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Drivers and Barriers to the Competitiveness of Rural Areas in Bulgaria

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Abstract: *Rural areas are diverse and they offer specific sets of economic, social, and environmental functions crucial for sustainable development of countries. Based on that, they compete for investments, tourists, and population, leading to regional imbalances. This study is about the multifaceted dynamics of rural competitiveness in Bulgaria, aiming to reveal its complex nature, the key drivers and the barriers to growth. The main goal is to examine the factors influencing the competitiveness of rural areas in Bulgaria in various dimensions. The mixed-methods approach for analysis is applied, and results present comprehensive knowledge for policymakers, stakeholders, and researchers interested in sustainable rural development. The study provides insights into the most and least competitive rural areas in Bulgaria, based on the constructed index of competitiveness, and suggests practical recommendations for informed policy implementation and governance.*

1. INTRODUCTION

The rural areas across different regions show significant diversity, playing a crucial role in providing a wide range of economic, social, and environmental functions. To ensure that rural areas can continue to fulfil these vital functions, the European Commission has developed an extensive plan for the European Union's (EU) rural areas until 2040 (European Commission, 2021). It focuses on strategies to enhance the strength, connectivity, resilience, and overall prosperity of rural regions and communities. The EU Rural Action Plan, in combination with a Rural Pact, encompasses specific flagship initiatives and innovative instruments aimed at effectively achieving territorial cohesion, new opportunities for innovative businesses, access to quality jobs and promoting new and improved skills, better infrastructure and services, accelerating the role of sustainable agriculture and diversified economic activities (European Commission, 2024). This territorial development approach also introduces new forms of coordination and cooperation, including top-down and bottom-up initiatives. Moreover, it emphasizes the need to identify and valorize resources and identities specific to the respective territory. Namely, the way in which it differs from the others ensures a basis for the competitive advantage of the territory in terms of natural and climatic conditions, geographic features, historical heritage and cultural traditions, demographic and societal changes, human capital and knowledge capacity for innovations and sustainability, national and regional specifics, and economic prosperity (European Commission, 2021). Thus, the EU Rural Action Plan focuses on key elements of territorial competitiveness, encouraging activities and processes to address specific challenges of rural areas in Europe. The

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successful implementation of this plan requires the integration of policies and funds through coordinated investments in infrastructure, human capital, and innovation, perceived as vital for enhancing the competitiveness of rural areas.

Achieving territorial competitiveness is a complex process comprising the production of competitive local products and social, cultural, and natural sustainability based on interregional cooperation. It covers the multifaceted nature of sustainable rural development and the various factors contributing to a rural area's ability to thrive in a modern, globalized knowledge-based economy. Therefore, this study thoroughly explores the complex dynamics of rural competitiveness in Bulgaria, seeking to identify the key drivers of growth and the barriers that hinder prosperity. Understanding these factors is crucial for the design of effective policies to support rural development and exploit regional economic advantages in rural planning for positive impacts. Through a review of existing literature and comprehensive empirical analysis, this paper offers valuable insights for policymakers, stakeholders, and researchers interested in the sustainable advancement of rural communities. The primary objective is to examine the factors influencing the competitiveness of rural areas in Bulgaria in various dimensions.

In this opening section, we introduce the research topic, providing background information and the rationale for the study. The next two sections briefly explore the concept of territorial competitiveness and provide an overview of rural areas in Bulgaria. The methodology is presented in the fourth section, while the fifth one focuses on the results and a discussion of their significance. Finally, the last section concludes the study and offers recommendations.

2. THE CONCEPT OF TERRITORIAL COMPETITIVENESS

The concept of "competitiveness" and the lack of a single definition for it has given rise to many discussions. In the broadest sense, competitiveness refers to the propensity and capacity to compete to build and maintain market positions and increase market share and profitability (Filo, 2007). Nevertheless, even before 1990, Porter had paid attention to regions and competing nations, not just companies. The cross-sectoral concept of clusters is developed, considering firms and organizations whose activities are not only linked financially and technologically but are also close in location and thus coincide on many levels. Porter (1990) also examines the role of geographic concentration of related activities in the overall innovation activity of a national economy, focusing mainly on the learning processes that underlie innovation. Standard accounts of agglomeration suggest that the geographic concentration of activities enables and facilitates knowledge spillovers and the associated positive externalities (Porter, 1990).

