DIMENSIONS OF BULGARIA'S ECONOMIC GROWTH AND COMPETITIVENESS IN THE YEARS OF THE EU MEMBERSHIP

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Abstract

The research is focused on one of the main emphasis and some factors of long-term competitiveness highlighted in the European Commission document of March 2023 „EU competitiveness beyond 2030: looking ahead at the occasion of the 30th anniversary of the single market". The main goal is to analyze the economic growth and the factors of competitiveness outlined by the EC in the field of: scientific research and innovation; foreign trade and openness of the Bulgarian economy. The task of the study is to identify the progress or backwardness achieved by Bulgaria in the years after our country's accession to the EU (2007-2022), based on the parameters and the dynamics of the relevant indicators. Traditional methods of analysis and synthesis, empirical descriptive and index analysis are applied in the research.

Key words: economic growth, competitiveness, foreign trade, R&D costs and innovation

JEL: E01, E20, F40

1. Introduction

In the time horizon of the past 30 years, a series of transformations and cardinal conversions have taken place in the Bulgarian economy. The transition to a market economy, which began at the end of the 80s of the 20th century, and the realization of Bulgaria's membership in the European Union (EU) at the beginning of 2007 had the greatest impact on the dynamics and competitiveness of our economy.

Undertaken urgent reforms in the process of market transition induced pronounced growth instability in the 1990s. Growths and declines of the generated GDP alternate, the country's economy is shaken by frequent and sometimes deep financial and economic crises (for example, a collapse of GDP by 14.1% in 1997 and by 8.4% in 1999 - according to latest revised World Bank data). They continued almost until the end of the century and hindered the increase of

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Bulgaria‘s competitiveness internationally, despite the limited intensity of market transformations over time.

Economic dynamics reversed and became relatively more stable after the beginning of the 21st century. It is primarily the result of more serious efforts and measures, the implementation of targeted policies focused on a more permanent overcoming of crises, the preparation and, at a later stage, the realization of Bulgaria‘s membership in the EU. Progress in market reforms is already registered, new priorities are brought to the fore. Attention is increasingly focused on the ability of companies to function effectively, to offer new goods and services at competitive prices, and with them to impose themselves more decisively on the internal and external (regional and global) markets. The harmonization of national and European legislation, compliance with the rules of the currency board introduced in 1997, contribute to the improvement of financial discipline. The degree of openness of the Bulgarian economy is increasing, influenced by a noticeable activation of import-export flows with other EU countries. Although with some unevenness in separate years, inflows of foreign direct investment are increasing. They put Bulgarian companies in a more competitive environment and encourage them to introduce more modern technologies and new products, to more active innovation activity. All this has a positive impact on the economic growth and competitiveness of Bulgaria.

In these conditions, however, the sensitivity of the Bulgarian economy to external shocks and impacts is increasing. In the years after 2007, it was affected by the impulses of the global crisis, which led to a reported decline in GDP in 2009 (-3.3%), followed by another smaller decline (-0.56%) in 2013, suffered the negative effects of the Covid 19 epidemic and recorded a significant decline in 2020 as well (-4%), according to World Bank data.

Despite the achieved improvement and with its specific macroeconomic dynamics, Bulgaria continues to occupy unacceptable positions in international rankings and evaluations of competitiveness in the period after 2007.

In the World Competitiveness Yearbook 2023 of the Institute for Management Development, Switzerland (IMD), Bulgaria ranks only 57th out of a total of 64 countries (IMD World Competitiveness Yearbook 2023, p. 38). The country does not achieve success, but actually notes a deterioration in the broad set of 336 criteria and indicators of competitiveness studied by IMD - in its overall assessment, Bulgaria falls four positions back compared to 2022 and sixteen positions - compared to 2007 (when it was accepted as a member of the EU and ranked at a much higher 41st place).

In the perspective of the four general factors studied by IMD (economic performance, government efficiency, business efficiency, infrastructure), Bulgaria‘s performance is not equally. Our country occupies a relatively better position (48th place) in terms of economic performance, but ranks 54th in terms of infrastructure, 55th in government efficiency and barely 62nd in business efficiency

in 2023 (IMD World Competitiveness Yearbook 2023, pp. 47-50). Compared to the previous year 2022, a shift forward by one place is found only in the factor „economic performance“, while in the other three factors there is a deterioration of the occupied position.

