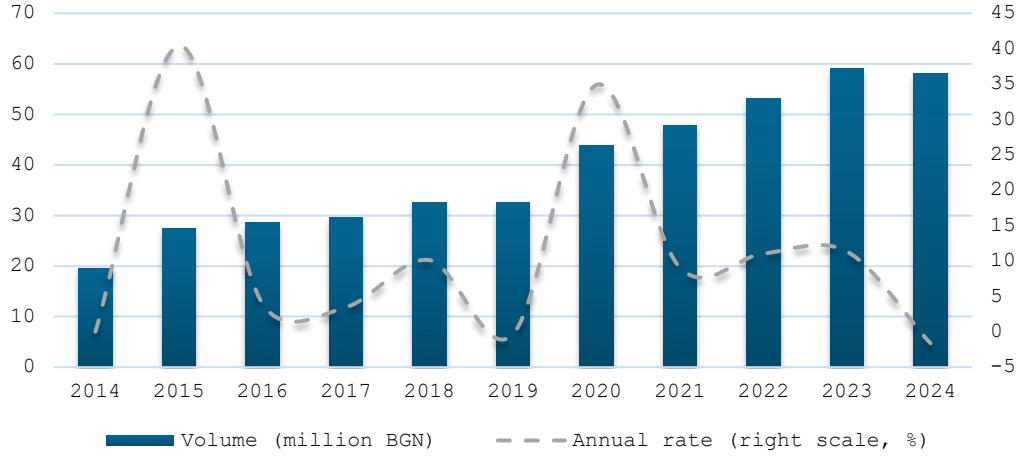
As in 2023, households continued to save mainly in local currency, with the reported annual growth of BGN-denominated overnight deposits for 2024 at BGN 7,161 billion (vs. BGN 608 million for euro-denominated and other foreign currency deposits). Fixed-maturity deposits from this source grew by BGN 1,134 billion in 2024, while euro-denominated and other foreign currency-denominated time deposits showed an increase of BGN 489 million.

A change in behaviour is observed in the case of non-financial corporations, whose savings in 2023 were mainly in BGN, but from the beginning of 2024, they started to prepare for the adoption of the euro by increasing the size of overnight deposits in euros by BGN 1,255 billion at the expense of BGN deposits (which show a negative growth of BGN 101 million) and current accounts in other currencies (decreasing by BGN 193 million). Time deposits from this source grew by BGN 1,933 billion, of which more than two-thirds were denominated in euro.

The growth rate of reserve money slowed sharply, falling from 11.3% in 2023 to -1.63% y-o-y at end-December 2024 (Figure 30). This was entirely on account of deposits of the other MFI sector with the BNB. This was the first contraction in this category since 2019, with the total balance of commercial banks' reserve accounts shrinking by BGN 2,581 billion in 2024 (to BGN 27,029 billion at the end of the period) as a result of the reduction in their excess reserves.

In a sense, the decline in the balance of reserve accounts compensates for their intensive growth in 2023, when they increased by BGN 3.971 billion as a result of the increase in the banks' reserve requirement ratio undertaken by the BNB. Commercial banks are changing their behaviour and releasing some of the accumulated excess reserves, while at the same time imposing reverse incentives on savers with a view to optimising the asset structure in terms of their profitability.

Figure 30. Reserve money



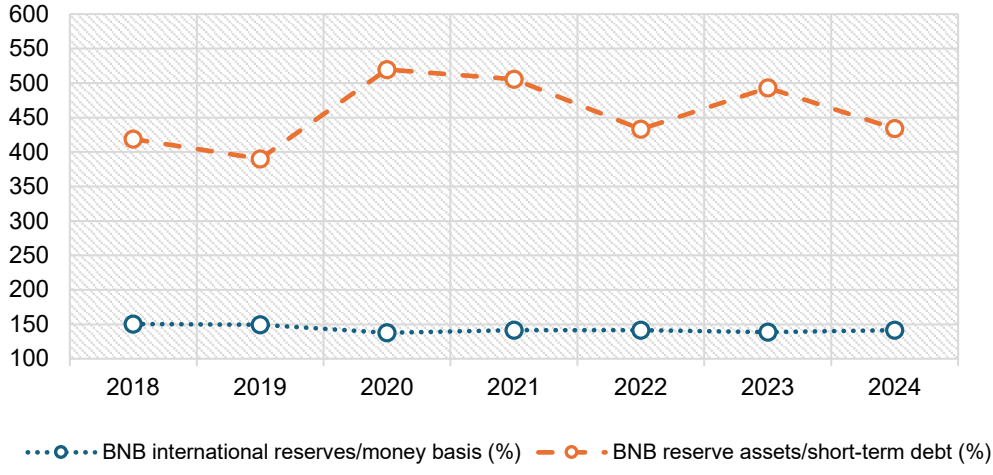
Source: Bulgarian National Bank, own calculations.

An additional motive for the reduction of commercial banks' excess reserves at the BNB is the maintenance of the negative difference between the interest rate on the excess over the required minimum and the ECB deposit facility rate. This motivates banks belonging to financial institutions in euro area Member States to transfer liquidity surpluses to their parent banks for deposit at the ECB. The combined effect of these factors is to reduce the average daily gross excess of funds held by banks with the BNB over the required minimum of reserve assets (under Regulation No. 21) to 2% of the MRR at the end of 2024.

The negative growth of reserve money also determines the dynamics of the BNB's international reserves, which increased by BGN 255 million to BGN 82.255 billion at the end of 2024 (Figure 31). In parallel with the sharp slowdown, there has been some change in the structure of the BNB's international reserves, with cash and foreign currency deposits and monetary gold increasing by BGN 4.671 billion and BGN 1.654 billion, respectively, at the expense of securities, whose book value decreased by BGN 6.070 billion. These changes primarily characterise market trends in 2024, which are particularly favourable for gold and not so much for fixed-income instruments, as well as preparations to meet the upcoming maturities of the country's public debt.

The comparable rates of change of the BNB's international reserves and the monetary base led to their ratio remaining almost unchanged (141.56% in 2024 vs. 138.81% in 2023). The weak outperformance of imports of goods and non-factor services (GNFS) as well as short-term debt (relative to the international reserves of the BNB) is the reason for the slight decline in the ratios between them (by 9 bps and 59 p.p., respectively). This trend is likely to continue in 2025 amid lower investor confidence and slowing domestic output (Figure 31).

Figure 31. Key Currency Board indicators



Source: Bulgarian National Bank, own calculations.

4.2. State of the banking sector in 2024

In 2024, the banking sector continued to operate in a volatile environment, driven by the disruption and realignment of some supply chains as a result of multiple factors, such as the disruption of trade routes due to military action or reorientation to new markets as a result of sanctions imposed in connection with the military conflict in Ukraine. The industrial production index was negative throughout the year, with the exception of September 2024, and, notwithstanding the offsets from the ongoing fiscal stimulus, the potential to generate stable revenues for the banking system was weakening. The ECB's maintenance of high interest rates in the first half of 2024 led to a continued weakening of inflationary pressures. The lowering of interest rates in the euro area in the second half of the year was transmitted (albeit with some lag) to the domestic market, and the effective annual interest rate on new loans to corporates fell from 5.03% in June to 4.39% in November 2024.

2024 was characterised by a continuation of the intense pace of lending, sustained mainly on account of a reduction in the accumulated liquidity buffers and a corresponding lag in the pace of borrowing; a weakening pace of both revenues and costs of the banks' core business (interest, fees, etc.); a sharp increase in impairment charges (by over 60%) and a moderate increase in accrued provisions (by BGN 158 million, of which over 114 million BGN were on consumer loans). **Against the backdrop of growing uncertainty, Bulgarian banks continued to be resilient and profitable, maintaining high levels of liquidity and capital buffers**.

The banking system continued to adapt to the changing environment, and **in an environment of automatically rising lending rates in the first half of the year and falling rates in the second half, gross interest income increased at a pace comparable to that of gross loans** (14.4% and 13.6% y-o-y, respectively). Gross fee and commission income grew by 11.7% to reach BGN 2,080 billion in 2024. Together

with the increase in the net interest margin, they resulted in the **sector** reporting a **record profit of BGN 3,695 billion after tax (or 8.1% above the level achieved in 2023).**

Digitalisation in the sector continued with some Bulgarian banks already robotising work processes and integrating artificial intelligence into their security systems. Virtual reality (VR) and augmented reality (AR) experiments (such as VR consulting and AR technologies for personal finance management) were underway to enrich the consumer experience. **In parallel, the process of introducing new disclosure requirements on climate change continued**. In 2024, the EU's Corporate Sustainability Directive came into force, obliging large companies (with a balance sheet value of more than €25 million, a turnover of more than €50 million, or a minimum of 250 employees) to disclose information on the climate risks and social impacts of their activities. The ECB stepped up its supervision of banks on climate risk management and, in June 2024, announced its intention to impose fines on those that fail to meet climate targets. In 2025, Regulation (EU) 2024/3172 came into force, requiring large credit institutions to disclose semi-annual information on ESG risks, including climate change impacts. The aim is to improve transparency and consistency in risk management. In all likelihood, moving forward with this process will lead to a change in the risk appetite and risk profile of the banking sector, as well as to asset restructuring, an increase in administrative burden and some reduction in revenue.

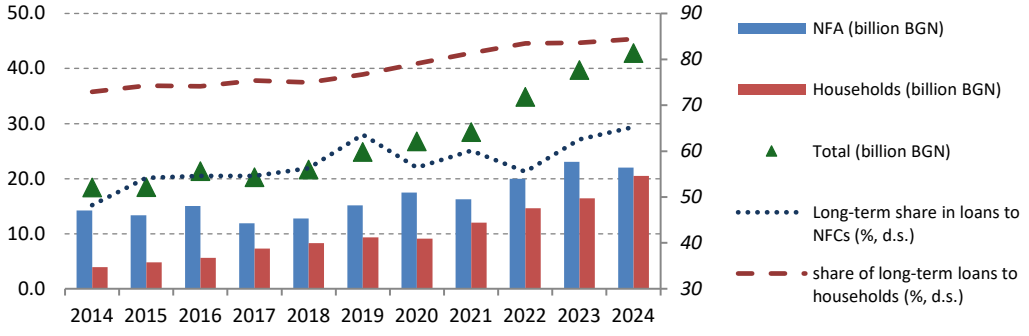
Concentration in the banking sector increased after the COVID-19 pandemic, but in 2024 the trend broke down and the share of the 5 largest banks remained almost unchanged (76.79%, compared to 76.84% at the end of 2023). This was due to the absence of M&A transactions, as well as the lagging asset growth rate of UniCredit Bulbank, whose assets grew at 9% y-o-y, compared to an average of 11% for Group 1 and 2 banks and 15% for Group 3 banks, respectively.[44]

In mid-2024, a gradual lowering of the reference interest rates began. The process started in June, when the ECB undertook the first of a series of key rate cuts, triggering first a reduction in interest rates on new euro-denominated loans, and a few months later, due to some lag in the transmission of the effects of ECB monetary policy on the BGN component of monetary aggregates, also on interest rates on loans contracted in BGN.

Analysis of monetary statistics data shows that **the trend in new business lending to non-financial corporations breaks down and in 2024, new business in the segment declines by BGN 1.077 billion (**Figure 32). The gross amount of negative growth is comparable to that reported in 2021, when new business loans to legal entities declined by BGN 1,221 billion as a result of closures of operating businesses. Thus, the volume of new business lending in the segment shrank to BGN 22 billion and the ratio of new business volumes for non-financial corporates (NFCs) to the segment's gross book value of loans and advances (before impairment) fell to 41.6% at end-December 2024 (from 47.6% in 2023).

[44] The Banking Supervision Department groups banks with a view to highlighting the dynamics of processes in the banking system. The grouping does not contain rating elements and should not be interpreted as an assessment of their financial condition. The position of banks in the groups depends on the size of their assets at the end of each reporting period. Group 1 consists of the 5 largest banks based on their total assets at each reporting period, Group 2 consists of the remaining banks and Group 3 consists of the branches of foreign banks in Bulgaria.

Figure 32. Annual loan volumes by new business



Source: Bulgarian National Bank, own calculations.

Despite the lower lending activity, claims on enterprises in 2024 grew more intensively than in 2023 (by BGN 4,351 billion vs. BGN 3,552 billion in 2023, respectively), due to the growing share of long-term loans, leading to a decrease in maturities. This trend can be traced back to 2014, as during the COVID-19 pandemic, the share of contracts with a term of more than 5 years decreased from 63.6% to 55.5%, but then this share increased again. In 2024, more than BGN 14,343 billion of the contracted volumes in the segment had original maturities of more than 5 years, bringing the share of long-term loans to 65.3%, or 2.69 bps higher than reported in 2023. The majority of long-term contracts were signed in the second half of the year, which may go some way to explaining borrowers' motives, insofar as the reduction in new business rates since June has led to a reduction in pricing and a corresponding increase in demand for longer-term borrowing.

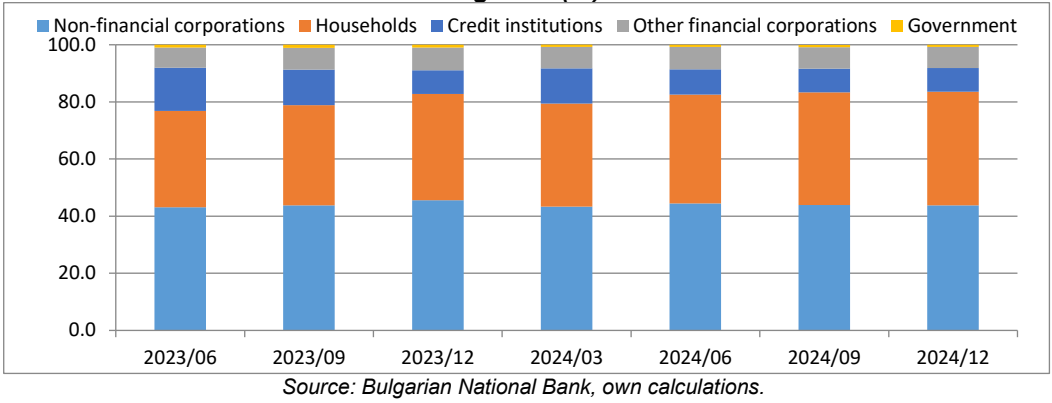
A comparison with interest rates in the euro area shows that the difference between new business rates for corporates in Bulgaria and the monetary union average is between 40 and 50 bps, and **almost all CEE countries that have adopted the euro (Lithuania, Latvia, Estonia, Slovenia, Slovakia and Greece) have higher interest rates for corporates than Bulgaria**. The persistence of relatively low interest rates in Bulgaria can be explained by the desire of commercial banks to expand their market share, with excess liquidity allowing most of them to do so on the basis of price competition. In 2024, their actions were mainly directed in this direction and the liquidity coverage ratio decreased from 246.7% (at the end of December 2023) to 241% (at the end of December 2024), with the liquidity buffer reaching BGN 56.9 billion. It can be expected that, with such high levels of liquidity and a continued decline in key interest rates, financial intermediaries will maintain their propensity to offer their surplus free resources at a low cost, with a view to broadening the base for their efficient disposal.

Total loans increased by 13.48% in 2024. After excluding loans to credit institutions, the growth rate remained almost unchanged (13.57%), as the exposure to credit institutions had quite similar dynamics. The reason for the moderate interest in borrowing from other banks was the **weakened motivation of domestic financial intermediaries to transfer assets to current accounts mainly abroad, as the reduction of key interest rates by the ECB in the second half of the year has led to a decrease in the attractiveness of this asset category**. The comparison with expected yields on loans to the non-financial sector favours the latter category (although the decline in interest rates extends

to this segment) and motivates Bulgarian banks to shift their preferences towards lending, leading to some **reduction in the share of loans to credit institutions (from 8.37% at end-2023 to 8.31% at end-2024)** (Figure 33).

The share of loans to corporates also declined, shrinking by 181 b.p. to 43.78% in 2024, due in part to lower demand for corporate loans (driven by the revenue squeeze in corporates more severely affected by the blowback from sanctions imposed on Russia) and the drive to achieve better diversification of financial intermediaries' assets by increasing the share of smaller-sized exposures to households. This is one of the main reasons for the continued increase in the share of loans to households, reaching 39.8% at the end of 2024. The drive towards diversification is also likely to be the reason for the faster rate of increase in exposure to individuals for the largest Group 1 banks (21.9% vs. 19.72% for Group 2 and 12.34% for the group of branches of foreign banks).

Figure 33. Distribution of gross loans before impairment at period end by segment (%)

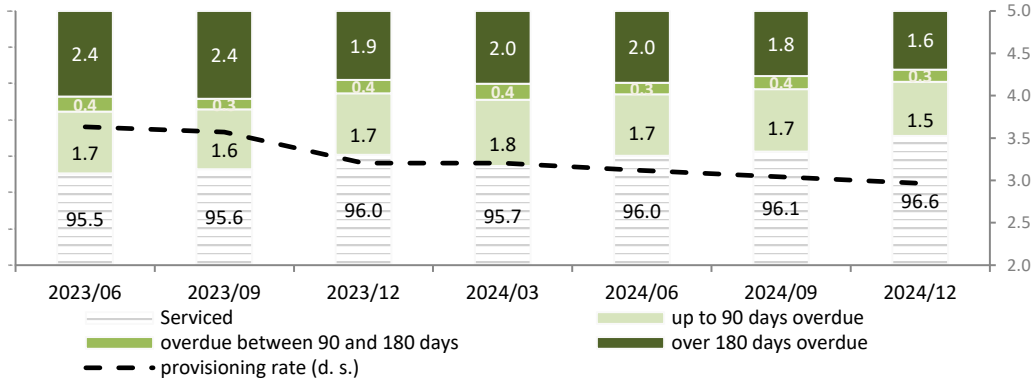


Source: Bulgarian National Bank, own calculations.

The comparison of the dynamics by sector shows that more than 1/2 of the reported growth in corporate loans is due to manufacturing and real estate transactions, while energy and fuel production, construction and retail account for 12.07%, 14.71% and 15.45% of the total growth in the segment, respectively. Lending to most sectors with little exposure grew intensively. Loans to mining companies grew by 18.34% y-o-y, loans to administrative and support activities by 42.39%, and exposure to other activities increased by 64.54%. This is due to both the base effect of low starting exposure and the natural drive to diversify the portfolio amid increasing uncertainty, seeking to expand presence in less popular industries.

In 2024, the share of loans to non-bank financial institutions stopped growing. The rate reported for 2024 was five times lower than that observed in 2023 and lagging behind the overall rate, so that the share of this category of loans fell from 7.9% to 7.4%. Against the backdrop of the intensive increase in provisions for consumer loans, it can be assumed that difficulties arise in collecting debts from non-bank customers who are less creditworthy and therefore more vulnerable in periods of economic slack. Therefore, the current practice, where banks practically transfer assets with high risk weights to (related) non-banks in order to prevent deterioration in capital adequacy ratios, is becoming less attractive and the upward trend in the share of loans serviced can be expected to reverse (Figure 34).

Figure 34. Distribution of gross loans[45] (%)



Source: Bulgarian National Bank, own calculations.

In retail lending, there was a continued pickup in activity, following the high levels achieved in 2022 and 2023. Total new business continued to increase, reaching BGN 20.473 billion in 2024 (24.5% more than reported for 2023). This trend appears sustainable insofar as new business lending volumes to individuals have been increasing steadily since 2010, with the exception of 2020 only. The share of long-term loans to households continued to increase for the sixth consecutive year, rising by 84 bp in 2024 due to the continued increase in the share of housing loans to 50.7% (this compares with less than 38% in 2019 and a range of 32-34% during the debt crisis).

