

## Regional Development of Municipalities with A Population of 10 to 30 Thousand in the North-Eastern and South-Eastern Planning Regions of Bulgaria

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### Abstract

*This article is devoted to assessing and analyzing the development of municipalities from 10 to 30 thousand people in the Bulgarian Northeast and Southeast regions on level 2. At the beginning, a characterization of the ongoing processes and the importance of the regionalization process for the spatial development of individual territories is presented, the purpose of the article is formed, and the leading task is to make a statistical analysis of leading socio-ideographic indicators that bring to the fore the characteristics of these territorial units and present to our attention their state. It is important to be able, based on the assessment of the situation and the reference to expert assessment, to take the appropriate measures and sets of actions to promote the regional economic development of these municipalities. Comparing municipalities in these two regions, the southwest and south-central areas of the country emerge as the richest and most developed regions regarding household income, techno-social equipment, and endowed and economic potential. The analyses revealed several detailed aspects of the typology of problems specific to the various municipalities, which can be examined in more detail in another study. The conclusion draws relevant recommendations for improving regional development in these territories.*

**Keywords:** *Municipalities, Development, Assessment, Analysis, Space, Region, Trends.*

### Introduction

In the socio-economic development of regions, comparative data, and trends are always sought to bring out emerging patterns to take measures or implement a series of activities to promote regional development. In practice, regional development policy rests precisely on assessing and analyzing the state of the individual territory and the economic actors in that territory. In practice, regional development assessment is a complex process that involves a series of interdependent, legislative, and institutional components that establish new types of relationships between different sectors and spheres of activity, between authorities and communities. Moreover, this process is linked to mentalities, traditions and behaviors, professional training, and adaptation to new changes occurring at local, regional, national, and international levels. In Bulgaria, regional development has emerged as a necessity for economic and social integration on the one hand, and for correcting existing regional gaps and creating opportunities for regional policy. Thus, this paper focuses on municipalities from two NUTS 2 planning regions within Eastern Bulgaria by assessing and analyzing municipalities with populations ranging from 10 to 30 thousand. The main instruments for the regional policy implementation are investment grants, loans, and state guarantees for loans provided as support for private investment, investment in public infrastructure, consultancy, vocational training and dissemination of knowledge, and combating unemployment. It is essential that in promoting regional development programmes Bulgaria should follow EU requirements on state aid. These requirements lay down certain rules in terms of state aid ceilings, transparency in the way grants are awarded, and the exclusion of certain industrial sectors and regions from the list of eligible projects and activities that set possible development trends for the municipalities concerned. On the other hand, it should be noted that the expectation of solving all issues through EU funds is a wrong approach of the municipalities because it imposes the administrative management approach and does not look for opportunities to develop local initiatives and more emerging businesses realization by the adolescent generations. First of all, the European Union believes that the effectiveness of regional policies of the member states can be improved by ensuring