In this context, the main goal of this report is to analyze the dynamics and parameters in Bulgaria of a selected set of processes and indicators, reflecting a certain part of the most widely applied competitiveness criteria, within the period 2007-2022. The focus is more specifically on: economic growth, foreign trade and openness of the Bulgarian economy; expenditure on R&D and innovation.

The selected processes and indicators are identified as factors of long-term competitiveness in the European Commission‘s March 2023 document „EU competitiveness and beyond 2030: looking ahead on the occasion of the 30th anniversary of the single market“ (European Commission, 2023). They are also included in the IMD and World Economic Forum analyses, within the scope of the more specific criteria and indicators.

The more important tasks of the research refer to determining and justifying the progress achieved, respectively lagging behind in the selected factors and indicators, and hence in the general assessment of the competitiveness of the Bulgarian economy during the years of the country‘s membership in the EU. The finding of more acute problems can serve as a guide for focusing the priority measures and policies to improve Bulgaria‘s competitive positions, which is imperative.

2. Methods

Traditional methods of analysis and synthesis, empirical descriptive and index analysis, standard mathematical and statistical methods, historical approach and comparative analysis are applied in the research.

3. Theoretical aspects and discussion

In this study, we adhere to the established understanding and definition of competitiveness of the Institute for Management Development (since 1989), the World Economic Forum (since 1979), the World Bank, the European Commission and institutions. Their definitions are broadly similar, emphasizing the link of competitiveness with economic growth, incomes and human well-being.

For example, the World Economic Forum defines it as “the set of institutions, policies and factors that determine the level of productivity of a country… And productivity leads to growth, which leads to income levels and … improved well-being” (Global Economic Outlook 2017).

On the official website of the European Union (EUR-Lex) is noted that „A competitive economy is an economy whose sustained rate of productivity is able

to drive growth and, consequently, income and welfare." (https://eur-lex.europa.eu/EN/legal-content/glossary/competitiveness.html).

A significant contribution to clarifying the relationship between economic growth and competitiveness, to supplementing and improving the set of factors and more specific indicators of competitiveness, has the endogenous growth theory. A large number of these factors are consistently included as variables in the developed endogenous models. The role of an introduction to the endogenous theory is played by the so-called AK models, which take into account technological changes and their impact on capital, the process of human capital accumulation and the cumulative effect of knowledge (Romer, 1986). The growth of labor productivity as a result of the accumulation of human capital and the impact on the growth of R&D expenditures are the main focuses in the research of R. Lucas (Lucas, 1988, 2014) and R. Barro (Barro, 1991, 1999, 2000). More recent research focuses on improving the measurement of innovation and its impact on a country's competitiveness and economic growth (Reznakova and Stefankova, 2022).

With the substantial intensification of foreign trade in the contemporary conditions of deepening economic integration and globalization, the interest in determining and reporting its role for competitiveness increases (Farole, 2010). It is emphasized that the growth of exports, especially of innovative goods and services, can accelerate the competitiveness and economic growth rates many times. This affects some perceptions of competitiveness, which R. Atkinson, for example, defines as „the ability of a region to export more added value than it imports" (Atkinson, 2013, p. 2). However, in our opinion, such a definition cannot be accepted as a fundamental and starting point in the understanding of competitiveness, as far as the opportunities for greater export of goods with a higher added value depend on economic growth, the innovative activity of companies, the specific in a separate national plan, sectoral GDP structure, the quality of human capital.

4. Factors and criteria for Bulgaria's competitiveness

The summary factor „economic performance" is assessed by IMD on the basis of a set of 82 sub-factors and indicators (All_criteria_list_WCY_2023.pdf (widen.net)). In the present study, a small part of them are covered, which relate to the level and dynamics of the GDP, export and import of goods of Bulgaria in the period 2007-2022. To them are added indicators of R&D expenditures and innovations, which are included in the „infrastructure" factor and are highlighted in the cited EC document from March 2023.