In parallel, the decision to set the contract term in 2024 was also influenced by the positive expectations of households, formed as a result of the outpacing growth of their incomes in recent years. Particularly indicative of these expectations is the evolution of the consumer credit share. In 2024, consumer loans accounted for about 1/4 of the total growth in household loans, and their year-on-year growth rate was 1/3 lower than the segment total (16.45% vs. 24.46%).

The portfolio of housing loans, as in the previous five years, grew ahead of its peers by 25.2% y-o-y to reach BGN 27.577 billion at the end of 2024. The good indicators of the exposure dynamics in this segment are logical against the background of the intensive growth of new business, the volume of which in 2024 reached BGN 10.373 billion (1/3 higher than that reported in 2023). The average interest rates on newly issued housing loans in BGN in 2024 continued to fluctuate within the narrow range formed in 2022 (2.4-2.6%), while loans in EUR in September and October recorded values above 3%, which is the main reason for their weak popularity among the local population. Comparison with ECB data shows that the **average interest rate on housing loans in Bulgaria is lower than in all euro area Member States (except Malta), which forms expectations for a possible increase after the euro adoption date.**

Depositors continued to increase their savings, motivated to some extent by the slight increase in deposit interest rates. Total non-financial sector borrowing increased

[45] Excluding claims on central banks and credit institutions.

by 8.9% y-o-y (which is comparable to that recorded in 2023), mainly on account of households, whose savings growth (BGN 9.643 billion) contributed to over 3/4 of the total deposit base growth. Noteworthy is the persistence of low activity in the case of legal entities, which, after the intensive increase in savings by BGN 16.84 billion in 2022 (despite the effect of taxes on cash), have been limiting their propensity to save, and the reported growth in attracted resources from this source for 2023 and 2024 is BGN 3.133 billion and BGN 2.954 billion, respectively.

4.3. Debt market

In 2024, the market for fixed-income instruments remained strongly dominated by government bonds, demonstrating stable dynamics, influenced by macroeconomic conditions and positive investor expectations due to the economic growth achieved and the slowdown in inflation. In 2024, the volume of government securities issued continued to increase. Yields on government securities in secondary markets remained stable as a result of an offsetting increase in demand from the main categories of buyers (commercial banks, pension funds and insurance companies), which are increasing their exposure to sovereign debt in an attempt to increase the share of low-risk assets in an environment of global uncertainty. Positive impacts on the government securities market are the growing expectations of credit rating upgrades in connection with euro area accession, as well as the contract signed in the first half of 2024 between the BNB and the MoF to optimise the information service of the state budget.

A key event for both budget management and the investment community in 2024 was the **issuance of USD-denominated bonds, undertaken for the first time since 2002.** This was likely motivated by the increasing share of dollar payments in budget expenditures. The US$1.5 billion, 12.5-year maturity dollar issue was issued as part of a triple tranche in two currencies, placed on the international capital markets on August 28, 2024. Indicative of the solvency demand potential in this segment is the narrowing of the premium to the 10-year US Treasury note from 170 bps to around 135 bps.

The Treasury's 2025-2028 Sovereign Debt Management Strategy[46] anticipates meeting growing investor interest insofar as it envisages an increase in the consolidated debt of the general government sector from BGN 39.6 billion in 2024 to BGN 87.8 billion (35.6% of projected GDP) at the end of 2028. The document specifies that this represents a doubling of debt, which poses risks that must be viewed through the prism of consolidating public finances and limiting budget deficits.

Access for domestic investors is expected to remain relatively limited as the strategy relies on securing new debt financing through a combination of issuance in the domestic debt market and international capital markets. External sources are given high priority, given the constraints in the scale and development of the domestic debt market. Credit institutions may be partly incentivised to step up their activity in debt markets by the additional exemption of more than 90% of the reserve requirement on entry into the euro area. These incentives could be offset by a shift of domestic banks towards purchases of government securities of foreign issuers.

[46] Ministry of Finance, “Government Debt Management Strategy for the period 2025-2028”.

4.4. Expectations for banking sector developments in 2025 and in the short term

In 2025, the banking system is expected to face a number of challenges, most of which are directly related to the uncertainty surrounding the unfolding of the military conflict in Ukraine and trade wars as the US raises tariffs. This calls for more moderate expectations to be formed for the banking system in the short term to weaken lending growth and to lower profitability and sustainability metrics in 2025. Additional risks in this regard for some banks are the introduction of new burdens related to the need to finance increased military spending, as well as to service the uniform standards for reporting the environmental footprint of banking activities. The expectation is that **the dynamics of market interest rates will be driven more by the drive to achieve a fair cost of credit than by nominal adjustments to underlying indices**, which in a more optimistic scenario would have a determining role in the behaviour of interest rates.

The intense pace of credit growth raises a number of risks that should be subject to increased attention by regulators and market participants. Accelerated credit growth, particularly in the housing segment, is increasing the overall level of indebtedness among households. Against the backdrop of expectations of slowing income growth, this may lead to a deterioration in borrowers' solvency, especially in an environment of rising interest rates with accelerating price dynamics. This creates the conditions for an increase in arrears and a deterioration in the quality of the banks' loan portfolio. Active lending may lead to overvaluation of certain asset classes, especially in the real estate market. There are already signs of overheating in certain segments of the housing market, where prices are rising faster than incomes and rents, distorting collateral valuations and creating risks of a sharp correction when the economic environment deteriorates.

Forward credit growth is pro-cyclical in nature – it amplifies the positive phases of the business cycle but deepens the downturns when the trend reverses. **With the risks of an external shock** (such as an EU recession, energy crisis or geopolitical escalation**) rising, the risk of a need for a rapid credit squeeze is also increasing**, typically leading to liquidity constraints, a fall in consumption and investment. The risks are compounded by the presence of less-regulated market participants, including non-bank institutions registered under Article 3a of the Credit Institutions Act, which often provide credit on more flexible but riskier terms. The growing share of this segment, without full supervision and transparency, creates a real danger of a buildup of hidden systemic risk outside the banking sector.

Another focus that will largely determine the development of the sector in the short term is the accession to the euro area. It can be expected **that euro adoption will support Bulgaria's credit rating and lead to some containment of debt servicing costs**, which should not be associated with a weakening of fiscal discipline and a rapid build-up of public debt, especially against the background of the discussed increase in defence spending. Other risks stem from the limited scope for responding to external shocks due to the lack of possibility to implement autonomous money supply management measures and the release of 93% of the minimum reserve requirement, which could be reflected in a shock increase in the money supply and trigger more intense price increases. It should also not be overlooked that following the ECB's single monetary policy decisions and Bulgaria's expected limited influence in making them reduces the scope for an independent response to external shocks.

5. Projections for the Bulgarian economy until 2027

The macroeconomic forecast of the Economic Research Institute at BAS is based on a structural model including the main macroeconomic indicators. The developed **macroeconomic** forecast is based on assumptions regarding economic development in the medium term (until 2027) in terms of international prices and external demand, as well as on the government's economic policies outlined in the Medium-Term Budget Outlook for the period 2025-2028.

5.1. Assessment of the implementation of the macroeconomic forecast for 2024

The assessment of the macroeconomic forecast of the ERI at BAS for 2024 is generally satisfactory. However, in contrast to 2023, when most of the important macroeconomic indicators were forecast with high accuracy, there are more significant discrepancies in 2024 (Table 6). This confirms the observation from previous years that the macroeconomic model used produces better results when economic dynamics are calm, which is not the case in 2024.

The GDP deflator assumed in the forecast turns out to be lower than the actual one. This is surprising, as the ERI's forecast for annual average inflation (3.9%) is higher than the reported one (2.6%). It is logical to expect that the same trend will carry over to the GDP deflator, but there, the direction of the divergence is reversed. This is due to sharper changes in inventory and fixed capital pricing, as well as in foreign trade, and these variables are exogenous to the model and were clearly not predicted accurately enough.

The other, more significant divergence is in terms of credit to non-financial corporations and households. The forecast assumes more substantial upward adjustments in interest rates on new loans, which would lead to lower volumes. Expectations are justified only in terms of interest rate increases, but not in terms of lending volumes. Clearly, the banking system remains highly liquid, and demand for credit is not seriously affected by either the volatile external environment or slightly higher interest rates.

In terms of other important macroeconomic variables**, there are no major discrepancies with the reported data**[47]. This is **especially the case for real private consumption growth in 2024, the unemployment rate and broad money growth**. The current account balance of payments is projected to be slightly negative, while the BNB's preliminary data show a more substantial deficit, primarily due to reduced export volumes.

[47] Much of the data at the time of publication of this forecast were not final with possibility for changes in either direction, making the 2024 forecast somewhat difficult to assess. This applies above all to economic growth and foreign trade data, where there are discrepancies, but the trends are broadly correctly captured.

Table 6. Comparison of forecast data for 2024 with reported data

	Assumption / Forecast	Report/ Estimated	Difference
Assumptions[48]			
International crude oil price (index, 2016 = 100)	182.9	177.9	-2.8%
International gas price (index, 2016 = 100)	261.6	204.0	-28.2%
International price of manufactured goods (index, 2016 = 100)	151.9	160.1	5.4%
International price of food and beverages (index, 2016 = 100)	144.3	142.2	-1.4%
International base metals price (index, 2016 = 100)	184.9	182.1	-1.5%
Global inflation, annual average (%)	5.8	5.7	-0.1 p.p.
Real global GDP growth (%)	3.1	3.2	0.1 p.p.
EU real GDP growth (%)	1.2	1.1	-0.1 pp
China's real GDP growth (%)	4.6	4.8	0.2 p.p.
US real GDP growth (%)	2.1	2.7	0.6 p.p.
World trade volume growth (%)	3.3	3.1	-0.2 p.p.
Model forecast			
GDP (real growth, %)	2.2	2.8	0.6 pp
GDP deflator (%)	3.6	6.5	2.9 p.p.
Private consumption (real growth, %)	4.0	4.5	0.5 p.p.
Gross fixed capital formation (real growth, %)	1.5	-1.1	-2.6 p.p.
Exports of goods and services (real growth, %)	1.3	-0.8	-2.1 p.p.
Imports of goods and services (real growth, %)	2.5	1.3	-1.2 p.p.
Annual average HICP inflation (%)	3.9	2.6	-1.3 p.p.
Unemployment rate (for population aged 15-64, %)	4.0	4.2	0.2 p.p.
Budget balance (% of GDP, cash basis)	-2.3	-3.0	-0.7 p.p.
Current account (% of GDP)	-0.2	-1.8	-1.6 p.p.
Monetary aggregate M3 (growth, %)	8.1	8.7	0.6 p.p.
Loans to non-financial corporations and households (growth, %)	5.3	14.5	9.2 p.p.

Source: IMF and NSI.

5.2 Global and regional outlook and impact of the external economic environment

The period 2025-2027 appears to be difficult to predict and strongly influenced by both global economic trends and processes within the EU. In order to forecast more accurately, the realistic prospects for the Bulgarian economy in the broader context of the global and European environment need to be outlined. **Geopolitical tensions, inflationary pressures, energy transformation, technological change and access to EU funding are just some of the elements expected to shape Bulgaria's economic landscape over the forecast period**.

The global outlook for 2025-2027 is marked by several key trends:

1) **Slowing growth and the search for stability**. While the most acute phase of the inflation shock is receding in many economies, central banks remain cautious. Tight monetary policy will continue to have an impact, albeit with a gradual easing trend. This is associated with higher financing costs, which may constrain investment and consumption. Global growth is expected to be moderate but slower than pre-COVID-

[48] The assumptions for the external sector and commodity price forecasts are from the IMF's annual World Economic Outlook (WEO) report.

19 levels. Leading economies (such as the US, China and the euro area) are likely to experience varying degrees of slowdown, with knock-on effects on global trade.

2) **Persistent, albeit declining, inflation**. Despite the efforts of central banks, a return to sustained low levels of inflation may prove more difficult than expected. Structural factors (such as geopolitical fragmentation, energy transition costs and labour market changes) could keep inflationary pressures at higher levels than seen before 2020. This will continue to erode purchasing power and pose challenges for businesses.

3) **Geopolitical uncertainty and fragmentation**. The ongoing military conflict in Ukraine, tensions in the Middle East and other regional clashes create ongoing uncertainty. This affects energy markets, trade flows and investor confidence. There is a trend towards regionalisation and "friendshoring" of production, which is rearranging global supply chains, creating both risks and new opportunities for certain countries.

4) **Energy transition and price volatility.** Efforts to decarbonise and transition to renewables are accelerating globally. However, this transition is costly, requires large-scale investments and is accompanied by energy security risks and potential price volatility, especially while dependence on fossil fuels remains high.

5) **Technological transformation and digitalisation.** The rapid development of artificial intelligence and ongoing digitisation have the potential to boost labour productivity and create new economic niches. At the same time, they pose challenges related to workforce adaptation, the need for new skills, ethical issues and the risk of widening inequalities.

The EU economy is closely linked to global trends but has its own specificities. The EU is also experiencing the effects of tighter monetary policy and the global slowdown in economic activity. Economic growth is projected to be modest and there are likely to be significant differences between Member States depending on their economic structure, energy dependence and degree of integration. Growth will be driven by domestic consumption (supported by the labour market and possibly declining inflation) and investment, especially related to EU funds.

The next generation EU is emerging as a key instrument for the EU. The financial resources foreseen under the NRRPs are mainly focused on the green transition and digital transformation. The successful and timely use of these funds is crucial to stimulate investment, modernise economies and increase competitiveness. The effectiveness of these programmes depends strongly on the administrative capacity and implementation of the necessary reforms in each EU Member State. Given the recently stated intentions for accelerated rearmament, concerns are increasingly justified as to how this will affect other programmes, in particular the cohesion fund, on which Bulgaria relies heavily.

The EU's ambitious climate neutrality targets continue to drive legislation and investment priorities. This creates opportunities in sectors related to renewable energy development, energy efficiency, sustainable transport and the circular economy. But **the green transition poses challenges for traditional industries (especially coal mining regions), requires huge investments in infrastructure and may lead to higher energy costs in the short to medium term**. Efforts to diversify energy supplies and reduce dependence on Russian fossil fuels remain a top priority.

In recent years, the EU's drive to strengthen its digital sovereignty and promote the deployment of digital technologies in business and the public sector has become increasingly evident. This is an important factor in boosting productivity and competitiveness against global players such as the US and China. Challenges remain in terms of the need for investment in digital infrastructure and skills, and bridging the digital divide.

Alongside these trends, mention should also be made of **the serious demographic problems facing most EU countries**. Ageing populations and declining workforces are a structural challenge for many countries, including Bulgaria. This puts pressure on social security and healthcare systems and can lead to labour shortages in key sectors, and limit the growth potential of the economy.

5.3. Key assumptions for the 2025-2027 projection period

Bulgaria's economic development in the period 2025-2027 is expected to be directly influenced by the described global and European trends, but will also depend crucially on specific domestic factors, opportunities and challenges.

The trend of European funding being among the most significant drivers for the Bulgarian economy is now **firmly established**. The NRRP and the new cohesion programmes offer unprecedented financial resources for investments in green and digital transformation, transport and energy infrastructure, innovation, education and healthcare. Successful, transparent and timely use of these funds is an absolute must. It can stimulate domestic demand through public investment and help the private sector to modernise and increase competitiveness. In recent years, there has **been a serious backlog in the absorption of these funds, which will inevitably be reflected in lower rates of economic growth**.

Table 7. Key assumptions underlying the macroeconomic forecast

Indicator	Report			Forecast		
	2022	2023	2024	2025	2026	2027
International crude oil price (index, 2016 = 100)	161.2	222.9	177.9	168.5	162.5	158.6
International gas price (index, 2016 = 100)	253.7	521.6	204.0	259.1	238.8	209.8
International price of industrial goods (index, 2016 = 100)	179.2	172.8	160.1	158.1	158.4	158.9
International price of food and beverages (index, 2016 = 100)	146.6	158.1	142.2	135.0	134.6	134.6
International metal price (index, 2016 = 100)	184.3	191.0	182.1	184.6	185.1	185.6
Inflation, annual average (%)	4.7	8.7	5.8	4.3	3.8	3.4
Real global GDP growth (%)	6.3	3.5	3.3	3.2	3.3	3.1
EU real GDP growth (%)	5.9	3.6	1.1	1.6	1.7	1.6
China's real GDP growth (%)	8.5	3.0	4.8	4.5	4.1	3.6
US real GDP growth (%)	5.9	2.1	2.7	2.1	2.0	2.1
Growth in world trade volume (%)	10.9	5.2	3.3	3.4	3.4	3.3

Source: IMF, WEO update January 2025.

Domestic consumption is expected to remain relatively stable, supported by persistently low unemployment and income growth, which is likely to slow compared to previous years. Declining (albeit still high) inflation could also support purchasing power.

Despite the serious challenges of the global trade wars, some recovery in exports is expected over the forecast period due to the dynamic development of the services sector, the implementation of the rearmament programme and the advantages that Bulgaria is realising in military exports, as well as the effects of **euro area accession**. This **would lead to the elimination of exchange rate risk, reduced transaction costs, easier access to finance and increased investor confidence**.

5.4. Evolution of key indicators over the forecast period

The Bulgarian economy is showing relative resilience, supported by strong domestic demand and improved labour market indicators. However, inflation and rising government debt levels underline the need for a careful and balanced fiscal policy over the forecast period.

Real sector

The real sector shows moderately positive dynamics over the forecast horizon. Real GDP growth slows slightly in the early part of the 2025-2027 period but accelerates thereafter. The main growth driver is private consumption, which is growing steadily on the back of stable household incomes and positive consumer sentiment. In contrast to private consumption, investment (gross fixed capital formation) is expected to stagnate initially in 2025 but to recover moderately in 2026, an indicator of improving economic prospects and a gradual recovery in investment activity.

Inflation as measured by HICP remains relatively high (compared to EU averages), with the GDP deflator showing even higher values (6.5% in 2024 and 3.6% in 2025). This implies some inflationary pressure, which is an important factor for future monetary policy and fiscal discipline.

The labour market is characterised by rather positive trends. The employment rate is rising while unemployment is falling. Average monthly wages are growing significantly in real terms (10.9% in 2024 and 8% in 2025), contributing to higher consumption. EU-wide demographic problems continue to put pressure on the labour market and highlight serious labour shortages in some sectors of the economy.

External sector

The external sector has shown a partial improvement after initial difficulties. Exports of goods and services are recovering smoothly after a real decline in 2024. Imports continue to grow slowly but steadily, reflecting strong domestic demand and rising consumption and investment.

The current account of the balance of payments remains negative throughout the 2025-2027 projection period, gradually improving as external imbalances narrow somewhat. FDI remains at a low level (around 4%), which is likely to accelerate upon euro area accession. Gross external debt remains relatively stable (around 48% of GDP), indicating moderate indebtedness without posing a serious threat to macroeconomic stability.

In 2025, the contribution of external demand to GDP is expected to remain negative (Figure 35), with imports continuing to grow faster than exports. This is due to the buoyant real income dynamics of recent years with gradually declining inflation, which motivates higher domestic demand and imports, respectively.