According to others, like Siebert (2000), the competitiveness of firms is simply a separate concept from that of geographic areas. He states that competitiveness exists on at least three levels: firms, geographies, and workers. Regions and countries compete with each other for mobile factors of production in factor markets, while firms compete for market shares. (Siebert, 2000)

Territorial competitiveness is also affected by the regionalization of public policy due to the relocation of the decision-making process and coordination of activities at the regional level. Within government circles, there is growing interest in the regional foundations of national competitiveness and the development of new regional policy interventions to help improve the competitiveness of each region and major city and, hence, of the national economy as a whole. Integrating sustainability principles to balance economic growth with environmental preservation and social

equity ensures that competitiveness is achieved while enhancing long-term ecological and social prosperity across these diverse regions.

Territorial competitiveness rankings at a regional level are produced by organizations such as the World Economic Forum, the Organization for Economic Co-operation and Development (OECD), the European Commission and the World Bank. Each one of them applied its own approach based on a certain understanding of the essence of regional competitiveness and the factors affecting it. For this paper, we adopt the European Commission's definition of regional competitiveness, which takes into account the perspectives of both businesses and residents, thereby integrating their viewpoints. The definition applied by the European Commission in the editions of the Regional Competitiveness Index states that regional competitiveness is "the ability of the region to offer an attractive and sustainable environment for companies and local residents to live and work" (Dijkstra et al., 2011, p. 4).

3. RURAL AREAS IN BULGARIA

Rural areas in Bulgaria occupy a significant share of the country's territory. Depending on the applied method, they account for approximately 75%-81% and house between 37%-42% of the population (Mishev et al., 2020). However, their importance in socio-economic development at the national level is declining (Miteva & Doitchinova, 2022), and they face many challenges shaped by demographic, economic, and policy factors (Mishev et al., 2020). Among them, significant demographic challenges include depopulation and aging. Internal migrations have exacerbated these issues, reducing the working-age population and deteriorating the age structure of rural communities (Petrov, 2021; Sarov, 2023). The process is driven by youth migration for better education and employment, which limits human capital capacity, impedes innovation integration, and weakens rural development. The state of infrastructure is the next critical factor affecting the socio-economic development of rural areas. The aging of the population worsens the educational and healthcare systems. Poor infrastructure (mainly for connectivity, digitalization, and knowledge) limits regional integration and economic opportunities, hindering local development (Doitchinova et al., 2018; Popov & Marinov, 2023; Yarkova & Mutafov, 2017). The European and national policies (with emphasis on agricultural and rural policies) play a crucial role in addressing these challenges through measures and instruments shaping the agricultural landscape and influencing the socio-economic dynamics of these areas (Atanasov et al., 2023). The effectiveness of financial management and the utilization of these financial resources are pivotal in overcoming the challenges (Beluhova-Uzunova & Hristov, 2020; Mishev et al., 2020) and strengthening the sustainable development of the rural areas in Bulgaria.

4. METHODOLOGY

4.1. Research Approach

Assessing competitiveness, as well as understanding and defining it, is a complicated process as stated above. Regional competitiveness, as a theoretical framework and practical assessment, is developed and refined within several social sciences. However, there is still a lack of a unified approach to be applied in practice. In the scientific literature, there are suggestions and solutions for implementing competitiveness assessment, and their application is most often limited to several regions and/or countries. Similarly, usually, aggregated macroeconomic indicators applied to the regional level are used for evaluation (Bąk et al., 2022; Chrobocińska, 2021; Möbius & Althammer, 2020; Roszko-Wójtowicz & Grzelak, 2020; Scaccabarozzi et al., 2024). Other authors' approach

implies a comprehensive literature and qualitative analysis aimed at identifying the key factors for competitive regional development (Celli et al., 2024; Doitchinova & Stanimirova, 2022; Grassia et al., 2024; Rodríguez-Pose & Ketterer, 2020). The main factors and indicators for competitiveness measurement that are applied are productivity, innovations, and economic growth including the increase of wages and living standards. At the European level, the developed index used to assess and compare the competitiveness of EU regions has both advantages and disadvantages, as discussed by Annoni and Dijkstra (2013).