4.1. Economic growth and foreign trade of Bulgaria

In IMD analyses, the results of economic development are expressed through indicators, among which are the level and dynamics (annual rates of change) of

GDP as a whole (in US dollars), GDP per capita in US dollars and by purchasing power parities

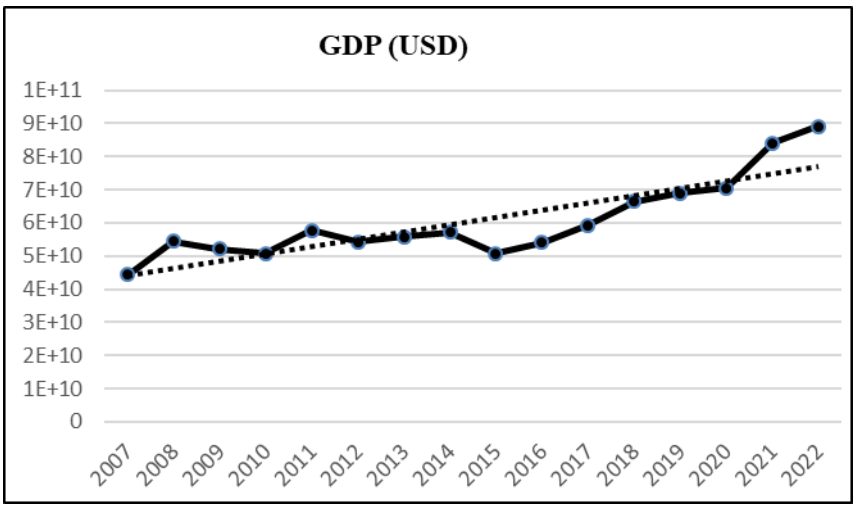
The attached World Bank data on them below supports the relatively better parameters of the „economic performance“ factor, although they remain unsatisfactory.

The summarized result of the Bulgaria‘s economy development during the period 2007-2022 is expressed in the more than twofold increase in the GDP created (see table 1 and fig. 1). Comparing the data for the first with their level for the last year of the period, it is found that the total value of GDP (in US dollars) has more than doubled, GDP per capita in US dollars has increased by almost 134%, the increase of GDP at purchasing power parities is the largest and amounts to approximately 162%. However, the parameters of increase in GDP per person of the population reflect not only the growth of aggregate production, but also the ongoing and currently deteriorating demographic processes - the decrease in the total number of the population, the negative natural increase, the continuing high levels of emigration.

Table 1: Indicators of the economic growth of Bulgaria 2007-2022*

	GDP	GDP growth rates	GDP per capita	GDP per capita
Year	(USD)	(%, previous year=100)	(USD)	(PPP)
2007	44432811756	6.591380837	5888.776852	12820.80999
2008	54480697770	6.116017964	7271.305201	14346.89554
2009	52023813558	-3.271854279	6988.274819	14181.94966
2010	50754203891	1.541801443	6862.757687	14956.35731
2011	57735709914	2.10120575	7856.985958	15747.0796
2012	54290156342	0.754930386	7431.014045	16327.85847
2013	55844245264	-0.560493966	7686.629222	16647.00987
2014	57159557805	0.966869032	7912.52054	17616.95407
2015	50828088836	3.428054914	7081.102336	18391.89681
2016	53987487124	3.039825276	7574.191264	20074.26479
2017	59343060706	2.76217096	8386.589202	21469.97089
2018	66399602077	2.684760587	9451.85087	23016.0668
2019	68911930628	4.038142206	9878.768872	25170.216
2020	70404359049	-3.958614598	10153.4766	25296.07094
2021	84061395658	7.634609716	12222.23565	28113.11723
2022	89040398406	3.361252752	13772.47679	33582.28261

** Source: World Bank data, as of 09/20/2023.*



** Source: The data from tab.*

Figure 1: GDP of Bulgaria 2007-2022 (USD)

The main prerequisite for this is the achieved relative macroeconomic stabilization, the prevailing positive and in some years high GDP growth rates (e.g. by more than 6% annually in 2007 and 2008, by more than 7.6% in 2021). There were only three crisis-related declines in GDP during the period and they were relatively mild, their cumulative backlog being just under 8%. The initial impulses of these crises are not internal, but external, they do not equally affect all economic sectors and industries, and in some cases they even play a stimulating role and impact on some of them (as in the case of the 2020 crisis). In these conditions, companies‘ investments are favorable and grow (for the period as a whole), they make more investments in innovative products and new technologies, incomes, consumption and demand for goods on the domestic market increase. This is facilitated by the control of inflation, the annual rate of which has been reduced to single digits and even sometimes to zero levels. Having acquired considerable market experience, some companies in the private sector are expanding, providing more jobs and higher employment. Companies of medium and larger sizes manage to benefit to a certain extent from the funds provided to our country from the European funds, through which they further expand the scale of their activities and revenues. A contribution to the country‘s GDP is also made by more foreign companies that entered our country during the period, mainly from European countries, which are gradually confirming their place on the Bulgarian market.