Table 8. Macroeconomic Forecast of the Economic Research Institute at BAS for the period 2025-2027

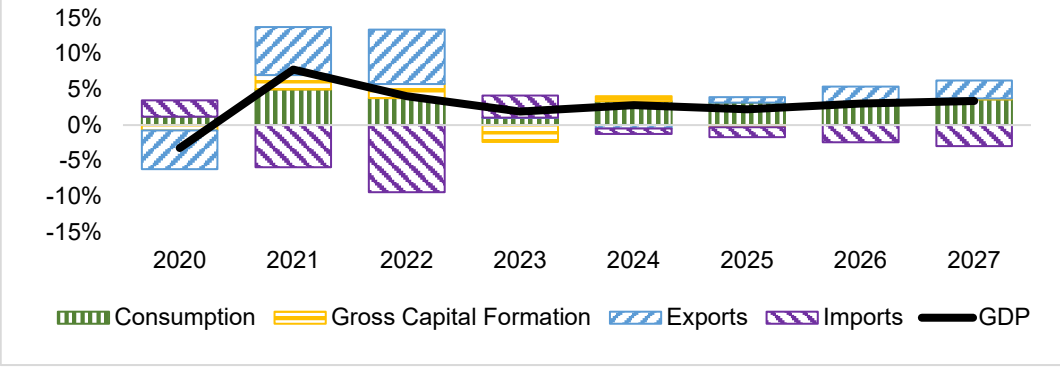
	Preliminary data	Forecast		
	2024 г.	2025 г.	2026 г.	2027 г.
Real sector (%)				
GDP	2.8	2.2	3.0	3.4
Consumption	4.3	4.0	3.7	4.5
Gross fixed capital formation	-1.1	1.5	4.2	4.8
Exports of goods and services	-0.8	1.3	3.8	4.2
Imports of goods and services	1.3	2.5	4.2	5.1
Price dynamics (%)				
Annual average HICP inflation	2.6	3.9	3.2	2.9
GDP deflator	6.5	3.6	2.8	2.3
Labour market				
Employment rate (15-64 years)	70.9	71.2	71.3	71.4
Unemployment rate (15-64 years)	4.2	4.0	3.7	3.7
Average monthly wage (BGN)	2323	2606	2865	3095
Real wage increase (%)	10.9	8.0	6.5	5.0
External sector (% of GDP)				
Current account	-1.8	-0.8	-0.6	-0.5
Capital account	1.4	1.5	1.6	1.8
Financial account (including foreign exchange reserves)	1.5	1.2	1.1	1.2
FDI in the country	4.0	4.1	4.0	3.9
Gross external debt	48.0	47.6	47.5	47.8
Financial sector (annual % change)				
Monetary aggregate M3	8.7	8.1	7.5	7.4
Loans to non-financial sector	14.5	8.3	6.0	5.0
Fiscal sector (% of GDP)				
Budget revenue	35.7	35.9	36.4	37.4
Budget expenditure	38.7	38.8	39.3	39.6
Budget balance (cash basis)	-3.0	-2.9	-2.9	-2.2
General government debt	24.8	27.8	29.3	31.0

Foreign trade in the medium term is expected to be more influenced by factors with a negative impact, with the growth rates of both exports and imports likely to be lower than observed in previous years. Such an impact is expected under the impact of the imposition of tariffs on exports of European goods to the US, which would slow down economic growth in the EU and the euro area. A failure to contain the recession in Germany would have a serious negative effect on the demand for Bulgarian exports and also on imports if reflected in a further restriction of German investment in Bulgaria. With a relative wage freeze in the public sector, a slight decline in domestic demand is likely, and hence a slowdown in import growth. The lack of clear prospects for an acceleration of the NPV payments also limits imports of investment goods. The persistence of the downward trend in energy prices will also be a factor driving down the value of imports.

Full membership of the euro area would increase Bulgarian exports of goods by removing the price revaluation and boosting tourism to the country. This could be

a factor that would mitigate the negative effects of US trade policy on foreign trade, with the effect more likely to start to manifest itself at the end of the forecast period (around 2027). A positive effect on merchandise exports would be provided by a further reduction in interest rates in the euro area, stimulating investment and consumption in the euro area and hence demand for Bulgarian exports.

Figure 35. Contributions to economic growth by components of final consumption (%)



Source: NSI and own calculations.

Monetary and fiscal sector

There is a fiscal expansion in the early part of the 2025-2027 period, with the budget deficit expected to stay at 3% of GDP in 2025 and then gradually start to decline. This mechanism somewhat mitigates the economic slowdown caused by weak external demand. Public debt is rising and is expected to slightly exceed 30% of GDP at the end of the projection period (2027). However, government debt is not expected to be excessive under the impact of nominal GDP growth and given relatively low interest rates. This implies **that the fiscal space facing the economy is not exhausted but needs to be used prudently**.

In the monetary sector, the dynamics of the main monetary aggregates have been stable, albeit slightly decelerating. Real growth of broad money (monetary aggregate M3) remains high, indicating sufficient liquidity in the economy. Credit to the non-financial sector has slowed somewhat, despite strong real growth at the beginning of the forecast period. This can be seen as a signal of a gradual cooling of credit expansion and a moderate tightening of credit conditions, which will strongly depend on the process of integration within the context of euro area membership.

In order to make the macroeconomic expectations comparable and to better outline the trajectory of Bulgaria's economic development in the medium-term perspective, a comparison is made between the economic dynamics forecast of the Economic Research Institute at the Bulgarian Academy of Sciences and the published forecasts of the MoF, the BNB and the IMF (Table 9). As the latest EC macroeconomic forecast is as of 15.11.2024, it is not included in the comparison of expectations.

Table 9. Comparison of macroeconomic forecasts for Bulgaria by leading institutions for the period 2025-2027.[49]

Indicator	2025 г.				2026 г.				2027 г.			
	BAS	MOF	BNB	IMF	BAS	MF	BNB	IMF	BAS	MF	BNB	IMF
Economic growth (%)	2.2	2.8	2.8	2.5	3.0	3.0	2.2	2.7	3.4	2.0	3.1	2.7
Annual average inflation (%)	3.9	2.4	3.8	3.7	3.2	2.3	2.4	2.3	2.9	2.2	2.6	2.2
Unemployment rate (%)	4.0	4.1	4.0	4.1	3.7	4.0	3.8	4.05	3.7	4.0	3.7	4.0
Current account (% of GDP)	-0.8	-2.0	-2.3	-1.5	-0.6	-3.1	-2.9	-1.0	-0.5	-3.5	-3.4	-1.3

Source: ERI at BAS, MoF, EC, and IMF.

The comparison shows that the expectations of the ERI for economic growth in 2025 are more pessimistic and closer to those of the IMF, while the BNB and the MoF forecast a more serious growth of real GDP. This is due to the BNB and MoF assumptions of higher government consumption and a higher take-up rate of NRRP payments in 2025, while the ERI at BAS remains conservative in its expectations for public investment growth. In the coming years, economic growth projections are similar, except for the slowdown in economic growth projected for 2026 by the BNB and for 2027 by the MoF due to the strongly negative contribution of net exports. **The dynamics of the current account balance of the balance of payments show a significant difference between the BAS ERI and other institutions' projections.** This is due to the assumption of the BNB and the MoF that higher domestic demand growth will lead to a significant acceleration in imports. According to the ERI, the risks arising from trade wars and tariff hikes by the US will, to a greater extent, lead to a contraction in external demand and thus put downward pressure on merchandise exports, which will translate into a suppression of domestic demand. With the development of global stagflation due to higher export tariffs, and given the expected accession to the euro area, the BAS ERI forecasts that annual average inflation will be higher and will gradually slow down in the coming years. Regarding unemployment, all institutions expect the unemployment rate to remain around full employment until 2027.

5.4. Challenges and risks

Chronic political instability and frequent snap elections in recent years are a serious obstacle to long-term planning, coherent reform and effective governance. This creates uncertainty for businesses and can significantly delay the absorption of EU funds, especially under the NRRP, which is tied to specific reforms and legislative changes.

Despite the significant potential available, Bulgaria has shown slow and inefficient absorption of EU funds due to administrative weaknesses, complex procedures and insufficient capacity. Failure to absorb the NRRP funds on time would be a missed opportunity for modernisation and growth.

[49] The projections are from the ERI's forecast as of March 31, 2025; the Ministry of Finance's Updated Medium-Term Budget Projection 2025-2028 as of February 19, 2025; the BNB's Macroeconomic Forecast as of March 26, 2025; and the IMF's Macroeconomic Outlook published on April 22, 2025.

Another risk factor is inflation, which, although declining, is likely to remain higher than the euro area average, negatively affecting the purchasing power and competitiveness of the economy. **Controlling price dynamics requires both prudent fiscal policy and structural measures, with a view to the sustainable integration of the Bulgarian economy within the euro area.**

An important risk factor with long-term implications is the severe demographic crisis – low birth rate, high mortality and emigration of young and qualified personnel. This is leading to an ageing population and growing labour shortages in many sectors of the economy, limiting growth potential and increasing pressure on both wages and the pension system.

The need for deep reforms in key areas, such as the judiciary (fighting corruption), education (improving quality and the link with business needs), health, and strengthening the business environment, remains on the agenda. Lack of progress in these areas undermines confidence, limits investment and hampers the long-term development of the Bulgarian economy.

The green transition also comes with certain risks. Bulgaria is heavily dependent on coal for electricity generation. The transition to a low-carbon economy, although supported by EU funds, is a complex socio-economic process, especially for coal mining regions. Strategic planning and investment in renewable energy, energy efficiency and a just transition for affected communities are needed.

Regional imbalances are another risk factor. Economic development continues to be concentrated in the capital and a few large cities, while many regions lag far behind, exacerbating social inequalities.

Limiting the impact of these structural problems on the Bulgarian economy depends entirely on the following internal factors:

- **Achieving political stability** and forming a sustainable governance capable of taking strategic decisions and implementing reforms.
- **Efficient and rapid absorption of the funds under the NRRP and cohesion programmes**, which requires maximum mobilisation of administrative capacity, simplification of procedures and strong political will.
- **Accelerate structural reforms**, make progress in the fight against corruption, reform the judiciary, modernise education and improve the business climate, which are critical to attract private investment, raise labour productivity and sustain integration into the euro area.
- **An active labour market policy and a drive to tackle demographic problems by investing in skills and retraining the workforce**.

If Bulgaria can tackle these domestic challenges, it has a real chance to use the 2025-2027 period to lay the foundations for a more sustainable, modern and competitive economic model, making the most of the opportunities provided by EU and euro area membership. Otherwise, the country risks missing the historic opportunity provided by EU funding and falling further behind, facing deepening structural problems and being vulnerable to external shocks. The future of the Bulgarian economy over the next three years will depend hugely on the ability of the political and social elite to act strategically, responsibly and in the long-term national interest.

6. Bulgaria's Readiness to Join the Euro Area

As one of the most important economic developments in Bulgaria's recent history since the introduction of the currency board and EU membership, preparations for joining the euro area have opened up a wide public, political and academic discussion[50]**. In 2024, the regular reports of the European Commission and the ECB noted that the country did not meet all the criteria for joining the euro area, but the ad hoc reports of June 2025 gave a firm assessment of Bulgaria's fulfilment of all criteria.** A retrospective review of the fulfilment of the economic criteria for euro area accession since 2007, focusing on the assessments and recommendations by the EC and the ECB, answers the question about the sustainability of meeting the criteria, but also may help to define how to strengthen the convergence after joining the euro area.

The accession to the euro area is an essential part of Bulgaria's policy in the pre-accession process, when the national position under negotiating chapter 11, "Economic and Monetary Union", was that Bulgaria would join simultaneously both the euro area and the EU. The Bulgarian position was not accepted by the EU negotiation team since the Currency Board in Bulgaria was not recognised as an equivalent of the Exchange Rate Mechanism II (ERM II). Nevertheless, in 2004, an agreement was signed between the BNB and the Council of Ministers aiming at preparing Bulgaria for joining the euro area as soon as possible.[51]

During the 18 years of Bulgaria's EU membership, the state of the national economy has been assessed in ten convergence reports, nine of them regular and one at the request of the Bulgarian government. As the euro area accession process has progressed (especially in the last two years), the discussion on Bulgaria's readiness and on the benefits and risks of euro adoption has become particularly acute. The assessments made in the convergence reports published by the EC and the ECB are also interpreted differently, which reinforces the diverging public sentiments.

A critical look at Bulgarian publications and commentaries on the convergence criteria shows that the criteria for assessing economic convergence are often conflated with other criteria beyond those explicitly stipulated in the EU regulatory framework[52]. On the other hand, not enough attention is paid to legal convergence (which is no less important than economic convergence) and so-called "other factors" are often commented on and analysed as accession criteria.

[50] In the Annual Report 2023 of the Economic Research Institute at the Bulgarian Academy of Sciences, a focus topic "The Euro area and Bulgaria's accession" was developed. In 2023, the monographic study "The Euro area and Economic Prospects for Bulgaria" was published by a team of authors led by Prof. Rositsa Rangelova, PhD. Authors from the Bulgarian Academy of Sciences have published a number of articles on the topic in Bulgarian and prestigious international publications.

[51] Agreement between the Council of Ministers of the Republic of Bulgaria and the Bulgarian National Bank on the introduction of the euro in the Republic of Bulgaria,
https://www.bnb.bg/bnbweb/groups/public/documents/bnb_law/agreements_bnb-cm_bg.pdf.

[52] Some researchers argue that Bulgaria is not ready for euro area membership because its GDP per capita is the lowest in the EU. This macroeconomic indicator is not and has not been a criterion for joining the euro area. In the convergence reports for 2024 and 2025 and before, it is mentioned only in the context of the potential for inflation to accelerate in the long term as a consequence of catching-up economic growth, and the large regional differences in this indicator are highlighted as an important economic policy priority.

Article 140 of the Treaty on the Functioning of the EU, as well as every convergence report of the EC and the ECB[53], **clearly state which are the criteria for economic convergence:**

- achieving a high degree of price stability;
- the sustainability of the government's financial position;
- the observance of the normal fluctuation margins provided for by the Exchange Rate Mechanism of the European Monetary System, for at least two years, without devaluing against the euro;
- the durability of the convergence achieved by the Member State with a derogation and by its participation in the Exchange Rate Mechanism, as reflected in the level of interest rates in the long term.

In addition to assessing the fulfilment of the economic convergence criteria, the ECB and the EC assess the degree of compliance of national legislation with the EU Treaties and the Protocol on the Statute of the European System of Central Banks (ESCB) and of the European Central Bank, as well as whether the legal requirements for the national central bank concerned to become an integral part of the Eurosystem have been met (so-called **legal convergence**). It is important to note that the assessment of the fulfilment of the criteria is based only on reported statistics and not on forecasts. For the purposes of sustainability, a retrospective review of some of the criteria over the last ten years has been carried out[54]. In analysing the so-called "**other factors**", the EC and ECB have always focused on the key policies that will ensure the sustainability of the convergence process in the future. Convergence reports not only assess the current economic situation, but also analyse the factors for sustainable convergence – the state of institutions, the stability of the fiscal position, resilience to economic and other shocks and the appropriateness of policies pursued after euro adoption.

Bulgaria achieved a high degree and persistence in the fulfilment of the numerical economic convergence criteria throughout the whole period after EU accession. (Table 10). The numerical economic criteria are fully met in 5 of the convergence reports – for 2012, 2014, 2016, 2018 and 2025. Although the currency board was not assessed as ERM II compliant, Bulgaria has maintained the highest degree of exchange rate stability against the euro with 0% exchange rate deviation for 28 years – the longest-lived currency board in the entire monetary history. The fulfilment of the individual numerical economic criteria shows that the government debt criterion is fulfilled according to all 10 convergence reports, the fiscal balance is within the criterion according to 9 convergence

[53] The 2025 Convergence Report of the Commission (p. 3) states: "Reports should also consider whether the Member State concerned has achieved a high degree of sustainable convergence by (i) referring to the fulfilment of the four convergence criteria (price stability, public finances, exchange rate stability and long-term interest rates); and (ii) taking into account other factors related to economic integration and convergence referred to in the last sentence of Article 140(1) TFEU."According to the last sentence of Article 140(1) TFEU, these are: "the effects of the integration of markets, the state and evolution of current account balances of payments and the examination of developments in unit labour costs and other price indices."

[54] The ECB's 2025 Convergence Report (p. 10) explicitly states that: "With regard to the sustainability of public finances, the outcome for the reference year 2024 is considered in relation to the performance of the country under consideration over the last ten years."

reports, the long-term interest rate criterion is also met in 9 reports and the inflation criterion in 5.

Table 10. Bulgaria's fulfilment of the economic convergence criteria

Indicator	Year	2008	2010	2012	2014	2016	2018	2020	2022	2024	2025
Budget balance	Reference value – 3% of GDP	3.4	-3.9	-2.1	-1.5	-2.1	0.9	2.1	-4.1	-2.9	-3.0
Government debt to GDP	Benchmark 60% of GDP	18.2	14.8	16.3	18.9	26.7	25.4	20.4	25.1	23.1	24.1
Inflation	Reference value	3.2	1.0	3.1	1.7	0.7	1.9	1.8	4.9	4.1	2.8
	Bulgaria	9.4	1.7	2.7	-0.8	-1.0	1.4	2.6	5.9	5.1	2.7
Long-term interest rate	Reference value	6.5	6.0	5.8	6.2	4.0	3.2	2.9	2.6	5.5	5.1
	Bulgaria	4.7	6.9	5.3	3.5	2.5	1.4	0.3	0.2	4.0	3.9
Exchange rate	Minimum 2 years in ERM II								Yes	Yes	Yes

Note: The table below each year shows the data for the relevant criterion for the period assessed in the EC Convergence Report.

Source: EC Convergence Reports.

The macroeconomic stability underpinned by the Currency Board in Bulgaria enables the fulfilment of the nominal criteria for euro area accession. Government debt has remained at one of the lowest levels in the EU throughout the period since 2008 (between 14.8% and 26.7% of GDP), despite some severe economic shocks, mainly due to external factors. In three of the years assessed (in the Convergence Reports for 2008, 2018 and 2020), there are budget surpluses, while the largest deviation from the 3% reference budget deficit is only 1.1 p.p. (in 2021) according to the EC Convergence Report in 2022 after the COVID-19 pandemic. Regarding the inflation criterion, Bulgaria is close to the benchmark by a maximum of 1 p.p. (excluding 2008).