Looking at competitiveness, a group of Finnish scientists Huovari et al. (2002) developed an Index for measuring regional variation and competitiveness, which contains available statistical indicators. The constructed index is formed based on four sub-indices, each with the same weight in the final one. After researching on a regional basis in Finland, the authors found a strong relationship between the index and long-term indicators of economic well-being, such as GDP per capita and income, and a comparatively weaker one with short-term outcomes, such as changes in production, employment and population. The calculation of rural competitiveness in this paper follows this research approach.

In Bulgaria, a few studies explored territorial competitiveness and the most recent (and the only one known to us) was conducted by Doitchinova and Stanimirova (2022). The authors utilized the FAO methodology to assess the competitiveness of specific rural areas in Bulgaria. This involved conducting a field survey to examine economic competitiveness, labor market, local governance, infrastructure, etc., among rural stakeholders. Therefore, the current paper further extends the understanding of rural competitiveness, encompassing evaluation of all rural areas in Bulgaria and considering quantitative assessment based on statistical data.

4.2. Data Collection

The selection of indicators (variables) for measuring rural competitiveness is based on the state and perspectives for sustainable development of rural areas in Bulgaria and the elements of the existing models for assessing regional competitiveness, which measure various aspects of it. The variables are grouped into four main categories and presented in Table 1.

Table 1. List of variables included in the assessment of the rural competitiveness in Bulgaria

Categories (Variables)	
Human resources (HR)	Population: Population density (X_1), Population between 0-24 years (X_2), Population with higher education (X_3)
	Labour market: Total labour force (X_4), Unemployment (X_5), Persons not in the labour force (X_6)
Agriculture (Ag)	Macroeconomic: GVA in agriculture (X_7), Average wages in agriculture (X_8)
	Specialization of rural economy: Index of localization for agriculture (X_9)
Industry and services (I&S)	Macroeconomic: GVA in industry (X_{10}), GVA in services (X_{11}), Average wages in industry (X_{12}), Average wages in services (X_{13})
	Specialization of rural economy: Index of localization for industry (X_{14}), Index of localization for services (X_{15})
Innovations (Inn)	Macroeconomic: Expenditure on acquisition of tangible fixed assets (X_{16})
	Education and research: Expenditure on research and development (X_{17}), Academic and teaching staff (X_{18}), Enrolments in all types of schools (X_{19})
	Digitalization: Relative share of households with Internet access (X_{20}),Relative share of individuals aged 16-74, regularly using internet (X_{21})

Source: Authors' elaboration adapted from Huovari et al. (2002)

This input-output-results measurement approach is also consistent with the definition of regional competitiveness adopted by the European Commission, allowing both a comprehensive assessment and linking the main competitiveness factors and business interests with the well-being of the population in the respective rural area. The study encompasses data up to the year 2021 due to the data availability as the main source of information is the database of the National Statistical Institute of Bulgaria.

The methodology frame for this research is based on the typology of the rural regions developed by the OECD. It involves two main steps: first, defining rurality at the LAU 2 level, and next, based on the population share in rural LAU 2 units, classifying the regions at the NUTS 3 level. The main reason to choose this approach is the availability of data, keeping in mind the extended discussion about criteria and the relevance of the different classifications and their relevance for international comparisons and evaluation. The OECD method classifies LAU 2 units (in Bulgaria, they refer to administrative unit municipality) with a population density below 150 inhabitants per square kilometre as rural. After that, the NUTS 3 regions (in Bulgaria, they refer to administrative unit districts) are classified as predominantly rural, intermediate or predominantly urban based on the percentage of the population living in local rural units. The result of this approach can be seen on the map in Figure 1. It shows that 21 out of the total 28 districts in the country are defined as predominantly rural (light green colour). Six of the districts are classified as intermediate, and only one is primarily urban (it encompasses the capital city of Sofia); both groups are presented in dark green in Figure 1.