Several other prerequisites contribute to the more permanent economic growth, the manifestation of which has intensified after the acceptance of Bulgaria as a member of the EU.

Given the already similar structure of our economy to that of other European countries (with a leading service sector), more Bulgarian companies manage to

join global supply chains. They participate in them not only as suppliers of raw materials, but also as producers of intermediate or final products. On this basis, the connections between companies from different EU countries become more secure and long-lasting, which contributes to a significant growth of the export and import of goods, mainly with EU countries. In terms of imports, more and better quality raw materials needed for the growing production, the greater purchasing power with the increased and more stable incomes of the Bulgarian households also have an effect.

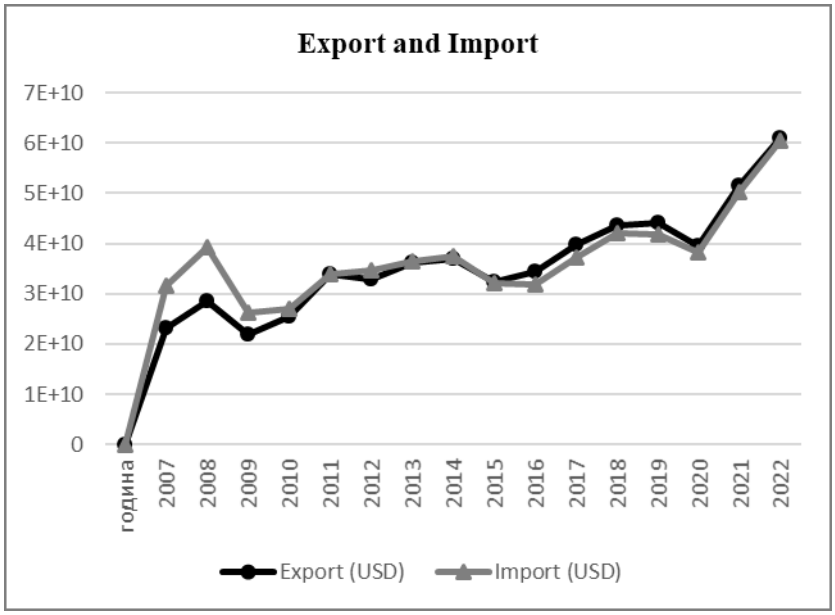
The effects on the quantitative parameters of our foreign trade are significant (see table 2 and fig. 2). The export of goods from Bulgaria in 2022 has become almost three times larger compared to 2007, the amount of import has doubled. They change at different rates by year, in most cases higher for exports. In a total of nine years, the foreign trade balance has been positive, which is typical for 2011 and for the last eight consecutive years of the period (2015-2022). This places our exports and foreign trade among the main sources of growth in these years, although further more precise measurement would be required to draw such a conclusion. Based on an analysis of the effect of exports through the export multiplier, for example, it is substantiated that in some of these years „moderate (rather than high) marginal export dependence of growth" was achieved in our country (V. Pirimova, 2019, p. 63). For greater effects of exports on our economic growth and competitiveness, it is necessary to put a stronger emphasis on the production and sales in foreign markets of more complex products, with higher added value, created mainly within the manufacturing industry, at the expense of raw materials and products with lower added value (Pirimova and Peshev, 2018).