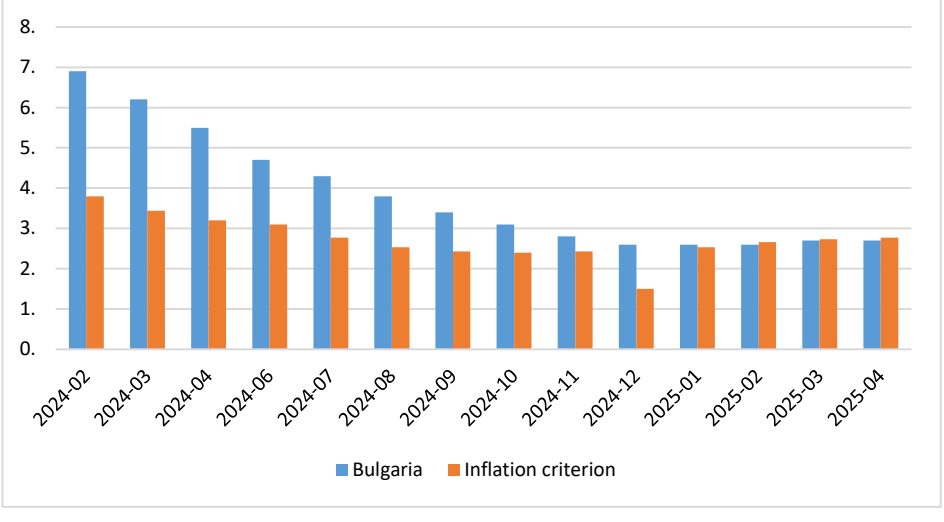
The overall assessment in the EC Convergence Report in 2024 is that "Bulgaria is the only country that meets all but one of the criteria and whose national legislation can be considered compatible with the rules of the Economic and Monetary Union". A comparison between the convergence reports in 2024 and 2025 shows that the provisions of Article 140 TFEU are strictly complied with in both cases. Changes in the macroeconomic framework and its drivers, as well as changes in legislation between the two reports, are taken into account. It is important to note that **the main critical comments remain regarding the so-called "other factors", which shed light on the risks to the sustainable functioning of the Bulgarian economy in the euro area.**

In the 2025 economic convergence assessment, the EC and ECB conclude that all criteria are met as of the date of its publication. The fulfilment of the economic criteria is analysed in detail in the 2024 and 2025 Convergence Reports. It is important to note that, unlike in the 2024 Convergence Report, where the ECB and the EC calculate the reference value of the price stability criterion differently[55] and have different values, in 2025, this criterion is calculated in the same way by both institutions and a single value

[55] In line with Article 140(1), first indent, TFEU and Article 1 of the Protocol on the Statute of the ESCB (No 13) on the convergence criteria: 'the Member State concerned has price stability and the average inflation rate over a period of one year before the performance review does not exceed by more than 1½ percentage points that of at most three best performing Member States in the area of price stability'.

of this criterion is reached by both institutions. Moreover, the calculation of reference values is made without removing countries that deviate from the definition of "best performers" in terms of inflation**.** In 2024, the three best-performing countries in terms of price stability according to the EC were the Netherlands, Italy and Latvia, as three countries with the lowest inflation rates were excluded since they were considered as “outliers” (Finland, Denmark and Belgium). The ECB calculated the reference value of inflation using data for Denmark, Belgium and the Netherlands (only Finland is excluded). In 2025, Finland is no longer excluded from the price stability calculation, and the three Member States identified as best performers in terms of inflation are Finland, Italy and Ireland. The EC argues that this was not done "because no country's inflation deviates significantly from the euro area average due to country-specific circumstances" (EC Convergence Report 2025). The fact that **Bulgaria fulfils the inflation criterion without excluding other Member States when calculating the reference value** leaves no doubt as to its achievement, all the more so as in the last three months, Bulgaria's annual average inflation has met the inflation criterion for the month concerned (Figure 36).

Figure 36. Annual average inflation in Bulgaria relative to the inflation benchmark (%)



Source: Eurostat

Despite the good macroeconomic performance achieved and confirmed in the convergence reports after 2008, the sustainability of compliance with the Maastricht criteria after accession to the Economic and Monetary Union fully depends on a realistic assessment of risks and their management. The two convergence reports identify the short-term risks to inflation, public finances and long-term interest rates. They are not only related to external factors, but mainly to internal ones.

The role of the Currency Board in the stability of public finances is highly appreciated in the convergence reports. The removal of this "anchor" of macroeconomic stability has some analysts worried. Monetary policy in the euro area

cannot be tailored to the specific features of the Bulgarian economy, so fiscal and structural policy will be crucial and this needs to be taken into account. A favourable factor for the adaptation to the euro area is the structure of Bulgaria's government debt, most of which is already in euros, i.e. in local currency, when adopting the euro, which eases the terms of its repayment**.** As also pointed out in the Annual Reports of the Economic Research Institute at the Bulgarian Academy of Sciences, there is a need not only to increase the government's capital expenditure but also the efficiency of public investment.

The assessment of price stability in the 2025 convergence reports recognises that discretionary measures abolishing reduced levels of VAT rates for some businesses and administrative prices since the beginning of 2025 are a cause of higher inflation**.** Also, the reports point out the inflation risks if the credit growth persists. In February 2024, the European Systemic Risk Board concluded that Bulgaria's residential property market is exposed to risks in the medium term[56]**.** Wage growth, the catch-up of incomes effect and the economy's strong dependence on energy prices will continue to exert positive pressure on inflation after euro area accession.

The EC and the ECB point to the most important factors that will contribute to a smooth transition to the euro area and to the sustainability of convergence thereafter. It assesses the degree of market integration through several indicators, concluding that **the Bulgarian economy is closely integrated into the euro area economy in three main areas**: **Bulgaria's foreign trade, foreign investment and financial integration.** Bulgaria's participation in the Banking Union as of 2020, in the form of close cooperation, creates an opportunity for a smooth transition of the banking sector towards full membership and gaining access to the Single Stability Mechanism. **Membership in the euro area will have a favourable impact on the capital market**; a process clearly observed in the first years of the accession of other countries to the euro area.

Following the 2012 Convergence Reports, the convergence assessment is aligned with the European Semester, which examines economic policy challenges. This assessment is included in the so-called "other factors", focusing on macroeconomic imbalances under the Macroeconomic Imbalances Procedure[57]. Since then, excessive macroeconomic imbalances in Bulgaria have been identified only once (in 2014), after the closure of one bank. The EC and ECB assessment is that no significant macroeconomic imbalances are observed as of 2025[58]. However, the convergence reports point to risks related to price competitiveness, household credit growth and strong housing price growth.

The assessment of legal compliance in the 2025 Convergence Reports of the EC and the ECB is clearly positive. The 2024 wording that legislation "may be considered compatible with the rules of Economic and Monetary Union" has been removed and replaced with the categorical "fully compatible". Changes made to certain Bulgarian laws remove ambiguities identified regarding the independence of the Governor and the members of the BNB's Governing Council. Critical comments remain regarding the short time limit for appeals in the event of removal from office, and a longer time limit should

[56] European Systemic Risk Board, Follow-up Report on Vulnerabilities in the Residential Real Estate Sectors of the EEA Countries, February 2024.
[57] Adopted in December 2011 as part of the legislative package (the "Six Acts").
[58] The nature of the macroeconomic imbalances procedure and the challenges Bulgaria faces are discussed in more detail in Bobeva, Zlatinov, 2016, pp. 135-154, as well as in the focus on "Structural Imbalances and Risks to the Economy" in the 2019 Annual Report of the ERI at BAS.

be granted. It is recommended that Article 15, para. 3 of the BNB Act should be revised in the 'near term'. The changes to the legislation from March 2025 in the part concerning the possible election of the Governor or the Deputy Governor of the BNB as Prime Minister are positively assessed. The comments regarding the noncompliance of the oath of the Governor of the BNB when elected have been completely removed.

Despite the objectivity of the convergence reports, they do not fully reflect the risks to further convergence posed by the growing demands for wage increases, as well as the rising public expenditure, the containment of which, for the purpose of meeting the Maastricht criteria, is expected to have a negative impact on the macroeconomic framework. The dynamics of the real estate market are reported as a significant risk, but the process of euro area accession will also have a positive impact on demand and prices in this market. The measures taken by the BNB in September 2024 are proving insufficient to calm this market. The EC Convergence Report 2025 identifies education reforms and improving digital skills as important for convergence. **For the first time, both convergence reports pay particular attention to the huge regional disparities and the need for major reforms in this area.**

In both the 2024 and 2025 Convergence Reports, the EC and the ECB make recommendations **for wide-ranging structural reforms, the implementation of which largely depends on Bulgaria's successful integration into the euro area structures and the upward development of the economy**:

- Despite the progress made, there is a need to complete the implementation of the commitments made upon ERM II accession, which need to be fulfilled before euro area accession. These are four policy areas: (i) non-bank financial sector; (ii) insolvency framework; (iii) anti-money laundering framework; (iv) governance of state-owned enterprises.
- Attention is drawn to the need for reforms in the energy sector, the business environment and the legal system. Emphasis is placed on the risks to the economy stemming from an underperforming judiciary and the quality of institutions.
- The implementation of reforms in these areas is crucial for the fulfilment of the conditions for the NRRP funding. It is pointed out that implementation is delayed and needs to be accelerated in order to implement the programmes by August 2026.

With the deteriorating external environment and competitiveness problems, the adjustment of the Bulgarian economy requires radical solutions, which require political will and active public dialogue. **If structural reforms, strict fiscal policy, efficiency of public finances and good governance of state-owned enterprises are delayed and overlooked, there are severe risks for adverse macroeconomic consequences for some sectors of the economy upon euro adoption. Joining the euro area would not bring benefits only if the decisive economic reforms that have been postponed for too long are not implemented, and the euro is not used as an instrument for convergence and achieving higher incomes.**

The process of preparing for the euro

2015 – Decree No. 168 of the Council of Ministers establishes a Coordination Council to prepare Bulgaria for euro area membership. The Council is responsible for organising and coordinating the practical preparations for euro area membership. It is chaired by the Minister of Finance and the Governor of the BNB.

29 June 2018 – The Minister of Finance and the Governor of the BNB sent a joint letter to the euro area countries, the European Commission and the ECB on the Bulgarian authorities' intentions to join ERM II and the Banking Union. On 27 August 2018, the Council of Ministers approved the Action Plan for joining ERM II and the Banking Union by Decision No. 611.

10 July 2020 – The President of the ECB, the finance ministers and central bank governors of the euro area Member States, ERM II members Denmark and Bulgaria took a unanimous decision to include the Bulgarian lev in ERM II. The agreement on the participation of the lev in ERM II was based on Bulgaria's commitment to join the Banking Union at the same time, as well as on the implementation by the Bulgarian authorities of certain measures.

30 March 2021 – The adopted amendment to the Council of Ministers' Decree No. 168 of 2015 set for the first time a deadline for the development of a National Euro Adoption Plan by 30 June 2021.

6 April 2021 – The composition of the Coordination Council for the preparation of the Republic of Bulgaria for euro area membership was updated and its meeting was held on 14 April 2021. At the meeting, the Coordination Council approved the structure and responsible institutions for the development of a National Plan for the introduction of the euro in the Republic of Bulgaria. The work on the development of the document was coordinated by the Ministry of Finance, with each of the state institutions involved in the euro adoption process detailing the measures and activities to be undertaken for its successful adoption.

30 June 2021 – The Coordination Council for Bulgaria's preparations for euro area membership approved a draft National Plan for the introduction of the euro in the Republic of Bulgaria. The document was prepared and adopted within the required deadline (30 June 2021) and was made available for public consultation. The National Plan for the introduction of the euro in Bulgaria was adopted by Decision No. 344 of the Council of Ministers on **30 May 2022.** The document was updated by Decision No. 797 of the Council of Ministers of **13 November 2023.**

7 August 2024 – The National Assembly adopted the Law on the introduction of the euro in the Republic of Bulgaria. A website, evroto.bg, was set up to conduct an information campaign.

25 February 2025 – On the basis of Article 140 of the Treaty on the Functioning of the EU, Bulgaria sent the National Medium-Term Fiscal and Structural Plan 2025-2028 and a request for ad hoc convergence reports from the EC and the ECB.

12 May 2025 – The EC made a recommendation to the Council to approve Bulgaria's National Medium-Term Fiscal and Structural Plan 2025-2028.

4 June 2025 – The EC and ECB published the extraordinary convergence reports with a positive assessment of Bulgaria's accession to the euro area as of 1 January 2026.

19 June 2025 – The Eurogroup is expected to discuss the convergence reports and make a recommendation to the ECOFIN Council on Bulgaria's accession to the euro area.

20 June 2025 – The ECOFIN Council is expected to discuss the convergence reports, adopt a recommendation on Bulgaria's adoption of the euro and approve a letter to the European Council for Bulgaria to become the 21st member of the euro area.

26-27 June 2025 – The European Council is expected to discuss the convergence reports and the ECOFIN Council's proposal on Bulgaria's accession to the euro area.

8 July 2025 – Final decisions of the ECOFIN Council and the European Parliament on Bulgaria's adoption of the euro as of 1 January 2026.

7. Economic Policy Recommendations

The study of the Bulgarian economy in 2024, as well as the projections for its development in the medium term until 2027, allows us to highlight some recommendations for the economic policy in Bulgaria, directly addressing identified problems and aiming at strengthening the mechanisms for sustainable development of the economy in the conditions of Eurozone membership:

- The initial results of euro adoption in 2026 will depend very much on the preparations made in 2025:
  - **A very detailed and comprehensible information campaign explaining to the public both the most important steps and the expected effects and challenges of euro adoption**.
  - **An active dialogue with the social partners** on the fact that achieving favourable long-term objectives may come at the cost of foregoing some short-term results. For business, this may involve **refraining from passing on higher initial costs to prices**, and for trade unions, **refraining from more upward pressure on wages**.
  - Avoiding higher price increases in early 2026 requires the establishment of the **necessary control mechanisms, as well as greater activity and rigour on the part of specialised institutions, such as the Commission for Protection of Competition, the Energy and Water Regulatory Commission**, etc.
- **Priority needs to be given to increasing investment activity and innovation** by creating better conditions for businesses, attracting FDI and making a concerted effort to absorb funds from the NRRP and operational programmes. This would contribute to stimulating the development of the ICT sector, whose development is starting to slow down, including under the influence of wage dynamics in the country.
- **Macroeconomic policy should be sustainable and predictable**, not only addressing current problems and social tensions but also oriented towards a long-term horizon. It is essential that it be well communicated to the public, explaining the advantages and disadvantages of taking certain measures, which will help to stabilise the expectations of economic agents.
- The first priority of fiscal policy should be the **gradual reduction of budget deficits as a proportion of GDP, the cessation of the increase in the general government debt as a proportion of GDP and the replenishment of the fiscal reserve to 8% of GDP** as a fiscal buffer in times of crises.
- Changes in the government's tax and social security policies are needed. **VAT rates for all economic sectors should be unified, and no exceptions allowed**. Gradual **increases in social security contributions and maximum social security income are** also a possible measure. More effective measures against the informal economy through the **gradual digitisation of all settlements to ensure bank payments and a substantial reduction in cash payments** will provide additional tax and social security revenues and increase transparency in incomes and businesses.

- In the case of wage increases in the public sector, it must be taken into account that they are usually passed on to the private sector, which, with slower labour productivity growth, leads to inflation and higher labour costs and reduced competitiveness. This can be countered by **optimising the number of employees in the public sector, given increased e-services**, which will lead to a larger labour supply in the private sector and keep wage pressures down.
- **Digitalisation and the facilitation of electronic identification for businesses and citizens to use all electronic public services** should be set as a priority. This will allow for a natural reduction in staff numbers in the public administration. Reducing the direct access of citizens and businesses to the tax administration is an effective anti-corruption measure and will lead to a reduction in current expenditure by freeing up fiscal resources to stimulate public investment.
- Given the dependence of inflation over the past two years mainly on domestic factors and the possible manifestation of external factors, mainly related to the trade war, macroeconomic policy should respond by suppressing domestic causes. This can be done by **avoiding income increases that are not supported by corresponding labour productivity growth and by being more conservative on administrative prices, especially in the second half of 2025.**
- **Targeted measures are needed to halt the decline in GVA in agriculture, forestry and fisheries**, including increasing the effectiveness and efficiency of agricultural subsidies, due to the loss of competitive advantages, increasing import dependence and declining capacity to ensure the food security of the population in the event of adverse shocks.
- Public spending on defence, which is set to increase due to global uncertainties, requires **fiscal prudence and improved efficiency of public spending**. In this respect, increased regulatory control, a well-functioning justice system and transparency in the use of public funds are needed. It is also important to stimulate technological progress, promote research, innovation and investment in human capital.
- **The activation of the inactive working population through integrated employment services and the promotion of flexible forms of work** should be established as a key labour market priority in the face of demographic pressures, low unemployment and labour shortages. The approach should combine employment mediation with opportunities for education, training, social and health support, transport, etc. Promoting flexible forms of work adapted to the life context of each group and motivating employers to open up their work processes to these groups are key to increasing their economic activity.
- The increasing challenge of the shortage of skilled labour requires **attracting labour resources from third countries, as well as the return of Bulgarian professionals working abroad**. There is a need to outline specific policies for sectors, groups of activities and/or regions in transition and restructuring. Those employed in the Maritsa East, Bobov Dol and Pernik energy complexes should receive specialised programme care and individual plans for future work and professional development.

- **The development of digital, cognitive, social-emotional and metacognitive skills** needs **to be accelerated through in-house mechanisms such as work-based learning, mentoring, knowledge sharing and competency management systems**. Developing the skills of the future and stimulating enterprises to use innovative organisational and production practices should be seen as interrelated directions for modernising both Bulgarian business and human resources.
- In the context of trade wars and difficult foreign trade of goods, **services are becoming increasingly important in world trade. The country's advantages stemming from its participation in the EU Single Market, high-speed internet and geographical position need to be used more dynamically**, which will also have a direct impact on balancing the balance of payments in the context of euro area membership.
- Significant constraints on trade in goods through higher tariffs and trade wars require intensified economic and trade diplomacy and the use of the benefits of bilateral government agreements. This would promote market diversification and reduce the strong cyclical dependence of Bulgarian exports on the economic situation in the developed EU countries.
- Joining the euro area would release a significant amount of liquidity buffers as a result of the lower MRR in the euro area, and it would therefore be appropriate to build a **compensatory mechanism to mitigate the liquidity shock to** the system.

PART TWO

FOCUS TOPIC: BULGARIA'S ELECTRICITY SECTOR AND THE CHALLENGES OF THE GREEN TRANSITION

The aim of the focus topic is to analyse and assess the challenges facing the electricity sector in Bulgaria from EU energy and climate policies and initiatives. The critical analysis of the Community approach undertaken shows that a conceptual change in the structure and functioning of the model is needed for it to fulfil its function as a key instrument for achieving the Green Transition objectives. In this environment, the most sustainable option for the development of the electricity sector in Bulgaria, taking into account projected socio-economic and technological development scenarios for the assessment of strategic options for the electricity power balance, is the one with the priority of new nuclear capacity.

1. EU Energy Policies in the Context of the Green Transition

European electricity policies are an element of the Green Transition objectives, which include measures to reduce greenhouse gas emissions. In 2008, the EU set a target to reduce emissions by 20% in 2020, and in October 2014, a binding target was set to reduce greenhouse gas emissions from the EU economy by at least 40% by 2030 compared to 1990.

In 2019, the priority of combating climate change and environmental degradation, which were identified as an existential threat to Europe and the world, was further emphasised. This was the basis for the new EU-wide greenhouse gas emission reduction target adopted on 12.12.2020, providing for net reductions of at least 55% by 2030 compared to 1990 levels. The new ambitious targets for 2030 were thus raised considerably, with a number of new EU regulations and directives updated or introduced during the subsequent years, forming the so-called Green Pact.

The European Green Pact[59] is a package of policy initiatives aimed at setting the EU on the path to a green transition, with the ultimate goal of achieving climate neutrality by 2050. It underlines the need for a holistic and cross-sectoral approach where all policy areas contribute to the ultimate climate goal. The package includes initiatives covering climate, environment, energy, transport, industry, agriculture and sustainable finance, all of which are closely interlinked. The European Green Pact aims to prepare all sectors of the EU economy to meet the 2030 climate targets in a fair, cost-effective and competitive way. The expectation is that **the green transition will provide opportunities to create new economic and business models**.