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that the available funds are concentrated where they are most needed, i.e. at the level of the most disadvantaged regions in Europe. Secondly, the European Union also plays a coordinating role. This can coordinate the regional policies of member states to prevent excessive 'external' competition between European countries in terms of mobile foreign investment destined for development projects. Proper assessments of the needs of the functioning of regional economies in localities along the public-population-regional-business dimension are needed. Thus, the article aims to stimulate broad interest and initiate debate about regional development policy in general, and in particular in municipalities of 10 to 30 thousand people, which are the backbone of Bulgarian local government. The problems in these municipalities are significant because, according to expert assessment, poverty is high, health services are deteriorating, daily stress is increasing, infrastructure is deteriorating and investment is declining (Zarkova, 2018; Tsonkov, 2023; DOITCHINOVA, LAZAROVA, 2023; Totev, 2017). In practice, these municipalities can be characterized by important regional disparities. The more highly urbanized municipalities are strongly characterized by high population densities, in contrast to the mountainous areas or settlements in the plain of Dobrudja (Ivanov, 2020; Slaveva, 2020). As for the age structure of the population, it is relatively balanced in the cities, but strongly ageing in the villages. Moreover, in these regions, agriculture was also a valve for those who were unemployed in other sectors of activity, especially in the secondary sector. Another possibility is the development of tourism, but more expert assessment and this sector has a chronic shortage of quality labor. In contrast to other transition countries, the increase in the share of the workforce in the tertiary sector in these regions was not so impressive, despite reported increases in some areas such as finance, insurance, banking, real estate business, etc. The data analyzed is from the period 2018-2020 because in the period 2020-2022, our country was part of the coronavirus pandemic and the country's economy was moving in another mode of governance. The period 2018-2020 is considered to be very important because the Bulgarian economy had its upward trend in the period 2010-2020 due to the stable management of a political entity, good national and international environment for Bulgarian business, and receiving regular funds from the European Union under the operational programs. In practice, in this period the state government tries to ensure a balanced (egalitarian) development of all regions, EU funds direct investments in industry, light industry, and infrastructure to all areas of the country, regardless of whether these investments are justified from an economic point of view. The effect of this policy has been a change in the regional economy in some less developed municipalities, but other municipalities have fallen dramatically behind at the expense of the more developed ones (Slaveva, Petrov, Tsonkov, 2024). The result of this development process has been the creation of certain regions of a manufacturing base that can be assumed to have the economic viability for this development. The importance of relocation of economic activity within the national territory was an important instrument of regional policy, but it has also declined over the last decade, in line with the reduction in the burden of state ownership of many activities. Large-scale privatization, especially of enterprises in the manufacturing sector formerly owned by the state, has led to the removal of an uncertain future in the development of whole regions for several reasons of a concurrent nature. The motivation and aim of this development were to fully exploit the potential of labor resources and to reduce disparities between regions, but the results of the efforts of the state government, business, and the European Union show us somewhat different data (Beleva, 2014; Totev, 2017). This way of actually redistributing national resources has ultimately led to a slowdown in the pace of economic development. It is important to assess and explore the underlying relationship between economic phenomena and aspects of social life at the regional and municipal levels. It is quite obvious that the Bulgarian regional economy is not yet characterized by a system for the normal functioning of the market economy and that the transition stage is still relevant. Unless the restructuring of industry and the process of creating new local industries and regional brands starts at a sustainable pace, regional disparities, expressed in terms of GDP/capita, will increase. However, it is increasingly certain that such a process will start soon, if only for the simple fact that by 2024 Bulgarian enterprises can no longer be subsidized indefinitely. It is normal that in this new situation, a very slow and difficult process of revival of local economic development will begin.

## Methodological Framework

The study is centered on two distinct planning regions: the North East and South East planning regions in Bulgaria. The study focuses on municipalities with populations ranging from 10,000 to 30,000. The principal

objective of the research is to examine the regional and demographic evolution of municipalities with populations between 10,000 and 30,000 in the regions under consideration, to establish the correlations between their demographic status and the regional development of these regions. The study period is 2018-2020 and is based on official statistics from the National Statistical Institute. The study analyses the demographic structure, dynamics, and regional development of municipalities in the two regions. For the analysis of regional and demographic development, two coefficients are employed: the integral coefficient of structural changes and differences (Ks) and the coefficient of variation ( $V\sigma$ ) (Yusuf, Martins, Swanson, 2014; Benjamin, 2021). For the study, a comparative analysis of the considered municipalities in terms of demographic and regional development is applied (Szymańska, 2022). The extent to which the municipalities differ according to the total population, the population under, in, and overworking age in the municipalities is estimated using the coefficient of variation.