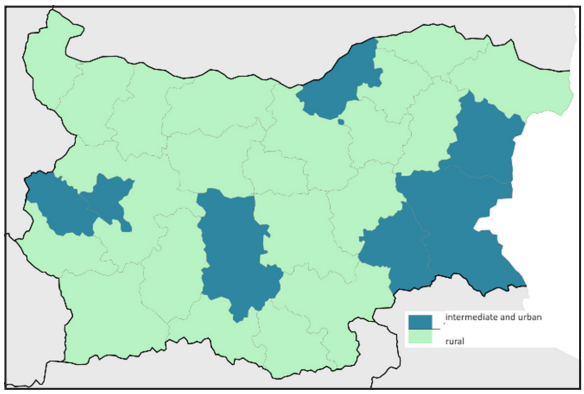

Figure 1. Map of urban-rural typology for Bulgarian NUTS 3 regions (districts) according to OECD method, 2021

Source: Authors' calculations, based on the data provided by the National Statistical Institute (2021) and for visualization applying Eurostat IMAGE Interactive map generator (Eurostat, 2023)

4.3. Analysis technique

To evaluate the index of competitiveness of rural areas in Bulgaria, an index developed and applied for Finland (Huovari et al., 2002) was adapted following the available statistical data for the country and the relevance of the variables. The formula used to calculate the indices for each of the variables, defined in Table 1 as important for the competitiveness of Bulgarian rural areas, and included as an element of the overall model for its assessment, is:

$$Cxi = 100 * (xi/X) / (pi/P), \text{ where}$$

Cxi – index for the variable involved in the model and its estimation for the i rural area
xi – the empirical value of the variable selected to be included in the model for the respective rural area

X – the empirical value of the variable selected to be included in the model at the country level
pi – number of inhabitants in the respective rural area
P – number of inhabitants in the country.

After calculating the individual indices by variables of each category included in the competitiveness assessment model, an average value is determined for each category, assuming that each indicator is equally significant, i.e., none of the metrics inside the category is prioritised. Ultimately, the final evaluation of the competitiveness model of rural areas in Bulgaria at the district level is formed as an arithmetic mean value of the categories. The index values themselves are not meaningful, but the rank order and the distances that districts defined as rural are from one another provide useful information, revealing each district's competitive strength relative to others. The calculation of an index of rural competitiveness is not definitive and may change based on the availability of data, the goal and the advancement of socio-economic research.

5. RESULTS AND DISCUSSION

The findings in Figures 2 and 3 show the outcomes of geographical distribution of assessing rural competitiveness at the district level, with primarily urban and intermediate districts being omitted from the analysis, in line with the previously explained methodology. The scores are divided into three classes to enable meaningful comparisons. The maps show that highly competitive districts, represented with the lilac colour in the maps, are identified only by one category, as the concentration is visibly higher in the Northern part of the country, while for the rest of the categories, low-competitive districts are located throughout the whole country.

By observing the final evaluation of the index, we came to the conclusion that rural areas in Bulgaria, in general, demonstrate lower level of competitiveness.

The three districts – Razgrad, Dobrich and Stara Zagora – in yellow in Figure 2 are the most competitive districts among the rural areas in Bulgaria. This can be interpreted in a way that the three districts need less changes to adapt and reach the competitiveness close to the one of the country.

By observing the individual indices results (Figure 3) by categories, namely HR, Ag, I&S and Inn, the differences in the elements supporting and hindering rural competitiveness by categories and within the single district are considered.

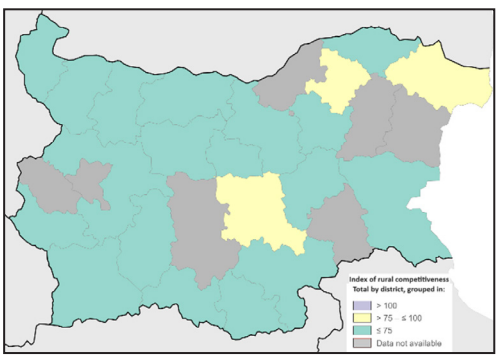

Figure 2. Map of index of rural competitiveness in Bulgaria, 2021

Source: Authors' calculations, based on the data provided by the National Statistical Institute (2021) and for visualisation applying Eurostat IMAGE Interactive map generator (Eurostat, 2023)