Meeting the target of reducing greenhouse gas emissions by at least 55% by 2030 depends to a large extent on reducing the use of fossil fuels, as well as on reducing energy consumption by increasing energy efficiency and promoting the use of renewable energy for self-consumption to support EU energy independence.

[59] Information from EC: https://www.consilium.europa.eu/bg/policies/green-deal/.

In preparation for EU legislation, the "Fit for 55" package[60] was adopted, reflecting the drive for more ambitious targets and showing the different options available to Member States to achieve them.

The "Fit for 55" package **also sets requirements beyond those for reducing emissions in the energy sector**, which are significant challenges for Bulgaria. **These are:**

- proposal to reduce the number of emission permits and phase out free allowances in carbon trading by 2034;
- increased ambition to reduce emissions in the Emissions Trading System (ETS) sectors, with carbon emissions to be reduced by 62% by 2030, compared to 2005;
- establishment of a new emissions trading scheme from 2026 for road transport and building heating, to be activated in 2027;
- adoption of national emission reduction targets for sectors not currently included in the EU ETS: road transport, inland maritime transport, building heating, agriculture, small industrial installations and waste management;
- introduction of the Carbon Capping Mechanism covering cement, aluminium, fertiliser, electricity, hydrogen, iron and steel production.

One of the most significant challenges is the reduction of energy consumption, which is very important for lowering both emissions and energy costs for consumers and the economy. The EC therefore proposes to raise energy efficiency targets at the EU level and make them binding in order to achieve an overall reduction of 36-39% in final and primary energy consumption by 2030.

Another significant challenge with a direct impact on the electricity sector is the liberalisation of national electricity markets in the EU and their integration into a Single European Electricity Market. This is a major project that has been developing over the last 20 years.

The implementation of the European market model takes into account the specific characteristics of electricity as a commodity and the different needs of market participants, reflecting the objectives set for the EU, including combining environmental objectives and achieving a lower price. This is the main challenge for sector reforms driven by the ambition of the green transition.

The organisation of the electricity and natural gas markets (generation, transmission, distribution and supply, as well as storage for the natural gas sector) is an integral part of actions to combat climate change and reduce greenhouse gas emissions. These actions also include key aspects of energy legislation and provide incentives and/or concessions for certain types of industries and activities (such as green energy production and energy efficiency) that put them in a privileged position (mainly through the provision of public support and incentives). They are also the basis for a number of restrictive measures and

[60] The “Fit for 55” package consists of a set of interlinked proposals aimed at achieving the same goal – ensuring a fair, competitive and green transition by 2030 and beyond. As a whole, it enhances 8 existing pieces of legislation and introduces 5 new initiatives in a range of policy areas and economic sectors: climate, energy and fuels, transport, buildings, land use and forestry.

requirements related to other types of electricity generation (such as solid fuel generation and corresponding emission restrictions), which expose them to significant challenges and costs in meeting the relevant environmental standards.

In the EU, the so-called marginal cost model is applied to set the wholesale electricity price and a "merit order" is used. Different generators make their capacity available through an organised exchange market, with the lowest-cost generator's requests being met first and the most expensive power plant in the market being reached in succession. In most cases, a coal- or gas-fired plant is the last one activated to supply the last MWh needed to balance demand. Accordingly, the price bid by this last plant, covering its production costs, including CO_2 rights and profit, is paid to all generators, even though their own costs are much lower. In a high electricity demand environment, the marginal cost of gas-fired power plants determines the price of electricity on the wholesale market, shifting natural gas supply problems to that market.

This marginal cost method is necessarily applied on the Day-Ahead market platform, which is the EU reference. Uniform rules adopted by national regulators apply, and the nominated exchanges use the same software to process requests.

A major weakness of the current market model is the possibility that the limited supply of one energy source could become a driver of a massive price shock for all EU consumers. The market shocks that have occurred allow us to conclude that the adopted market model generates high prices and does not successfully stimulate investment in new capacity. Until a few years ago, most EU Member States maintained an energy balance within national power systems with the presence of mandatory reserve capacities guaranteeing supply at winter peaks. **The drive to minimise costs and exploit increasingly developed cross-border interconnections is leading to a reduction in generation capacity in the EU.**

In addition to the liberalisation of the electricity market, the EU ETS, one of the largest carbon markets in the world and a key instrument for reducing greenhouse gas emissions, is being introduced within the EU. The functioning of the ETS is also a major challenge for the electricity sector. The system puts a price on carbon emissions and, each year, entities covered by the ETS must buy "allowances" corresponding to their greenhouse gas emissions. Each year, a cap is set on the number of allowances that are put on the market and this cap is gradually reduced. This creates financial incentives for companies to reduce emissions.

Increased climate ambition leads to higher (ambitious) reduction targets – a new 61% reduction by 2030 and a faster reduction of the cap, or fewer allowances on the market. This is achieved by annual reductions of 4.2% (2024-2027) and 4.4% (2028-2030) instead of the current 2.2% and by capping the set-aside allowances. The ETS is planned to cover new sectors, such as maritime transport (phased in from 2024 to 2026) and a separate new ETS for buildings, road transport and fuels (ETS 2) in further sectors after 2027. A mechanism has been agreed upon whereby additional allowances will be released if the price of allowances in ETS 2 increases dramatically over a period of three consecutive months.

The State of the Energy Union Report 2024 states that the EU is successfully addressing critical threats to the security of energy supply, and the energy market is part of the transition towards climate neutrality. According to the report, the **EU has successfully**

put in place the necessary regulatory and financial framework to meet its 2030 climate and energy targets and lay the foundations for renewed economic growth and competitiveness.

The main objectives of market regulation in the energy sector at the EU level are to enhance human well-being, industrial competitiveness and the functioning of society by providing safe, secure and sustainable energy at affordable prices. Sector policy at the European level is the result of a number of legislative initiatives taken over the last 20 years.

Decarbonisation and the transition to climate neutrality are expected to create new opportunities for innovation, investment and jobs and lead to reduced emissions, job creation and growth, overcoming energy poverty, reducing external energy dependence and improving the health and well-being of the population. In spite of the objectives and the expectations associated with them, there are significant negative socio-economic outcomes that predetermine the major challenges for the development of the electricity sector.

The challenges facing the electricity sector are partly legacy – a significant share of the power sector has high greenhouse gas emissions, inefficiencies, a high share of fossil energy sources, etc. The green transition poses new challenges. Reforms undertaken in the face of external shocks and uncertainty are falling short of the EU's green transition objectives and leading to a faster deindustrialisation of the European economy and the loss of almost 1 million jobs[61] **from 2019 to 2023, while social measures to counteract the negative effects of the green transition are proving insufficient**.

The need to adapt the market and regulatory framework in place to economic realities became apparent in 2020, when 'emergency' measures were required due to the COVID-19 pandemic. In response, the EU introduced a Recovery and Sustainability Mechanism aimed at economic recovery, but with a special focus on renewable energy development, digital technologies and the circular economy. In doing so, the ultimate climate neutrality targets by 2050 remained unchanged, while changing the intermediate targets, raising those for 2030 and 2040, i.e., achieving higher decarbonisation rates in the intermediate stages.

As a consequence of the COVID-19 crisis, several temporary emergency measures were introduced in the EU energy market in 2022 – a strict gas storage regime and price capping regimes to avoid excessive profits in the gas and electricity markets, as well as speeding up permitting procedures for renewable energy installations[62]. In the EU,

[61] An analysis by the European Trade Union Institute based on Eurostat data found that the number of people employed in industry has fallen by 853,000 since the third quarter of 2019. The largest job losses were in Poland (-278,000), Romania (-144,000) and Germany (-129,000). Losses in Croatia and Slovenia account for 14% of the total manufacturing workforce, putting them ahead of Bulgaria (13%) and the Czech Republic (11%) in terms of percentage losses. https://www.etuc.org/en/pressrelease/eu-loses-almost-million-manufacturing-jobs-just-4-years.

[62] Regulation (EU) 2022/2576 on gas solidarity through better coordination of gas purchases, reliable price benchmarks and reliable cross-border gas exchanges; Regulation (EU) 2022/2577 on fast-track licensing of RES; Regulation (EU) 2022/2578 on market adjustment mechanism and wholesale gas price cap; Regulation (EU) 2023/706 on a voluntary 15% reduction in EU gas demand; Regulation (EU) 2022/1854 on electricity

common supranational action was proposed only after the Russian invasion of Ukraine. With the REPowerEU plan, the EC has set out a comprehensive set of instruments aimed at reducing dependence on Russian fossil fuels: 1) addressing the immediate impact of high energy prices on households and businesses, including income support, tax breaks, energy savings, fuel storage measures and strengthening resilience to future price shocks; 2) energy savings, diversification of energy supply, meeting the target of increased energy efficiency and accelerated deployment of renewable energy to reduce the EU's dependence on Russian fossil fuels, including achieving the increased target of 45% renewable energy in gross final energy consumption by 2030.

The plan also addresses the price crisis caused by the sharp rise in EU gas prices, which is dramatically increasing electricity prices in EU markets. The energy price crisis significantly reduces the purchasing power of EU citizens and further increases energy poverty. The resulting energy inflation puts at risk the competitiveness and viability of many companies. As a result of the acute need to address the current crises, regulatory intervention is now allowed to expand and, in the medium term, to introduce profound changes to the EU market model.

The Council of the EU and the EP reached a provisional agreement on the reform of the electricity markets on 13.12.2023. The reform aims to make electricity prices less dependent on volatile fossil fuel prices, protect consumers from price spikes, speed up the deployment of renewables and improve consumer protection.

A formal package to reform the EU's electricity market model was adopted on 18.03.2024 in response to high and volatile energy prices in 2022. The reform package includes amendments to the Electricity Market Design Regulation, together with a proposal for a Regulation to protect against wholesale energy market manipulation. The changes include: 1) Member States have the option to support the purchase of new renewable capacity where conditions allow and in line with their decarbonisation plans by entering into Power Purchase Agreements; 2) the Council acquires the power to declare a crisis on the basis of a proposal from the Commission based on the average wholesale electricity price or a sharp increase in retail electricity prices; 3) measures to be adopted by Member States following a crisis declaration include further reductions in electricity prices for vulnerable and disadvantaged customers based on the Electricity Directive, disconnection protection for vulnerable customers, enhanced measures to protect vulnerable and energy poor customers; 4) provisions aimed at avoiding unjustified distortions or fragmentation of the internal market; 5) making capacity mechanisms a more structural element of the electricity market, a potential and exceptional derogation from the application of the CO2 emissions cap for already permitted capacity mechanisms, where duly justified, two-way contracts for differences or equivalent schemes with the same effects; 6) flexibility as to how the revenues generated by the State through two-way contracts for difference (CfDs) will be redistributed. Revenues will

reduction targets, a cap on electricity revenues from renewables, nuclear and lignite and a solidarity contribution from the fossil fuel sector.

be redistributed to final customers and may be used to finance the costs of direct price support schemes or investments to reduce electricity costs for final customers.[63]

As a result of the frequent need for administrative adjustments to market mechanisms due to various externalities, **the European electricity market is failing to achieve one of its main objectives – to provide market signals to participants so that they can make adequate decisions on investments in new capacity**. This is particularly true for power capacities with a high capital component and a long payback period. **The applied market model remains highly dependent on and vulnerable to external influences, including those such as pandemics, geopolitical influences on energy resource prices, military actions and regulatory failures.**

The EU electricity policy to date has led to some negative trends, such as incremental marginal prices and loss of industrial production (deindustrialisation). The series of crises exacerbates the negative trends, which become challenges to the realisation of ambitious short-term targets. The imposed rethinking of how energy supply policies are implemented is driving the demand for balance through the introduction of enhanced regulatory policies in pricing, targets, standards and support measures. The debate that increased regulation can lead to unnecessarily high economic burdens continues at the European level, but **the prevailing view is that carbon pricing and support for low-carbon investment are the main price drivers.**

Following the 2024 EP elections, support for green policies has been declining, and it is now proposed to reformulate the Green Deal and make it the Green Deal for Growth. At this stage, the following directions of revising ambitions for accelerated decarbonisation can be formulated:

1. Bringing forward the principle of “technology neutrality”, i.e., policies formulated are not committed to specific technological solutions but provide general frameworks for development. This can be expected to **achieve more favourable conditions for the development of new technologies in the nuclear field and, in particular, for small modular nuclear reactors**.
2. Revisiting the decision to ban the marketing of new internal combustion engine cars in the EU towards the middle of this decade and legalising parity between synthetic fuels and electric cars. This will lead to **a slowdown in the uptake of electric vehicles on the European market and a reassessment of the projections for electricity consumption**.
3. Delaying the entry into force and revision of the deforestation regulation, as well as revision of the proposals to reduce pesticides in agriculture, the obligation to restore biodiversity and new requirements for businesses to report on their progress towards cleaner production.
4. The energy and pricing crisis can be used as a reason to delay the implementation of energy efficiency measures in the buildings sector, which will clearly affect broad

[63] The new texts of the Directive amending Directives (EU) 2018/2001 and (EU) 2019/944 with regard to improving the structure of the Union electricity market and the Regulation amending Regulations (EU) 2019/942 and (EU) 2019/943 present the reform of the EU electricity market structure and were adopted on 26.06.2024. All provisions, except those in Article 4 (free choice of supplier) and Article 15a (energy sharing), have to be transposed by 17.01.2025, and the provisions of Article 4 and Article 15a – by 17.07.2026.

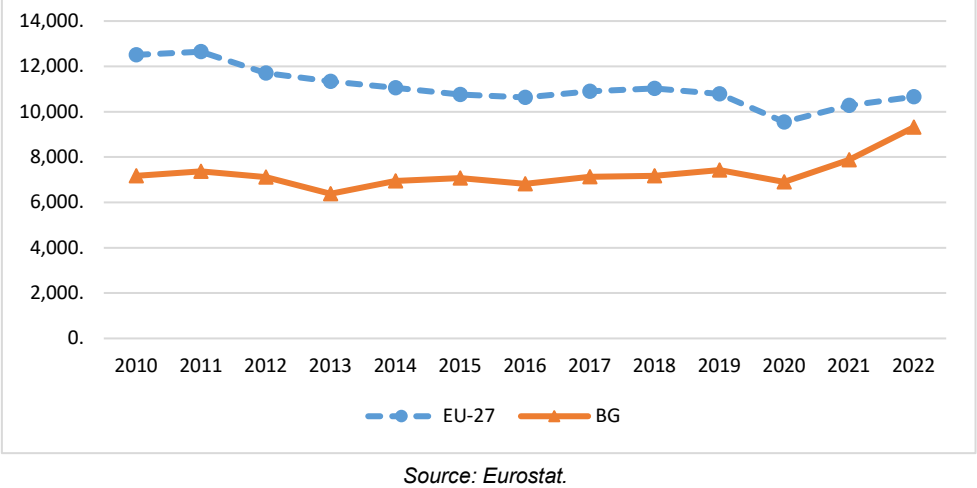
sections of the population when the first phase of the Green Deal is implemented in this sector.

The change in leading policies is to be expected in the first instance when channelling European financial resources to support research and the initial development of specific technologies. **Support can be expected for European hydrogen production, the creation of value chains for small modular reactors, and investment in carbon capture, storage and utilisation technologies**. A comprehensive revision of the green transition policy is not expected. Moreover, already planned developments of new solar and wind power projects, as well as plans for grid and battery system development, will continue to dominate the sector, changing the market environment and the ways to achieve security of supply for specific regions. The current legal framework remains the starting point for strategic analysis and formulation of solutions for the development of the Bulgarian electricity sector.

2. Challenges for the Bulgaria's Electricity Sector in Implementing Green Transition Policies

Bulgaria meets key indicators in the area of green transition (Figures 1 to 6) **and lags behind in some sectors closely related to electricity development**. Greenhouse gas emissions are declining, being 9% below the EU average at the end of 2022.

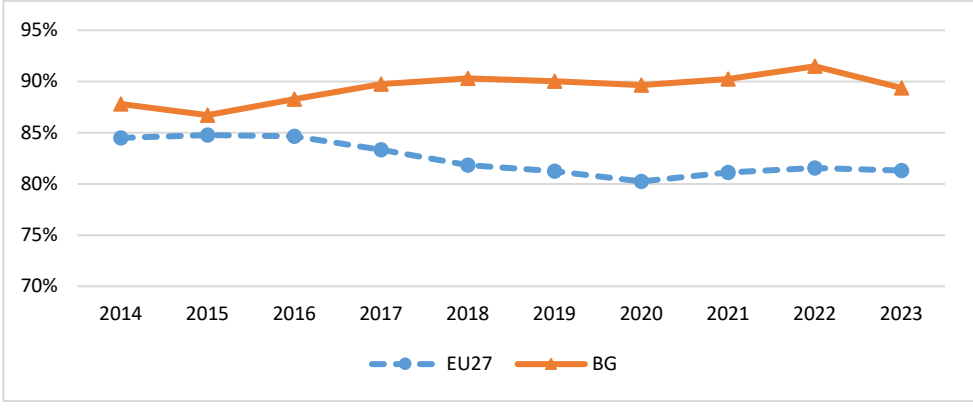
Figure 1. Greenhouse gas emissions (kg/person)



Source: Eurostat.

Emissions from the energy sector account for around 74% of total emissions, exceeding the European average by only around 1%.

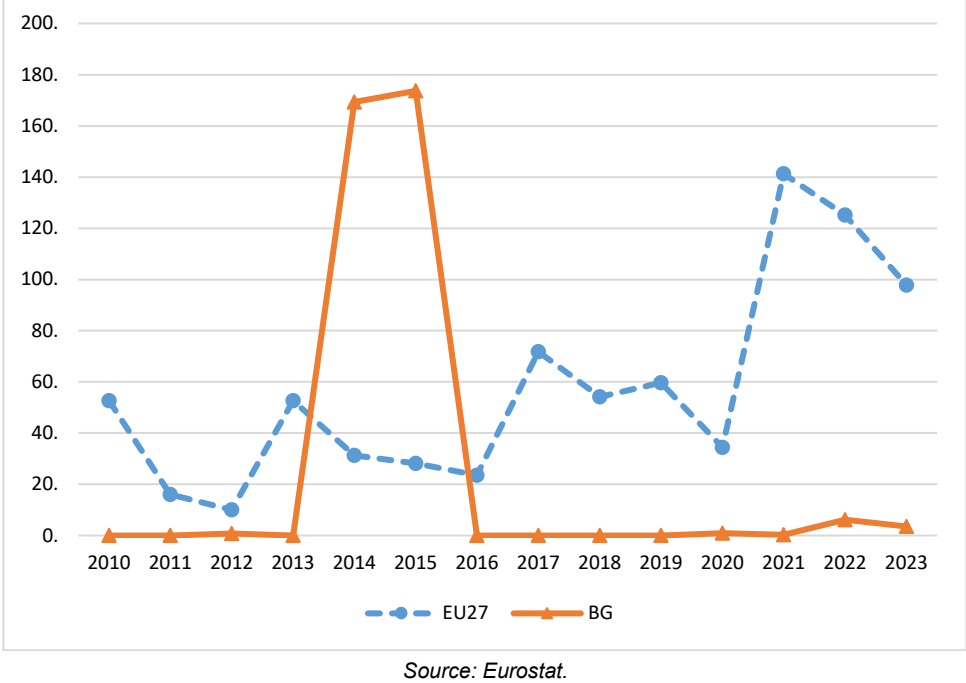
Figure 2. GHG emissions from the energy sector (%)



Source: Eurostat.