### *Bulgarian Municipalities (10 000 – 30 000) Regional Development Analysis*

The characteristic problems facing the Bulgarian national space, its historical evolution, and its social and economic dynamics require the adoption of a specific regional development policy (The National Strategy for Regional Development...2012-2022). From this point of view, three categories of objectives are important: harmonization with existing provisions within the European Union, reduction of regional imbalances, and integration of sectoral activities within the regions in order to achieve a higher level of development. The focus of our study is on municipalities with a population size of 10 to 30 thousand in the North-East and South-East planning regions of level 2 of the European statistical nomenclature. These municipalities are not evenly distributed in the two areas but are structured according to chronological processes and phenomena. The overall picture of regional development of these municipalities shows that the most dynamic positive changes are observed in the following indicators: increase in the number of private cars, telephone subscriptions, and teacher-pupil ratio in public education. As a result, the main component of regional policies consists of financial incentives granted to regions – government assistance to encourage companies to locate or invest in certain problem regions. This section then focuses on these measures, seen from an EU perspective. In particular on their typology, the 'territorial coverage' they offer, and their value and importance expressed in financial terms. The arguments in favor of financial aid are numerous: from the point of view of those requesting the aid, they are both obvious and easy to understand; from the point of view of policy decision-makers, they are directly administrable, allowing considerable flexibility (which is proving increasingly important as regional stimulus packages become more 'decentralized' in administration and more selective in terms of areas of applicability). The policy objectives were conceived in terms of reducing geographical imbalances between the center and the periphery in terms of economic development, existing infrastructure, and unemployment (Slaveva, 2020; Slaveva, Petrov, Tsonkov, 2024; Tsonkov, 2023). Later, especially in the 1980s, regional policies became less oriented toward the redistribution of income and jobs, in favor of a greater emphasis on promoting structural change in less developed areas. This was to promote diversification, and technological innovation and increase the weight of their contribution to the growth of the national economy. Indeed, the negative trends that emerged in the second decade of the twenty-first century are evidenced by statistical data, yet are most discernible in the realms of industrial production, population, and wage labor. Methodologically, this provides a rationale for focusing our analysis on key indicators of economic development, including the number of enterprises, output, net sales, foreign direct investment, the number of beds in accommodation, and the creation of conditions that facilitate social disparities and inequalities. In the case of Bulgaria, the primary source of income for the working-age population is wages. The tracking of the dynamics of the average gross salary of the employed in the municipalities under analysis allows for the identification of several trends and patterns. The average gross wage for the municipalities under consideration is significantly lower than the average wage for both the North-East and South-East regions and the average for Bulgaria as a whole. The average gross salary of employees in the analyzed municipalities for 2018, 2019, and 2020 is lower than the national average by 20.5%, 22.4%, and 23.6%, lower than the Northeast average by 9.3%, 11.1%, and 11.2%, and lower than the Southeast average by 6.7%, 7%, and 7.9%. The data inflows of foreign investment. The evolution of average gross wages by municipality demonstrates that disparities and inequalities persist and widen despite an increase in the average gross wage for the municipalities compared to the previous year. This increase was 7.87% for 2019 and 8.1% for 2020. The rate of growth of the average

wage in these municipalities is significantly lower than the rate of growth of the average gross wage for the two regions. However, the lag behind the national indicator is even more pronounced. The discrepancies between the national average gross wage and the figures for the municipalities under analysis are largely attributable to the higher remuneration packages offered in the capital, which has the largest economically active population, and in several regional cities and municipalities in the country that have attracted substantial is presented in Table 1. Wages are also a significant economic factor in Bulgaria, determining the migration movement and the demographic situation of Bulgarian municipalities (Tsekov, 2021; Mintchev, Shopov, Kaltchev, Boshnakov, 2017).

**Table 1. Evolution of the Average Gross Salary of Employees Under Employment Relationships By Municipality for the Period 2018-2020.**

Municipalities	Accommodation places (no.)			Absolute growth (no.) Growth rate		Growth rate	
	2018 г.	2019 г.	2020 г.	$\Delta_{2019/2018}$	$\Delta_{2020/2019}$	$??'_{2019/2018}$	$??'_{2020/2019}$
Aitos	8913	10131	11020	1218	889	13,67	8,78
Karnobat	9878	11979	12784	2101	805	21,27	6,72
Ruen	8774	9532	10021	758	489	8,64	5,13
Pomorie	9797	10740	10948	943	208	9,63	1,94
Aksakovo	15039	12982	14898	-2057	1916	-13,68	14,76
Provadia	10289	11462	12496	1173	1034	11,40	9,02
Dolni Chiflik	9646	10424	11404	778	980	8,07	9,40
Balchik	11573	12667	13385	1094	718	9,45	5,67
Kavarna	11291	12254	13100	963	846	8,53	6,90
Tervel	9693	10416	11408	723	992	7,46	9,52
Nova Zagora	9635	10759	11886	1124	1127	11,67	10,47
Tvarditsa	9622	10522	11495	900	973	9,35	9,25
Kazanlak	12696	13055	13801	359	746	2,83	5,71
Chirpan	11156	12071	13083	915	1012	8,20	8,38
Radnevo	21448	21912	22955	464	1043	2,16	4,76
Omurtag	8731	9878	11177	1147	1299	13,14	13,15
Popovo	12605	13304	14472	699	1168	5,55	8,78
Novi Pazar	9692	10779	11982	1087	1203	11,22	11,16
Veliki Preslav	8765	10069	11116	1304	1047	14,88	10,40
Elhovo	10075	11401	12436	1326	1035	13,16	9,08
Straldzha	10398	11466	11989	1068	523	10,27	4,56

Source: NSI and author's calculations

The average gross salary for Radnevo municipality is the highest. For 2019, for all municipalities, except Aksakovo municipality, there is an increase in the average gross wage, with different growth rates for individual municipalities – between 2% and 22%. The largest increase in the average gross salary was for the municipality of Karnobat with 21.27%, Veliki Preslav with 14.88%, Aitos with 13.67%, and Omurtag with 13.14%. For 2020 it is characteristic that for all municipalities there is an increase in the average gross wage, but the growth rates are lower, but here again, it should be noted that they refer to the pandemic period. For the period 2018-2020, the growth rates of average gross wages of the municipalities along the Black Sea coast were found to be lower compared to the growth rates of most municipalities, especially compared to those with a strong industry.