Table 2: Indicators of Bulgaria's foreign trade 2007-2022*

	Export	Export growth rates	**Export**	**Import**	**Import growth rates**	**Import**
Year	**(USD)**	**(%, previous year=100)**	**(% of GDP)**	**(USD)**	**(%, previous year=100)**	**(% of GDP)**
2007	23262813856	19.62264322	52.3550343	31626174948	22.61630691	71.17752332
2008	28590194822	2.477859798	52.477659	39341104865	4.864037592	72.21108847
2009	21963855856	-11.71557646	42.2188501	26258393275	-21.5083059	50.47379552
2010	25431731851	11.04634031	50.1076362	27053994442	-0.272658888	53.30394798
2011	33950299623	12.5760876	58.8029483	33863922852	9.631210276	58.65334107
2012	32766139394	2.031360581	60.3537392	34550158970	5.368780957	63.6398222
2013	36065160589	9.626919969	64.5816958	36383063760	4.335948216	65.15096334
2014	36925581443	3.122561353	64.6008872	37546057601	5.139653701	65.68640319
2015	32428365101	6.448874172	63.8000874	31971302473	4.697558635	62.90085503

2016	34482067463	8.616763675	63.8704805	31832827551	5.151474266	58.96334363
2017	39756643563	5.752169282	66.9945956	37197418125	7.355510411	62.68200137
2018	43621784916	1.736682789	65.6958529	41935203792	5.762871	63.15580588
2019	44058096846	3.974485273	63.9339175	41833457730	5.220017829	60.70568238
2020	39511560474	-10.3662977	56.1209008	38131655084	-4.307361592	54.16092924
2021	51551645401	11.00374994	61.3261831	50140855657	10.94484315	59.64789814
2022	61031400883	8.27102194	68.5434948	60315900721	10.5241588	67.73992682

** Source: World Bank data, as of 09/21/2023.*



** Source: The data from tab. 2.*

Figure 2: Exports and Imports of Bulgaria 2007-2022*

In the period after the acceptance of Bulgaria as a member of the EU, a trend of marked expansion of foreign trade contacts and import-export flows with other EU countries developed. The exchange of goods with this group of countries is facilitated by a number of common EU policies, as well as by the widest representation of these same countries in the inflows of foreign direct investment in Bulgaria. However, it appears that the consequences of the recently established geographical structure of our exports can be ambiguous. First, a „sustainable trend of growing structural convergence and shortening the divergence in exports compared to that of the Eurozone“ (Pirimova, 2020, p. 125) is forming. This was also proven by applying in another study (Pirimova, 2021) adapted variants of

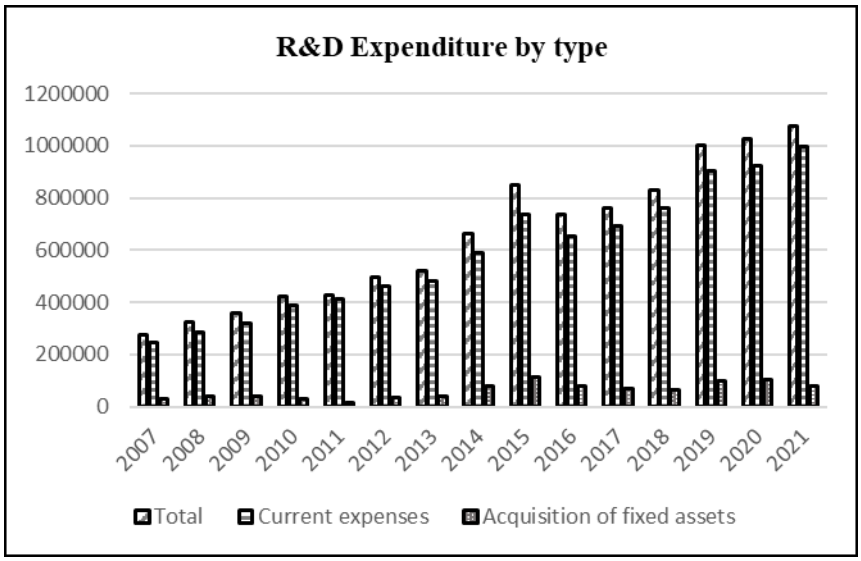
the approaches and methods for the analysis of the structural σ-convergence of GDP, developed and used by J. Von Hagen and J. Traistaru (2005) and by C. Van de Coeving (2003). Second, over half of our exports have become too highly concentrated - they include goods that are exported (solely or predominantly) to one specific European or to a small number of EU countries or the world (Pirimova and Peshev, 2018, p. 15). With such one-sided concentration, there is a great danger that a possible collapse in the economies of the respective countries will cause a rapid and sharp drop in the export of certain goods, as well as in the total value of Bulgarian exports. This was also one of the prerequisites for a significant contraction of our exports and imports in the two crisis years (2009 and 2020). Therefore, more efforts should be made to diversify our foreign markets.