Climate-related losses in the EU amount to €98 per person; in Bulgaria they are €4 per person.

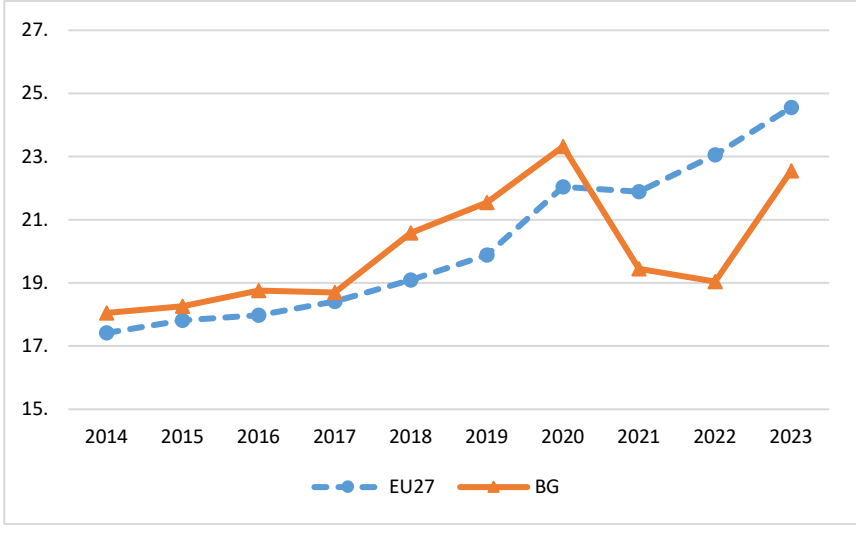
Figure 3. Climate-related losses (€ per person)



Source: Eurostat.

The share of renewable energy at the end of 2023 in Bulgaria is 22.5% (a 2% deviation from the EU average).

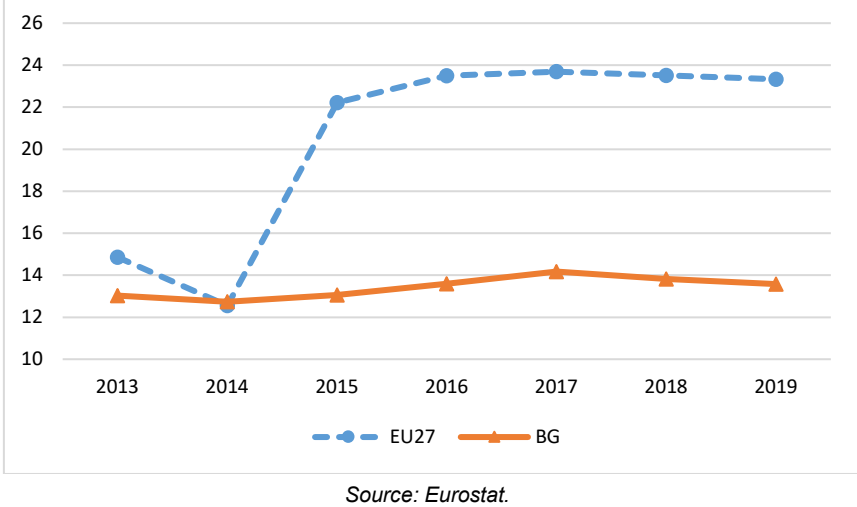
Figure 4. Renewable energy in final energy consumption (%)



Source: Eurostat.

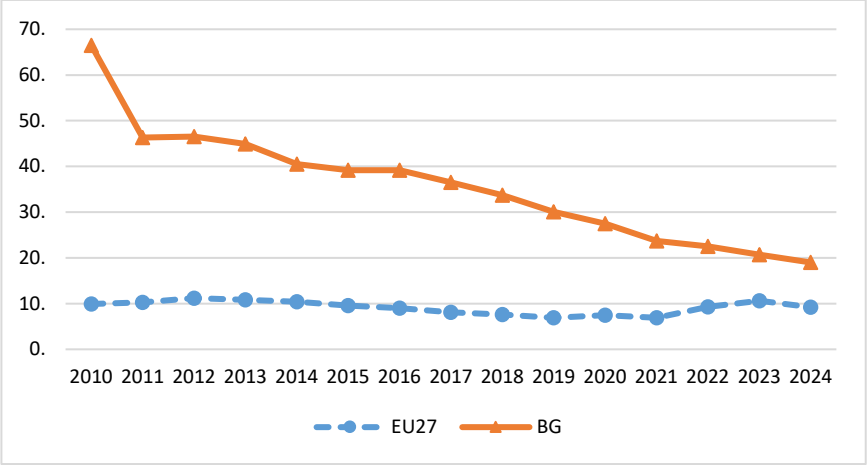
Household energy consumption in Bulgaria is 6.4 GJ per person (vs. 14.4 GJ in the EU). Compared to the EU average, 10% more households in Bulgaria cannot keep their homes warm.

Figure 5. Energy used for heating per capita (GJ per capita)



Source: Eurostat.

Figure 6. Population unable to keep their homes warm (%)



Source: Eurostat.

As of 2020, Bulgaria was consistently delivering on its commitments and action plans on climate change under the Europe 2020 strategy. **The country achieved a 23.32% share of renewable energy in gross final energy consumption, exceeding the mandatory national target of 16% by 7.32 pp. Energy efficiency measures were implemented, which, together with other measures, would lead to a significant reduction in greenhouse gas emissions by 2020.** In 2019, the first Integrated National Energy and Climate Plan was developed, with additional conditions set in its update. The expectation of more ambitious targets sparked an internal debate about making additional commitments, which was reflected in the NRRP. The Plan was developed in a politically volatile environment and was adopted by a decision of the Council of Ministers in 2022. In 2023, the National Assembly decided to renegotiate Bulgaria's NRRP due to the two main commitments foreseen for:

- Reduction of carbon emissions from thermal power generation by 40% (i.e., 8.55 Mt) based on 2019 baseline levels (19.5 Mt), to be achieved in 2025 (measured and confirmed with data in 2026), as well as reducing carbon dioxide emissions from the following specific coal-fired power plants: TPP Maritsa 3 EAD, TPP Maritsa East 2 EAD, TPP Bobov Dol EAD, AES-ZS Maritsa East 1 EOOD, TPP Contour Global Maritsa East 3 AD, TPP Brickel EAD, TPP Republic – Pernik, TPP Ruse East and Toplofikacija Sliven EAD.
- Full liberalisation of the electricity market by 2025, including the abolition of the role of the National Electricity Company (NEK) as a public supplier as early as 2022.

The changed situation in the EU energy sector following the military conflict in Ukraine and the poor preparation for the retirement of coal-fired power plants and their replacement with substitute capacity and infrastructure were also grounds for reviewing the plans, a key challenge being the **need to ensure the adequacy and security of the electricity system, as well as balancing and regulation with reliable low-carbon technologies that have the availability to meet domestic demand and the**

manoeuvrability to avoid balance problems. The Council of Ministers has undertaken not to restrict the operation of available coal-fired capacities, provided that they operate entirely on a market basis and in accordance with European and national legislation.

In June 2024, the EC published its position on the preliminary version of Bulgaria's updated Integrated National Energy and Climate Plan (INECP), with the main parameters summarised in Table 1.

Table 1. EC position on the preliminary draft of Bulgaria's INECP

	Value for 2030, submitted to the updated NECP draft	2030 target under EU legislation	Estimate of the 2030 ambition level
GHG emissions in ETS sectors (compared to 2005)	No data	-10%	No projections included in Bulgaria's plan
Net removals of greenhouse gases in LULUCF* (Mt CO_2 net natural gas removals)	No data	-1.163 (additional removal target) -9.718 (total net removals)	No projections included in Bulgaria's plan
Energy efficiency (final energy consumption)	8.42 Mtoe	8.25 Mtoe	Bulgaria's final energy consumption is below the target set by EU legislation
Renewable energy (share of renewable energy in gross energy consumption)	34.1%	33%	Bulgaria's contribution to the EU target is slightly above that resulting from EU legislation

** LULUCF refers to "Land use, land use change and forestry".*

Source: European Commission.

The lack of projections for two of the indicators is linked to the need to make unpopular political commitments. At the same time, reductions in greenhouse gas emissions will be achieved for economic reasons, and the drafted INECP forecasts that Bulgaria will have achieved the EU's headline target for a low-carbon economy by 2050.

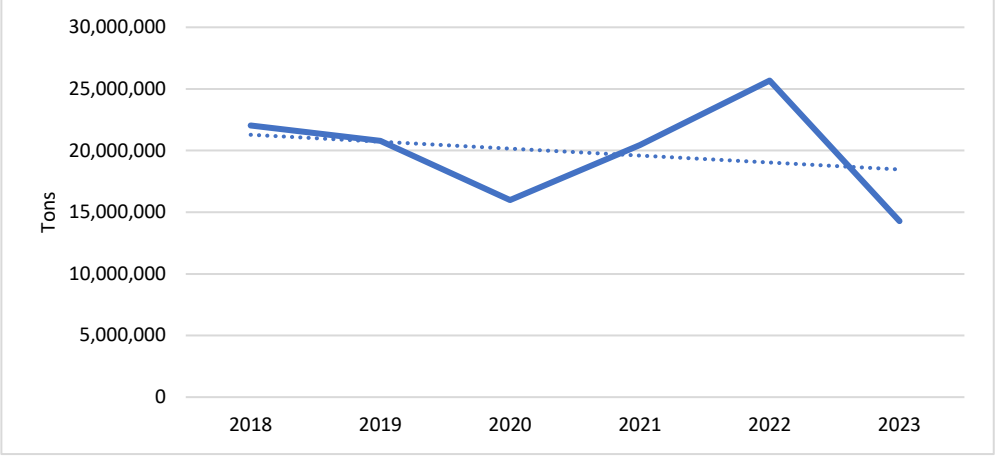
The Commission's assessment is negative on research, innovation, competitiveness and skills, as the Plan contains mostly qualitative targets and lacks a forecast breakdown of energy sector-specific research and innovation investments for 2030 and 2050. Bulgaria is at an advanced stage of implementation of the common market rules and market integration, for which a number of cross-border connectivity and market integration projects have been implemented. Taking into account the priority of the market model, the market reform focuses on the development of short-term electricity markets ("intraday", "day-ahead" and "balancing market").

For Bulgaria, the implementation of the policies related to the "Fit for 55" package is associated with challenges in terms of industrial competitiveness, the risk of bankruptcies, rising prices of imported raw materials when the Carbon Border Adjustment Mechanism is implemented, job losses with the closure of coal plants, and thus a risk to economic growth, unemployment and household incomes.

With regard to the electricity sector, the main debate with the EC has focused on the **speed of coal plant closures, with challenges remaining** on replacing their reliable generation with other sources and financing the restructuring of electricity infrastructure to allow for a high share of new renewables. In the area of electricity sector **carbon**

emissions, data for large emitters[64] show a 35% reduction in 2023 compared to 2018 (Figure 7), with large electricity companies accounting for around 62% of all CO_2 emissions on average in 2024.

Figure 7. CO_2 emissions from large emitters in the power sector



Source based on data from the Executive Environment Agency.

3. Development of Bulgaria's Electricity Sector by 2024

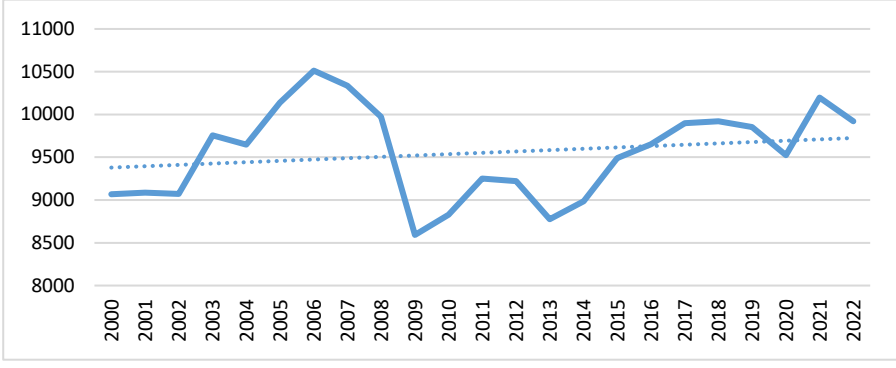
Electricity consumption

The Bulgarian electricity sector is developing in the context of general energy trends and reform. Energy demand is characterised by high dynamics. Bulgaria's final energy consumption has undergone significant changes over the last 22 years (Figure 8). The dynamics have changed over time, as has the structure of consumption by major sector. In terms of dynamics, two trends emerge – an increase in final energy consumption (albeit slight) and an increase in its volatility. **Despite the decline in population, the increase in energy efficiency and the lower-than-expected economic growth, total final energy consumption has increased only slightly**.

There is **a significant restructuring of energy consumption between different sectors** (Figure 9). While industrial consumption is declining, transport is not only compensating for the decline in industry but also contributing significantly to the overall increase in energy consumption. In line with the growing share of the service sector in the economy, energy consumption in the service sector is increasing. The only sector that has steadily decreased energy consumption is agriculture.

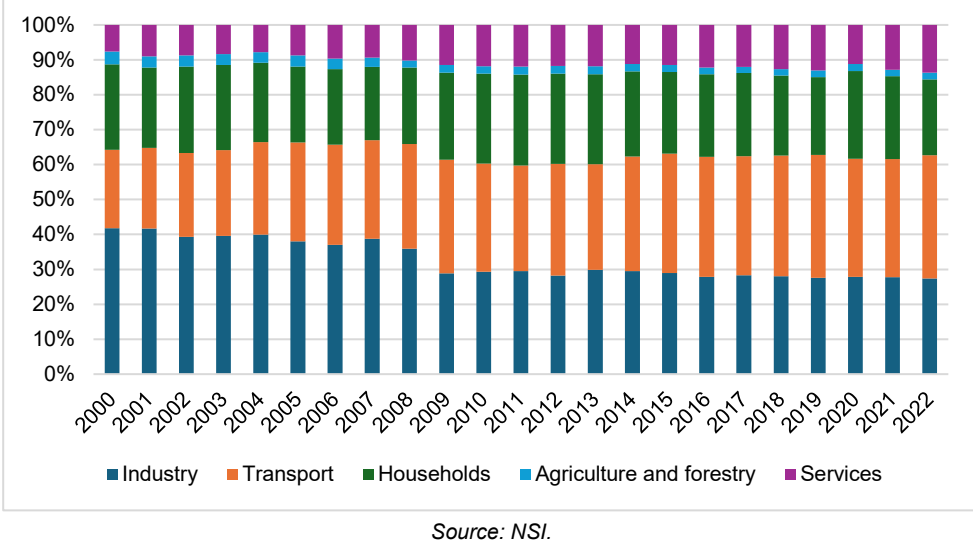
[64] As at 2023, these are companies with reported emissions of more than 134 thousand tonnes of CO_2. In the energy sector there are 5 thermal power plants (TPP) and 5 district heating companies.

Figure 8. Total final energy consumption in Bulgaria (thousand tonnes of oil equivalent)



Source: Eurostat.

Figure 9. Final energy consumption in Bulgaria by sector (thousand tonnes of oil equivalent)



Source: NSI.

Bulgarian industry has the capacity to increase energy consumption significantly and by leaps and bounds in times of high economic growth. Due to Bulgaria's high energy production, it has been able to react to spikes in consumption with higher supply. With future effective measures to promote industrial development, energy consumption in the sector is expected to increase.

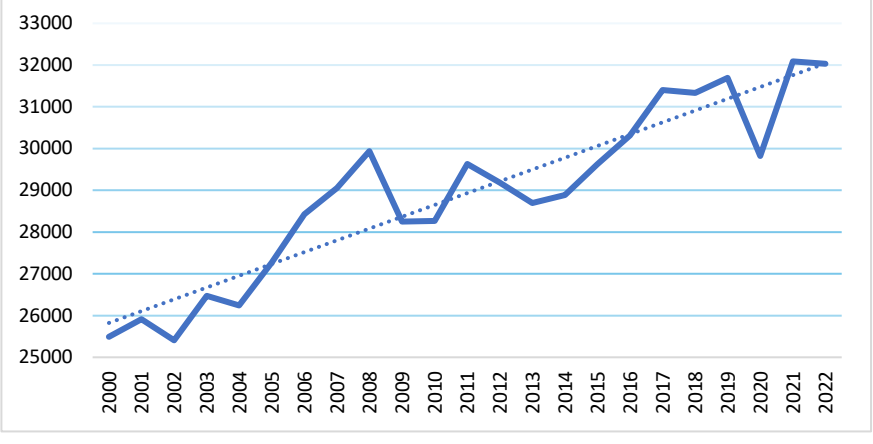
Analysis of the relationship between energy consumption and the role of electricity in it helps to assess the scope for overall growth, as well as for growth in electricity consumption at the expense of other forms of energy. With growing energy consumption, electricity consumption is also expected to grow, but the need for restructuring due to the

implementation of the Green Deal gives room for expansion of electricity consumption at the expense of the substitution of other types of energy.

The relative share of electricity in total energy consumption ranged between 23.4% in 2003 and 28.3% in 2009, stabilising at around 27% after 2015. It is observed that during years of crises and recessions, energy consumption shifts slightly towards electricity consumption, which is probably due to regulated electricity prices acting as a buffer for consumers in difficult times. Significant electrification of households and the economy has yet to take place, which may lead to an increase in the share of electricity.

Despite energy efficiency measures and population decline, total final electricity consumption in Bulgaria has increased steadily since 2000 (Figure 10). Electricity is an essential element of the development of the economy and society, driven by population dynamics, urbanisation, industrialisation and improving lifestyles.

Figure 10. End-use electricity consumption in Bulgaria (gigawatt hours)

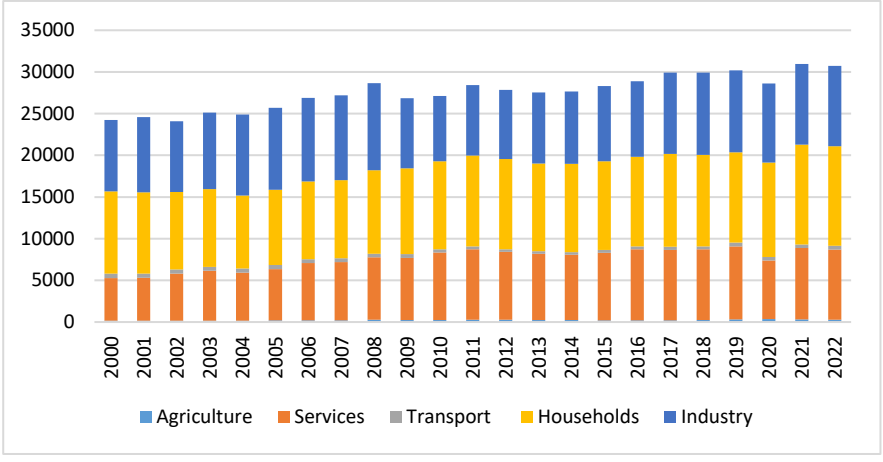


Source: Eurostat.

In the last decade, the dynamics of electricity consumption have been different from those of the previous decade, mainly due to the many external shocks and the increasing influence of regulatory factors. The ambitious goals of the Green Deal are driving a shift in energy consumption towards more clean energy, which is also having an impact on electricity consumption, but the reasons for this dynamic can be found by looking at the sectors that are contributing most to this trend.