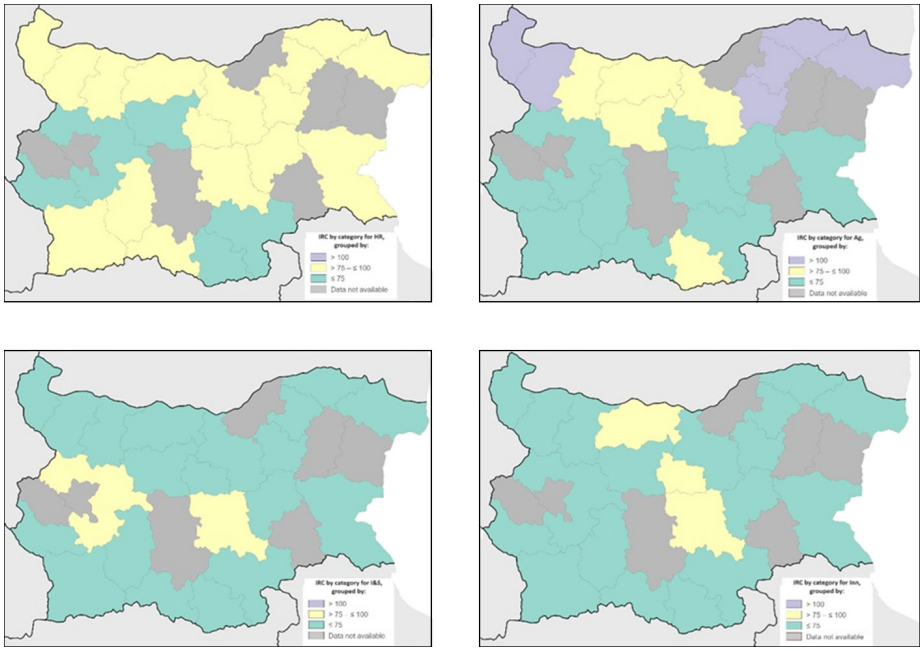

Figure 3. Map of indices by categories of rural competitiveness in Bulgaria, 2021

Source: Authors' calculations, based on the data provided by the National Statistical Institute (2021) and for visualisation applying Eurostat IMAGE Interactive map generator (Eurostat, 2023)

The most significant differences identified in the regions are those closely linked to the dependency on economic sectors, particularly agriculture, in the Northeast region. Next is the proximity of large urban centres with higher populations that plays a crucial role in driving higher competitiveness, as these areas tend to have better infrastructure, access to innovations and well-developed service sectors, including public services. The latter are crucial concerning the resident's quality of life and are considered essential in competing with other regions through better access to schools, medical and social services, etc. (Doitchinova & Stanimirova, 2022). This is particularly evident in the districts neighbouring the capital city as well as in the South Central region, which is not surprising because regions with large cities seem to perform better than other regions (Möbius & Althammer, 2020). The same pattern follows the variables from the Inn category, amplifying territorial inequalities in rural competitiveness between districts (Bąk et al., 2022). It should be mentioned that in long-term perspective without investments in this group of factors (variables), low competitive rural areas are at risk of marginalization hindering their sustainable development. Knowledge, technologies and digitalization are nowadays key drivers of growth and prosperity.

Next, non-favourable developments in the human resources category serve as major barriers to competitiveness across all regions, as depicted in Figure 3. Addressing these challenges in the human resources sector is essential for fostering overall competitiveness and sustainable development in the regions. Švagždienė and Perkumienė (2017) consider the need for continuous interpretation of rural communities' needs and bridging the gap between program services and demands.

6. CONCLUSION

The overall diversity within the districts' competitive performance is evidence that locally tailored responses and appropriate policy measures to address the specific needs and possibilities of each area are needed. Moreover, using the proposed research approach, it was possible to identify which rural regions are the most and least competitive. The most competitive regions can offer

good practices for the less competitive ones, both from the south and north parts of the country. In practice, the paper offers a clear understanding of which factors are crucial to the regions, exploring them as drivers for competitiveness improvements.

The research, however, has some limitations that open areas for further research. The analysis of competitiveness covered only one year. To generalize the conclusions, it would be necessary to assess it over the time series of several years. Furthermore, the study may be extended by adjustments in the socio-economic categories and adding ecological variables to represent all the dimensions of sustainability.

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AI (Grammarly) was used to correct grammar, spelling, and punctuation and shorten sentences.

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