The conclusion has to be drawn that the basic dimensions of growth and foreign trade contain signs of some improvement, and the preservation of the highlighted trends in them may determine an increase in Bulgaria‘s competitiveness.

4.2. R&D Expenditure and Innovation

Given the undisputed role of innovation and R&D expenditure in long-term economic growth and competitiveness, they are analyzed by IMD as sub-factors of the ‚infrastructure‘ factor.

It should be noted that during the past period R&D expenses in Bulgaria have an upward trend of increase (with the exception of one decrease in 2016). As a result, in 2021 they are already about four times their 2007 size (see Fig. 3). But they remain too small as a total amount and in structural terms are not optimized, in view of which they do not provide support for the economic growth and competitiveness of the country. The huge part of them (about 93% for 2021) is allocated to current expenses, only an average of about 10% (for 2021 even 7%) is intended for the acquisition of fixed assets. Similar conclusions about the lack of optimization and stimulating effects of R&D can be made on the basis of the sector structure, the distribution of R&D by industry and according to the size of the enterprises (Pirimova et al., 2022; Stefanova, 2021). At the same time, the dynamics of budget expenditures for R&D are inconsistent and fluctuating, without strictly defined and closely followed priorities for separate socio-economic goals (Pirimova et al. 2022).

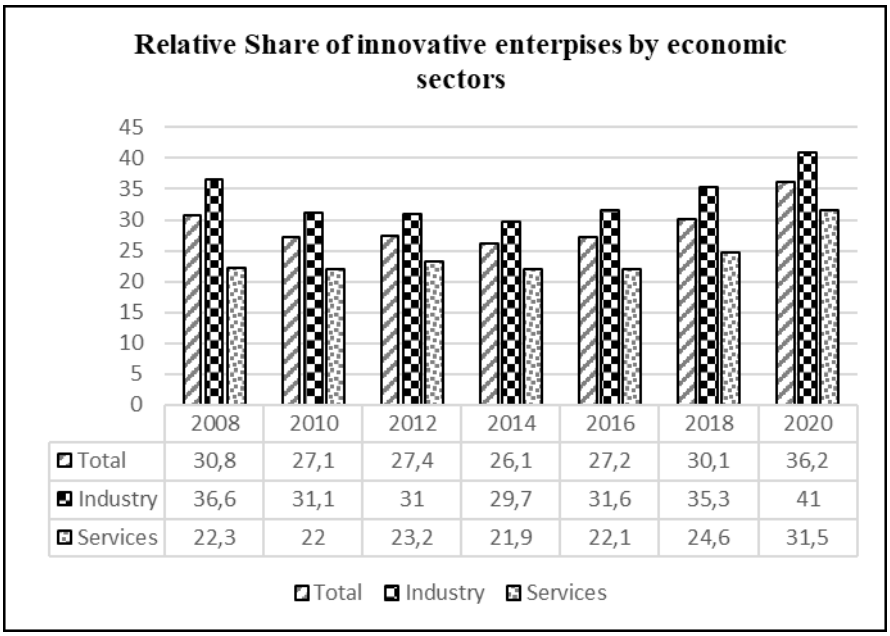


* Source: NSI data, as of 09/23/2023. The latest available data is for 2021.

Figure 3: R&D Expenditure by type*

The insufficient innovation activity of companies contributes to Bulgaria's unsatisfactory place in the competitiveness rankings (see Fig. 4 and Fig. 5).