Almost 90% of electricity consumption is carried out first by households, second by industry and third by services (Figure 11). This structure has been maintained since 2000, indicating that it is largely stable and, despite external and internal shocks, changes in it have been rather gradual. When compared with the EU, the dynamics of final energy consumption by sector in the EU-28 Member States over recent years show a steady decline in energy consumption in industry, an increase in the services sector and a relative stabilisation of energy consumption levels in the household sector.

Figure 11. Structure of final electricity consumption in Bulgaria (gigawatt hours)



Source: Eurostat.

Factors influencing electricity consumption include both structural factors (such as income, population size, gross value added in different sectors, number of employees, and investment) and some specific factors (average annual temperature, useful living space, energy prices, electrification in transport, including penetration of electric vehicles, and floor area of residential and other buildings in the service sector). The analysis shows some specific characteristics of electricity consumption in Bulgaria:

- The Bulgarian economy is energy-intensive (energy intensity level above the EU average), which is a consequence of the industrial structure dominated by manufacturing and extractive industries.
- Per capita electricity consumption lags significantly behind the EU average.
- Electricity transmission and distribution losses are significant, although declining and close to the EU average.

The dynamics of electricity consumption by the industry sector and its sub-sectors show that trends since 2000 have been driven both by cyclical factors in the industry as a whole and in its individual sub-sectors and by a restructuring of energy sources towards more electricity-intensive use for some of the leading sub-sectors. **Some of the major industries are expected to be significantly affected by the green transition and, if not restructured towards zero-emission technologies, will require a contraction in consumption to the extent that those most affected account for about 1/3 of total electricity consumption in the sector**. On the other hand, sustained consumption growth from other subsectors that remain outside the carbon emission risk zone will have a compensating effect with a magnitude dependent on the expected growth of these subsectors. Evidence shows that the industry is one of the sectors where the elasticity of electricity consumption is high, as demonstrated by the response of electricity consumption in this sector to crises.

With respect to the transport sector, electricity consumption does not change significantly. **Accelerated electrification of transport in the EU has not yet been observed in Bulgaria, but is expected to be intensified, leading to an increase in electricity consumption.**

End-use electricity consumption in the services sector is growing in line with its expanding importance in the economy, as well as the expanded use of public services. Electricity is the main source of energy for the sector and is strongly affected by external market shocks.

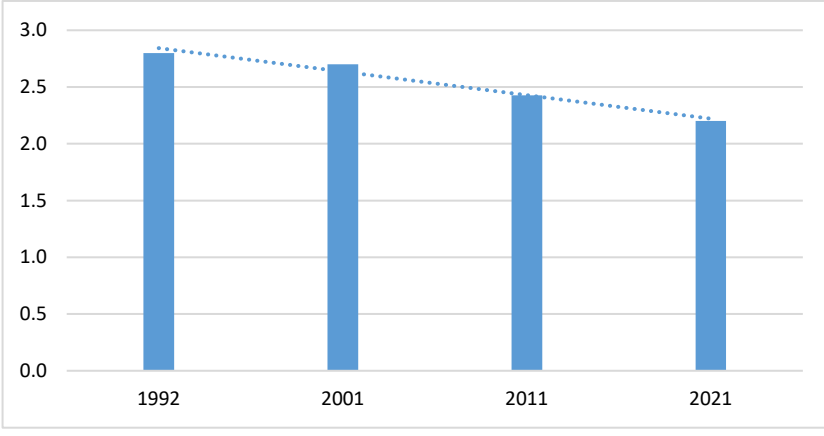
In contrast to the downward trend in total energy consumption of agriculture, electricity consumption in this sector is increasing. It is a sector that is steadily electrifying with a relatively small share of total electricity consumption. This sector was the only one whose electricity consumption increased during the COVID-19 pandemic.

Household consumption of electricity is an important factor in its development. Driving factors for its dynamics are population size, income, energy efficiency of homes, etc. After 2000, the price of electricity for domestic consumers has had no impact on household consumption, mainly as a result of the high degree of price regulation. The slow increase in consumption is also accompanied by a slow increase in electricity prices, as regulatory rather than market factors (supply/demand) determine its dynamics. This means that under liberalisation, electricity prices can influence electricity consumption, i.e., electricity consumption shrinks when prices rise. **In the short term, liberalisation of the retail electricity market is difficult to achieve because of the strong public and political opposition due to the expectation of price increases.** Moreover, even if liberalisation were to proceed, it would be necessary to provide for social measures (subsidies, supplements, etc.), which would again eliminate the effects of market factors. Measures to reduce fuel poverty also have a positive effect on electricity consumption.

Another factor in electricity consumption is the dynamics of the population itself. **A new perspective, less covered in the literature, is to study the dynamics of the number of households and the electricity consumption of the household as a whole, rather than per individual**. The assumption is that electricity consumption is related to the number of households rather than directly to the size of the population, since several people in households largely share common electricity needs for heating, cooling, food preparation, lighting, etc.

The long-term trend is for the average number of members per household to decrease (Figure 12). This also explains the weaker dynamics of the decline in the number of households compared to the dynamics in the population decline, with **household electricity consumption standing out as a steady upward trend**. Leading factors for this increasing consumption are rising standards of living, switching of heating from other fuels to electricity, increasing cooling costs during the warmer months, etc. Electricity consumption is also rising at the expense of a reduction in other sources of energy for households, thus restructuring their energy consumption. In this respect, **rising incomes enable low-income households to move away from other energy sources and switch to electricity**. The increase in electricity consumption encourages the development of a sector aimed at securing supply and providing a price that stimulates the economy and supports citizens.

Figure 12. Average number of members per household in Bulgaria



Source: NSI.

Electricity generation and distribution

In 2024, the electricity sector underwent important changes. At the end of 2024, the updated INECP was submitted to the EC, systematising Bulgaria's actions until 2030 in five predefined areas. The plan is part of the EU's coordinated efforts to decarbonise and achieve the ultimate goal of carbon neutrality in 2050. The main developments in 2024 that mark the state of the sector are summarised in the following four areas:

- Generating capacities
  - Maritsa East 3 power plant was shut down but briefly restored during the winter. The problem of the future of the state-owned coal-fired power plants remained unresolved.
  - The private owners of the coal-fired power plants are planning a shutdown and a change of fuel base or a technological change in the short and medium term.
  - The operation of one unit of Chaira PSHPP is being restored, which helps balance the system.
  - PV plants commissioned now exceed 4,000 MW.
  - The key project for new nuclear capacity continues with the implementation of the engineering phase.
- Grid services
  - A number of projects are being announced with funding from the NRRP and the Modernisation Fund for the renewal of high, medium and low-voltage networks.
  - The problem of grid security is escalating, with extended periods without power supply to settlements due to disconnected grids, necessitating compensation to those affected.
- Electricity market

- Actions to liberalise the market and bring households into a free market are being delayed.
- Market integration continues at a system level with connection to balancing energy platforms and short-term auctions.

- Price conditions
  - High exchange prices under extreme weather conditions occur during the summer and winter months.
  - The disparity between price levels in the Southeast and Central and Western Europe is clearly visible.
  - Consumers in Bulgaria are protected by the continuation of the regulated market for households and compensation measures for business consumers.

A significant part of the above developments are a consequence of the implementation of European green policies and have a high socio-economic impact.

Mild winters and low economic activity in 2023-2024 led to significantly lower natural gas consumption in Europe. This was the reason for low prices for gas-fired power generation, displacing coal-fired power plants in a number of periods. Market conditions in Bulgaria led to increased imports of cheap electricity from neighbouring countries and limited operation of coal plants on the free market. Maintaining a regulated market allowed the Minister of Energy to order coal-fired thermal power plants to provide the necessary supply for this segment. This was one of the reasons for postponing the planned liberalisation.

The market environment in 2024 and the continued addition of new solar photovoltaic (PV) power plants in Bulgaria result in a 10% decline in generation from baseload plants and a significant 59.3% increase in generation from PV plants in the transmission grid and 56% in the distribution grid (Table 2).

Table 2. Operational data for the period 01.01.2024 – 29.12.2024 compared to 01.01.2023 – 29.12.2023 (MWh)

MWh	2023	2024	Change, %
Production	**39 732 533**	**37 713 668**	**-5.08**
Consumption	**36 373 000**	**36 682 959**	**0.85**
Balance (export-import)	**3 359 553**	**1 030 709**	**-69.32**
Base load stations	**31 670 376**	**28 245 306**	**-10.81**
RES in the transmission grid, including:	**2 506 471**	**3 313 950**	**32.22**
Wind PP	807 369	715 105	-11.43
Solar PP	1 599 328	2 547 178	59.27
Biomass PP	99 774	51 667	-48.22
RES in the distribution grid, including:	**2 475 697**	**3 279 950**	**32.49**
Wind PP	766 159	647 180	-15.53
Solar PP	1 597 022	2 492 082	56.05
Biomass PP	112 516	140 688	25.04
Hydro PP	**3 080 009**	**2 874 462**	**-6.67**

Source: Electricity System Operator (ESO).

By the end of 2024, the volume of electricity exports slightly exceeded imports, but the balance shrank by a record 69.3%. The main problem is that the balance is negative in price terms, as the country exports electricity when it is cheap in markets and imports when it is expensive. Contributing to this situation is a combination of the accelerated introduction of significant PV plant capacity and the need to balance it, which is predominantly provided by the operation of gas-fired plants. The lack of manoeuvrable gas-fired power plants and the limited generation from the country's PSHPPs make it difficult to balance the new PV plants effectively. The national power system operates significant baseload capacity, with NPPs and coal-fired plants having limited ability to modify load and lacking the "cold start" capability of gas-fired plants. This necessitates that they remain in operation when there is no need to operate them for the national market, with the additional power produced being exported.

At the beginning of 2025, the Ministry of Energy (MoE) submitted to the EC a draft of an updated INECP for the period 2021-2030. The plan did not receive support from the social partners due to its linkage to energy sector reforms and the curtailment of coal-fired power plants. **A major reason for the failure of the INECP is the lack of a national approach** developed **in a National Energy Strategy, which would set out workable plans to ensure security of electricity supply at an affordable price for final consumers.** The excessively short timeframes for the implementation of complex and comprehensive reforms, the lack of sufficiently broad public consultation, including that of stakeholders, and the lack of consideration of the reforms in their entirety doom them to failure. The deadlines set do not allow for sufficiently detailed preparation and **two issues remain unresolved**:

- **Partial liberalisation**[65] – administrative and regulatory unpreparedness to abolish NEK as a public supplier. The relations between market participants after the abolition of NEK as a public supplier are to be detailed in the short term, including ensuring the liquidity of final suppliers when they need to purchase energy on the exchange market in advance and invoice end users nearly 40 days later, as well as the ways of pricing electricity at different stages of invoicing and the type of invoices.
- **Full liberalisation –** measures to protect energy-poor households and vulnerable customers for electricity supply are not specified in a legal act; the authority for the establishment and management of the information system for household status assessment and identification and the functioning of this system are not clarified; there are no financial resources to secure the measures and there is no legal basis for them.

[65] In May 2025, the National Assembly adopted amendments to the Energy Act which set the framework for partial liberalisation.

4. Forecast Options for the Medium-Term Development of the Bulgaria's Electricity Sector with a Horizon to 2050

Within the EU, there is an emerging trend towards a change in the EC's forecasting and planning mechanisms, with the focus shifting from medium-term modelling of the green transition to long-term modelling of the target end state by 2050. **The EC no longer provides an energy development pathway for individual countries but limits itself to recommendations and planning of targeted support for measures that are consistent with the common policy. Based on the results of individual national plans, the evidence base for the proposed common EU strategy for a low-carbon economy is sought to be improved.**

EU Member State governments are developing strategic analyses to present strategies to achieve specific targets and are considering different options to achieve them, depending on the external environment. The aim is to **achieve national energy security based on a high-tech, balanced, resilient and adaptable electricity system that makes efficient use of national energy potential, ensures affordable electricity and promotes economic competitiveness.** Short-term effects on the electricity system remain to be addressed and managed at a national level, assuming a high penetration of renewables, which increases the variability of electricity generation and the need for flexibility at all time scales. This is coupled with increasingly flexible electricity demand due to the electrification of economic sectors and hybrid consumer assets such as heat pumps with gas-fired backup boilers. National capacity to attract investment is becoming a key enabler of decarbonised fuels in transport and heat, which are largely accompanied by their electrification. The same applies to the residential sector, where high energy efficiency is sought, especially through large-scale measures to improve the energy performance of buildings and the use of efficient technologies such as heat pumps. The same applies to the use of electricity from renewable sources for hydrogen production. Significant investment in electrolysis capacity located in the EU is being considered to cover most of the flexibility needs of the overall electricity system.

The shift from fossil fuels to direct and indirect electrification, combined with renewables, places the electricity system at the centre of this new technological system, reflecting changes in energy and resource supply. This trend includes electric vehicles, which are seen as a major provider of daily flexibility services through their ability to adapt energy use within a predefined plug-in time range (smart charging).

The European long-term scenarios assume an overall reduction in final energy consumption, mainly on account of a shift of fossil fuels out of the final consumption mix and a substantial increase in electricity consumption. The Commission's summary position is that the technological and organisational prerequisites are in place in the EU to realise an optimal roadmap towards a carbon-neutral economy by 2050, and Member States need to put in place appropriate policies and measures through their national plans. The EC notes that further investment is needed to achieve the ambitious targets.[66]

[66] EC. (2023). Assessment of the draft updated EU-wide national energy and climate plans. EC Communication: https://eur-lex.europa.eu/resource.html?uri=cellar:bb8fb395-9d9c-11ee-b164-01aa75ed71a1.0017.02/DOC_1&format=PDF.

The EC's electricity consumption projections using the Modelling Inventory and Knowledge Management System of the European Commission (MIDAS) are aligned with the penetration of new technologies in the following areas in the energy sector: use of renewables for electricity generation, grid management, electricity storage and demand management systems. Although theoretical models and policy messages support the economic and industrial efficiency thesis of green policies, achieving positive outcomes in terms of industrial competitiveness and accessibility to energy services presents a **number of challenges**:

- **In energy systems dominated by variable renewables**, the ability to use resources efficiently is key to minimising system costs. Interconnections are a key enabler for flexible services across all time intervals, but distributed balancing capacity is also needed. The EC's position is that increasing cross-border electricity trade mitigates supply instability, as it enables some Member States to access a more diversified generation portfolio from other Member States. Currently, electricity supply between different countries is significantly hampered by the slow implementation of the necessary cross-border connections. There is a legitimate question of taking into account the effect of weather phenomena with regional impacts, whereby the receipt of energy from third countries is not guaranteed. The same is true in the case of energy supply crises, where the release from one Member State to another Member State may be hindered. On the other hand, the lack of guaranteed cross-border supplies to balance demand and supply leads to the need to use fossil fuels, which are retained as a reserve resource.
- **Solar power plants have a distinct daily and seasonal operating profile. Wind power plants also have a location-specific daily and seasonal profile that is at odds with the operating times of solar plants.** According to ESO's Transmission Grid Development Plan for Bulgaria 2024-2033, in both cases the average annual utilisation of installed capacity is low (13-15% for PV and 25-30% for wind). In order to achieve the targets for the dominant participation of RES (solar and wind) in the EU generation mix and in view of the low utilisation rates for these technologies, it is necessary to build new plants that have an installed capacity significantly above the average consumption in the system. **Without storage systems**, their full capacity occurs in short periods, which can lead to overproduction, with the corresponding negative consequences of low prices and the need for balancing.
- **The variable nature of generation** and the uneven location of wind and PV systems **impose system costs in terms of redundancy requirements, balancing and grid development that are significantly higher than for other technologies**. **Despite the insistence that the current market model leads to favourable conditions for society** (driven by high competition between suppliers), the **analyses** note that with an increasing share of generation from renewables, which have a highly variable generation profile, **it is increasingly likely that price volatility will increase**. In this context, further investments in energy storage systems are suggested. Such a technological solution will lead to further price increases, which calls into question the socio-economic interests of consumers.
- **The market mechanisms put in place to create a competitive environment in the EU require an increasing range of investment costs and services to be passed on in the price to end users.** This is inevitable due to the need to attract private and

bank capital in the realisation of the EU's ambitious objectives. In this sense, the burden on end users to invest in energy efficiency, and hence their costs, increases in the medium term before the positive effects can be seen in the longer term.

- **Ensuring sufficient and adequate energy capacity** and connectivity of electricity markets in both the long and short term requires timely planning and implementation of investments in generation capacity, networks and control systems. The current framework of the European electricity market is based on the assumption of the formation of price signals on which to base optimal investment decisions. The understanding that free competition in the market is a sufficient instrument to achieve both low final prices and an optimal investment environment for the construction of new capacity is not directly applicable in the electricity sector. This is due to the need for facilities with a very long lifetime (over 30 years) and due to the hierarchically interconnected system. The addition of environmental aspects as a criterion for the development of the power sector further complicates the planning and justification of investment processes.

Common European policies do not offer uniform solutions, and specific development models have to be applied at a national level. The review of the development of the targeted EU policies shows that Bulgaria can only tackle the new challenges of the transition to a low-carbon economy if it develops and implements country-specific strategies and measures.

A key prerequisite for the realisation of the EC's vision for development is to ensure the conditions for long-term sustainable technological progress, which must be achieved in a globally competitive environment and requires a sustainable socio-economic environment in the EU. In a context of political and economic instability and recurring crises, it is increasingly difficult to develop adequate energy development strategies for EU countries that are consistent with the vision presented by the EC. **Achieving the ambitious goals of the Green Deal is becoming increasingly difficult, with a number of negative developments already manifesting themselves, such as rising electricity prices, eroding security, imbalances, etc. These circumstances need to be taken into account when shaping the strategy for the development of the electricity sector in Bulgaria.**

Bulgaria's electricity system is in the process of becoming more fully integrated within the EU, meeting the objectives of the green transition. Major electricity generators are faced with the choice between adapting to the new conditions and exiting the market. Under the conditions thus created, no single solution can be derived to meet the general strategic objective of ensuring reliable supply at competitive prices. There is a need to secure the investment environment and the conditions for the development of new capacity.

One of the main challenges is to define a national energy mix that ensures security of supply, a balanced electricity system and minimised price shocks in the market. This depends on the following factors, which determine the participation of generation capacity in securing electricity supply for consumers:

- dynamic growth of variable generation capacity (RES);
- growing role of balancing capacities in maintaining security of supply;
- dynamic cross-border supply options.

The higher share of variable RES (such as solar and wind), with a reduction in the participation of traditional generation system regulation capacities (such as CHP), leads to the need for a variety of countervailing measures. The segment of baseload consumption, or baseload generation, is decreasing, leading to an increase in generation stochasticity and the need to adapt consumption to intermittent supply conditions.

The set of measures to adapt the system to balance electricity demand and consumption has not only a technological focus but also a period of impact. Some of the measures have a short-term impact within a 24-hour period (from seconds to a few hours – capacitors, batteries, consumer response, PSHPP, CHPP, and thermal storage). Other measures are seasonal (GHPP, CHPP). These alternatives are not sufficient to compensate for the high share of RES, and measures with impacts in other sectors – transport, energy-intensive industry, and buildings – need to be introduced. The latter is mainly related to the production of energy raw materials that can be stored – production of hydrogen, ammonia, methanol and synthetic fuels. This creates an interdependence between electricity production and consumption, and achieving economic sustainability requires a general increase in the share of electricity in the energy balance, or electrification. On this basis, projections[67] of high growth in electricity consumption are considered.

When discussing the alternatives for the development of the electricity sector in Bulgaria and the need for investment in new capacities, the following two main system tasks have to be taken into account:

- **Ensuring security of supply** – seeking to cover domestic consumption, taking into account the trends of increased electricity demand due to electrification in the transport, heating and digital services sectors. Security of supply is also considered for seasonally higher demand, as well as ensuring reserves for crisis response.
- **Ensuring system balancing** – an ongoing task for electricity system operators, which is addressed with interconnections and provision of shunting capacity.

The analyses show significant market and price issues associated with the realisation of renewable generation. To shape long-term sustainability, nuclear emerges as the cheapest option for low-carbon electricity generation at the system level. At present, the main projected national power balance alternatives are long-term, based on low-carbon technologies and include the development of new PV and nuclear capacity. The combination of intermittent and baseload sources requires the inclusion of a number of complementary technology solutions to achieve the key system objectives outlined above. The cost of grid balancing services increases with the growth of PV on the grid, while the development of new baseload capacity with the capability to provide balancing services helps to address both of these key system tasks. A conservative approach is to assign a role to coal plants as "capping" facilities, i.e., they come on line only when there is insufficient generation from other local sources. In addition to not ensuring the supply of electricity for domestic consumption from its own sources on an annual basis, the option with no coal plants and an increasing share of RES raises additional systemic problems. The heavy reliance on imported electricity during the winter months cannot be compensated for by new solar capacity, as especially in the spring period there is an

[67] https://2024.entsos-tyndp-scenarios.eu/

overproduction, which necessitates exporting or curtailing the production of some plants. If such an approach is not adopted, **the increase in the share of renewables, in the absence of the dynamic characteristics of coal plants, makes it difficult to balance the electricity system and has an unsustainable character, whereby**:

- in the short term, the rapid penetration of renewables will be balanced with imported power and batteries, but government policy will be needed to keep coal plants operating during periods of high load and investment in batteries;
- in the medium term, there is a need for new plants with dynamic characteristics, such as natural gas condensing CHP and/or PSHPP;
- in the long term, reliable, low-emission baseload capacity is needed, such as NPPs.

Currently, the main projected (forecasted) national alternatives (options) for the power balance of the electricity sector in Bulgaria until 2030, with a horizon until 2050, which take into account the EU green policies, are developed in several state institutional documents. Ambitious targets for new RES are reflected both in the vision for the 2030 power generation mix presented in the Electricity Transmission Network Development Plan of Bulgaria for the period 2024-2033 developed by ESO (labelled "10 DYNG") and in the draft[68] of the November 2023 Sustainable Energy Development Strategy of the MoE (labelled "STR23"). A longer-term projection (up to 2050) is presented in the 2024 INECP, where two projection scenarios for energy production and consumption are developed – a scenario with existing policies and measures (labelled "WEM") and a scenario with additional policies and measures (labelled "WAM"). Table 3 presents a sample of these documents, containing four projections for 2030 and 2050 in terms of available generation capacity, taking into account the integration of batteries.

Table 3. Composition of generation capacities in 2030 and 2050 according to MoE, ESO and INECP projections

Year	NPP Kozloduy	Coal-fired power plants – lifetime variants		Combined heat and power plants and CCGTs	Biomass and biogas	Hydro	Wind		Solar	
2026	2200	2647	1300	1394	190	3200	700	700	4300	4200
Forecasts by:		STR23	10 GPR				STR23	10 GPR	STR23	10 GPR
2030	2200	**1627**	**0**	**1579**	**350**	**3200**	**1500**	**1500**	**5500**	**6300**
Forecasts by:		WEM	*WAM**				WEM	WAM	WEM	WAM
2050	2200	**0**	**0**	**500**	**350**	**3800**	**5500**	**5500 + 3800**	**9700**	**13240**

* The WAM scenario for wind power plants includes onshore and offshore, presented separately.

Source: Ministry of Energy and ESO.

Each option for a national power balance is to be tested in terms of its qualitative characteristics and robustness to the influence of external factors (economic, climatic, and political). In 2018, a qualitative assessment of strategic national power balance options was carried out, as outlined in the project "National Energy Strategy (with a focus on electricity)" developed by BES I&E and commissioned by BEH EAD. For this purpose,

[68] https://www.me.government.bg/uploads/manager/source/VOP/EStrategy/Proekt_E_STRATEGY17.11.2023.pdf

a methodology was applied to compare the derived strategic options for the development of the electricity sector on the basis of quantitative financial analyses and qualitative analyses of the influence of factors from the external environment, which resulted in the following ranking:

- Strategic Option 1 – Priority of nuclear power development: use of the equipment delivered for the Belene NPP;
- Strategic Option 2 – Priority for the use of indigenous energy sources: maintaining coal-fired power plants in the long term;
- Strategic Option 3 – Priority for renewable energy: intensive support for the construction of new solar and wind power plants;
- Strategic Option 4 – Achieving a balanced electricity mix: achieving a gradual transition to low-emission electricity.

At present, analyses show that the national strategic options derived in 2018 need to be updated, as the EU's ambitious green transition targets and a number of new regulations were adopted in 2019. This changes the environment for the electricity sector in Bulgaria and requires an update of the estimates related to generation capacity shares. The update takes into account the green transition objectives set out in the options for the development of a national power balance in the institutional documents cited (and in particular in INECP) by making the following changes to the pricing parameters and the different perspectives for capacity development:

- Strategic Option 1 – Priority of RES use: using forecasts and INECP data (as of 12.06.2024) for Bulgaria until 2050, including both RES development and new nuclear capacities.
- Strategic Option 2 – Priority of nuclear power development: reflects the current planning for constructing two new AR1000 units at Kozloduy NPP and selling the equipment supplied for Belene NPP; RES projections are consistent with the update in Table 3.
- Strategic Option 3 – Prioritise the use of indigenous energy sources: coal-fired power plants are replaced by GHPs.
- Strategic Option 4 – Achieve a balanced electricity mix: gradual transition to low-emission electricity through the construction of one large nuclear unit or several small modular reactors, with a higher share of renewables than Options 2 and 3, but lower than Option 1.

The subsequent qualitative assessment of the updated strategic options is based on the impact of the following factors related to achieving the stated objectives and requirements pertaining to the development of electricity in Bulgaria:

- Level of achievement of EU targets:
  - achieving a climate-neutral economy by 2050;
  - low emissions of harmful gases and particulate matter.
- Sustainability of domestic supply:

- successfully meeting domestic supply in a moderate consumption scenario and using domestic sources;
- opportunities to increase production under a maximum consumption scenario without significantly changing priorities.

- Energy and economics:
  - potential to provide affordable electricity for industrial production – low volatility in forecasting price levels, electricity supply close to consumers, support for new technologies;
  - export opportunities;
  - workforce and knowledge retention – maximising the lifetime of national traditional electricity generation.

The following technical assumptions are also made to justify the long-term development of strategic options for the electricity sector up to 2050:

- Kozloduy NPP units 5 and 6 are not operational in 2050;
- first solar, wind and biomass RES plants built in the period up to 2020 are not operational in 2050;
- lignite-fired thermal power plants are not in operation in 2050;
- **where there is a shortfall in generation capacity relative to domestic demand, the difference is assumed to be met equally by gas-fired CHP or imports**.

The result of the application of the qualitative assessment methodology to the power balance options is presented in Table 4, with the highest weighting given to the alternative prioritising new nuclear capacity.

Table 4. Qualitative indicators for weight ranking and assessment of strategic options towards 2050*

	By 2050	Renewable energy priority	NPP priority	TPP priority	Balanced
CI1	Contribution to EU targets				
KI11	Low emission generation	*Score 2*	*Score 2*	*Score 0*	*Score 2*
KI12	Environmental protection	*Score 2*	*Score 1*	*Score 0*	*Score 2*
KI2	Sustainability of supply to the domestic market				
KI21	Moderate consumption	*Score 2*	*Score 2*	*Score 1*	*Score 2*
CI22	High consumption	*Score 2*	*Score 2*	*Score 0*	*Score 1*
KI3	Electric Power and Economics				
KI31	Affordable EE for industrial production	*Score 0*	*Score 1*	*Score 1*	*Score 2*
KI32	Electricity exports, supply chains	*Score 1*	*Score 2*	*Score 1*	*Score 2*
KI33	Workforce and skills retention	*Score 1*	*Score 2*	*Score 1*	*Score 1*
	Ranking by weighting factors	**10**	**12**	**4**	**12**

* The ranking in Table 4 is achieved by assigning a quantitative score (0, 1 and 2, respectively) to the critical, acceptable and consistent conclusion for each factor.

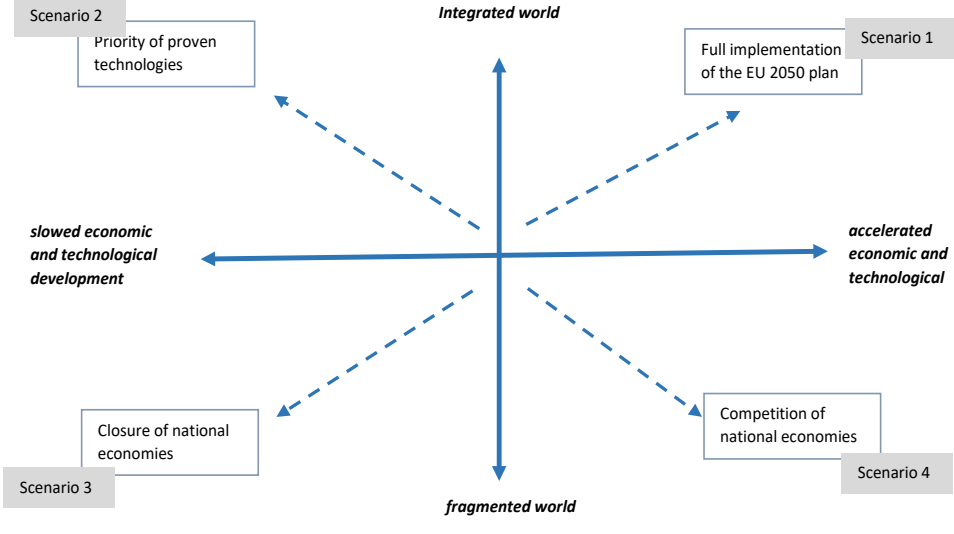
Source: Author's application of the weight ranking method.

The success of the selected option depends on the adequate assessment and consideration of economic and technological indicators, taking into account the impacts of the external environment and the implementation of a long-term proactive public policy in the electricity sector.

The qualitative assessment made is valid in cases where the economic, social and technological developments are in line with the EU's target visions, i.e. no negative scenarios for the development of the external environment are foreseen. Ensuring sustainability in terms of security of supply, balance and minimising price shocks in the market requires testing national strategic power balance options under possible negative socio-economic and technological scenarios of the external environment. For Bulgaria, the external environment is determined by regional and global impacts, but as part of the EU (and in particular the Energy Union), external European impacts as a single space must be taken into account.

The optimistic assumptions for the long-term development in the EU and the forecast scenarios presented by the Commission are based on the assumption of a sustainable societal economic environment, unity of Member States and success in dealing with competition on the global stage. Negative developments are already occurring, which may be short-term in nature but may also turn into long-term trends, changing the conditions under which the models are developed. This requires consideration of a wider range of forecast scenarios for socio-economic and technological development, necessary to adequately assess the sustainability or risks faced by national development plans. To this end, scenarios are proposed, presented in a coordinated environment with two leading factors for economic development – integration processes and potential for technological development (Figure 13).

Figure 13. Spectrum of socio-economic and technological development scenarios



Source: Author's analysis based on Ivanov, 2022.

The presented projection of possible development directions is summarised along the following axes:

- **International connectivity** – defined by the poles "integrated world" (realisation of the concept of a connected Europe) and "fragmented world" (imposition of the supremacy of nation states);
- **Technological development** – defined by the poles "accelerated economic and technological development" (implementation of the Industry 4.0 concept) and "slowed economic and technological development" (redirection of resources to overcome crises).

Scenario 1 corresponds to the EC target scenarios. In this scenario, integration processes provide opportunities for supranational regulations and sustainable economic development ensures large-scale investments for the widespread deployment of new technologies within the EU. The adopted Green Deal framework and its gradual implementation in EU legislation are already leading to significant changes in electricity sector development projections in terms of a reduction in the use of fossil fuels and an increase in the share of renewables. In this scenario, the rapid phase-out of coal will be a major requirement for participation in the overall electricity sector transformation process, and the need for imports is not seen as a systemic risk due to strong integration processes. The rapid development of renewable energy projects and related energy storage projects, electromobility and hydrogen production leads to a general increase in electricity consumption, which creates the prerequisites for the development of nuclear projects.

The alternative scenarios have the potential to develop as the current crises deepen, as the imbalance of national electricity systems increases and as baseload plants close prematurely relative to balancing power needs (Figure 13). Alternative scenarios include:

- Conservative Nationally Oriented Scenario 2 – Priority is given to proven technologies in national development planning

This scenario assumes the failure of the coal phase-out plans, which is associated with delayed or limited access to EU funding, but in the face of rising costs of maintaining mining activity in the Maritsa East complex. The need for replacement baseload capacity at the NPP remains, but its implementation is seen in the context of a free market and weak state support.

- Pessimistic Scenario 3 – Closure of national economies and reduction of common policies within the EU

The pessimistic scenario is that of a severe geopolitical crisis resulting in a general economic slowdown and limited access to new technologies for civilian purposes. In this scenario, the development of renewable energy projects would be delayed mainly due to limited balancing opportunities within national electricity systems. The construction of new CHPPs will also be limited due to expected high gas price levels. This scenario opens up opportunities in terms of baseload nuclear capacity for long-term fuel reserve and diversification of supply, but the realisation of such a project depends on national financing options in a crisis environment. This is expected to be the only scenario in which the issue of coal plant retirement will not be a foreign policy issue, but will continue to depend on the market environment. Although there is a low probability of realisation, such

a scenario needs to be analysed more broadly, taking into account the national security strategy, which includes the issue of reliable energy supply as well as the protection of critical infrastructure.

- Scenario 4 with moderate development – competition of national economies within the EU

The actions of national governments in the EU during the 2022-2023 crises showed in practice the possibility of a scenario with delayed integration processes and competition for access to technology and finance. In this socio-economic and technological development scenario, the drivers for economic development are individual EU Member States, and the actions of protectionist national policies will be strongly felt. The construction of baseload nuclear capacity remains a sought-after alternative but depends on national capacity to secure financing. Competition between national economies within the EU is a perfectly feasible scenario subject to external pressures. Such competition can take very different forms:

- delaying the implementation of important cross-border infrastructure projects for another Member State or pursuing alternative supply routes;
- using the contacts of national representatives in EU scientific and applied units to guide programs and national technology development;
- prolonged closure of access to a particular market due to a climatic, geophysical or social phenomenon;
- attracting investment on the basis of a flexible national policy on strategic issues.

In such an environment, it is important to work to reduce the influence of third parties in the implementation of projects of national importance.

Each of the four proposed national power balance options has been tested for robustness against each socio-economic and technological development scenario. The testing was carried out on the basis of a SWOT analysis. The option that is the most sustainable for the development of the electricity sector, **considering projected socio-economic and technological development scenarios for the assessment of strategic options for Bulgaria's electricity power balance, is the one with priority for new nuclear capacity.** This option for the development of electricity capacity covers the maximum forecast load while providing reserve capacity and exports, in contrast to the options that rely on imports in periods of low generation. The recommended development option is based on the expectation to pursue a proactive public policy in the electricity sector, accordingly presented and justified through the National Energy Strategy 2050.

5. Conclusions and Recommendations

The major challenges to achieving the EU's green transition goals stem from the ambition of the goals and the timeframes for achieving them, as well as the tools to achieve them. The two leading instruments are the electricity market model and the carbon market. The negative results obtained in the implementation of the Green Transition targets are being recognised by the EC, and there is already talk of retreating from the final ambitious targets in terms of timelines for achievement, as well as a Green Deal for Growth. Ambitious targets for the pace of introduction of renewable electricity into national electricity mixes are leading to projected imbalances in the EU electricity sector. The reasons lie in the nature of renewable electricity generation:

- RES generation does not meet the requirements for either baseload or balancing capacity;
- generation from these capacities is highly variable both on a daily and seasonal basis;
- rapid increase in the share of renewables in the electricity mix leads to overproduction of power during daylight hours and to zero exchange prices;
- connecting renewables to the transmission grid requires additional new system connections.

In summary, renewables unbalance the system, cannot meet security of supply requirements and require significant additional system costs that make electricity more expensive, and their deployment requires both baseload and balancing capacity.

The claim that overgeneration from renewables at certain times and seasons, and their transition to the role of baseload and flexible capacity, can be done through storage farms is incorrect because storage systems have a fast power cycle and, theoretically speaking, multiple such farms need to be built to achieve a system optimum. Such a solution is very expensive and will have an impact on the price. Developing the idea of using surplus electricity to produce hydrogen is linked to the still very expensive application of this technology. There is a real dependence of Bulgarian electricity consumers on imports, which reduces the security of supply. The conclusion is that at this stage, and in the years to come, an efficient national energy mix must include baseload and flexible capacities that meet the requirements of the green transition, such as NPPs and PSHPPs. Very **justified is Bulgaria's request to keep the TPP until 2038, as the completion of new baseload capacity is not certain until then. The construction of the two new nuclear units at Kozloduy NPP needs to be accelerated. These visions for the structure of a national power balance will create conditions for security of supply and balancing of the electricity system, and provide opportunities to minimise price shocks in the market.**

The EU electricity market model, as an instrument to achieve the green transition objectives, **has failed to deliver on the expectations of improving human welfare, industrial competitiveness and the functioning of society as a whole by providing safe, secure and sustainable energy at affordable prices.** The negative results have occurred despite a number of legislative initiatives and regulations taken over the last 20 years to make this market work. These are reflected in rising electricity prices, slowing economic growth and increasing energy poverty. The socio-economic results obtained

and the attempts over 20 years to develop and correct the model administratively have shown that it is conceptually (systemically) flawed. The analysis of the common European electricity market highlights serious problems with its functioning, which point to serious systemic flaws.

Clearly, a conceptual change in the structure and functioning of the model is needed if it is to fulfil its function as a key instrument for achieving the green transition objectives.

With the challenges thus outlined for the Bulgarian electricity sector on the way to achieving the green transition objectives, it is evident that the introduction of full liberalisation of the Bulgarian electricity market will require overcoming the serious problem of electricity price shocks due to the mentioned shortcomings of the European energy market. The government's policy to compensate businesses for these market anomalies should also take into account energy poverty. Such an approach defeats the purpose of liberalising the market, but if this is to happen, for the sake of fairness and preventing the continued impoverishment of the Bulgarian consumer, such compensation must be implemented. It is clear that unless a conceptual change is made to the EU's common electricity market model, the negatives will continue, including significant market shocks (multiple price increases). This will lead to major social dissatisfaction of consumers forced to participate in the free market and loss of competitiveness of the economy. **Until the problems in the functioning of the electricity market are addressed and the expected results of the market are guaranteed in practice, full liberalisation affecting Bulgarian consumers is justified to be postponed in time.**

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