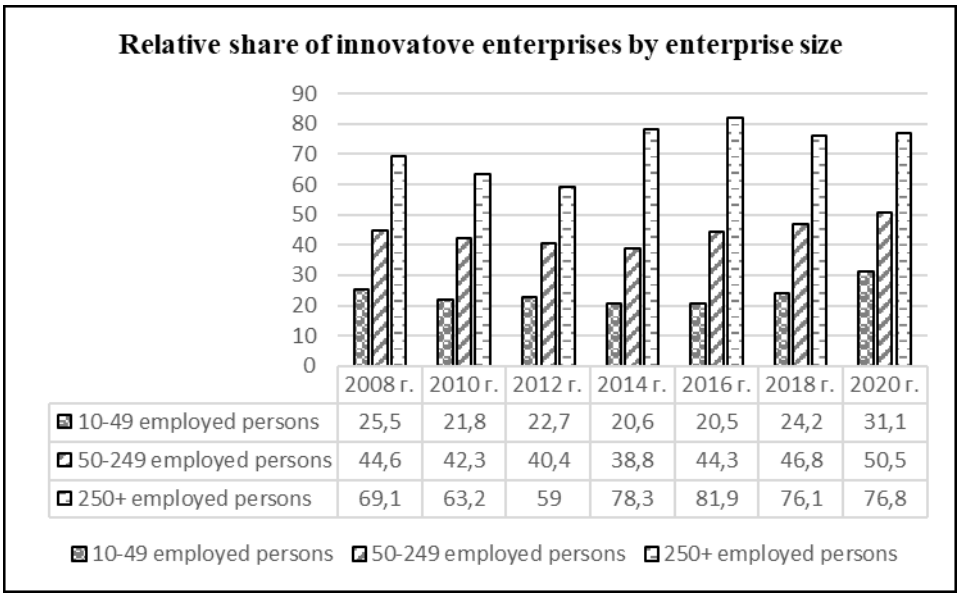
According to the results of a total of seven surveys carried out by NSI (starting in 2008, conducted every two years), the relative share of innovative enterprises fluctuates, reaching only 36.2% in 2020. This is only about 6 percentage points more than in 2008, the first time surveyed. At the same time, a more substantial growth has been noted in the last two reported years (2018 and 2020). The share of innovative enterprises in the industry sector is larger (41%), while in the service sector it is ten percentage points smaller (31.5%). The reasons for this difference and for the relatively low innovation activity of the companies in our country are related to the specifics of the sectoral and size structure and distribution of the companies. Industrial firms have a better innovation potential, they have the ability to carry out more product and technological innovations, the effects of which are greater and more lasting, a significant part of larger firms operate in the manufacturing industry (Pirimova and col., 2022). On the other hand, the largest number of non-financial enterprises are concentrated and perform various activities in the service sector, which has the largest share in the country's GDP. But these are mostly small and micro-enterprises, with limited financial and human resources, which is why their innovations are less.



* Source: NSI data. The statistical study of innovation activity is conducted by NSI every even year, and the observed period includes three years. Latest data for 2020 (as of 09/23/2023).

Figure 4: Relative share of innovative enterprises by economic sectors*

These features are projected on the share of innovative enterprises according to their size and the number of persons employed in them. Over three-quarters of innovative enterprises (76.8%) are large and very large in size, while less than one-third of smaller firms are innovative (see Fig. 5). This feature is not only inherent in the innovations of companies in Bulgaria, but has been empirically proven for a number of other countries as well (Knott A.-M., C. Vieregger, 2020). Since the size structure of companies in our country, dominated to a large extent (over 90%) by small and micro-enterprises, probably will not undergo a significant change in the coming years, it stands out as one of the restraining factors and it can be concluded that there is an insurmountable lag in innovation activity (Pirimova, 2019).



* Source: NSI data, available as of 09/23/2023.

Figure 5: Relative share of innovative enterprises by enterprise size (by number of persons employed)*

The conclusion has to be drawn that the leading role of innovation and R&D spending for the country‘s economic growth and competitiveness has remained limited and highly underestimated in recent years.

5. Conclusion

In the years of Bulgaria‘s membership in the European Union (after 2007), certain improvements have been reported, which cover a large part of the economic processes. However, they are established for the period as a whole, while in separate years their dynamics remain unstable. Therefore, in the general assessment of Bulgaria‘s competitiveness and in the assessments of some specific factors, partial progress or some deterioration is found.

In the scope of the studied factors and indicators, a certain improvement can be justified in the area of economic growth and foreign trade - according to the parameters of which we are in 22nd place for 2023 (IMD World Competitiveness Yearbook 2023, p. 64). Unsatisfactory R&D spending and delayed innovation processes have reflected in the worse ratings of technological and scientific infrastructure (55th place), which are sub-factors of the „infrastructure“ factor.

In summary, the need in the coming years to emphasize further promotion of exports, increase of high-tech production and exports, allocation of more state

(budgetary) and private funds for R&D, more persistent stimulation of technological and product innovations, especially in the SME group.

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