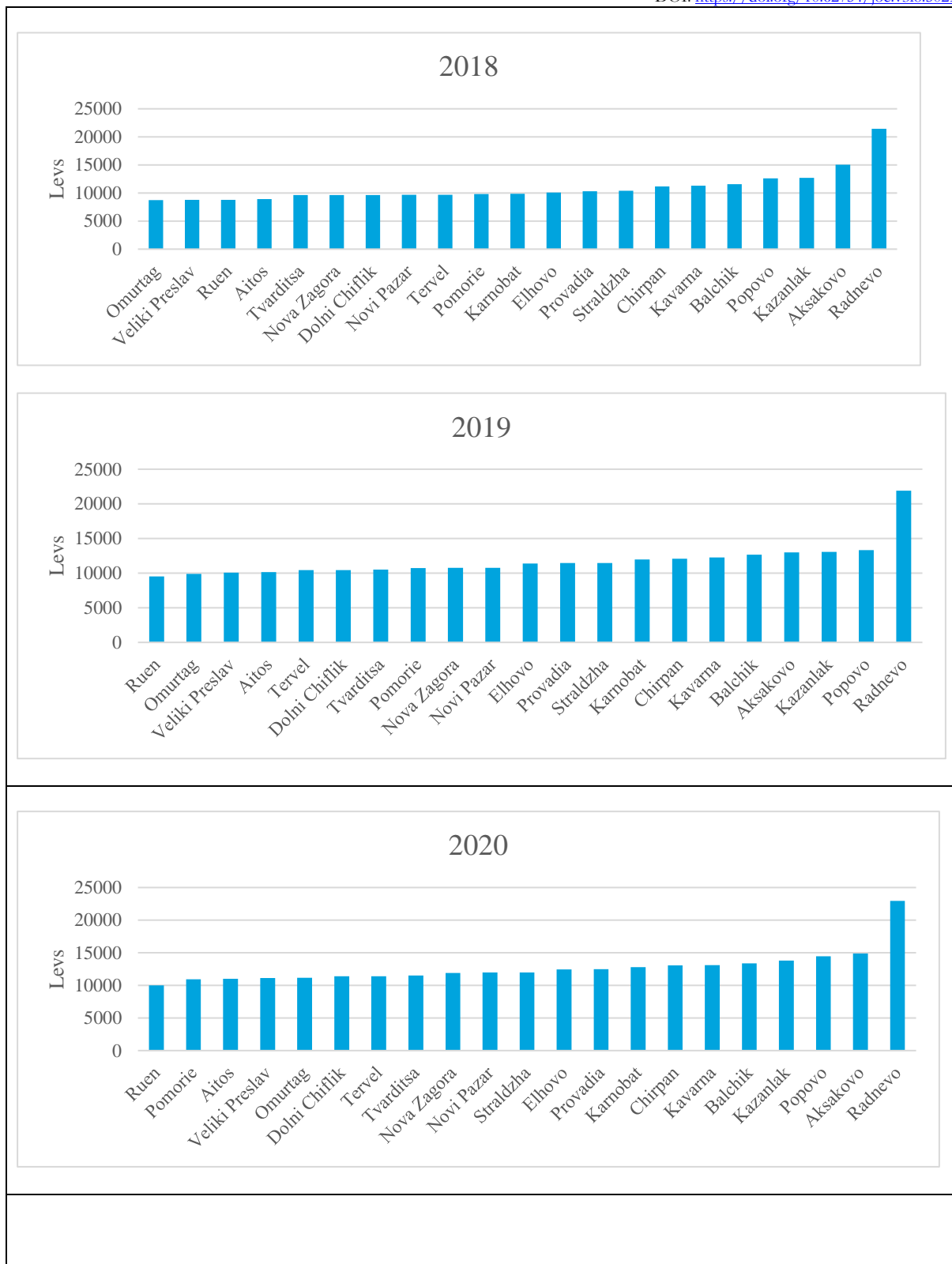


Figure 1. Ranking of Municipalities by Average Gross Salary of Employees

Source: NSI and authors' calculations.

The analysis of the degree of variation according to the average gross wage in the studied municipalities using the coefficient of variation ( $V\sigma$ ), shows little variation, which means that there are no large differences between the studied municipalities in terms of wages – for 2018  $V\sigma=24.78\%$ , for 2019  $V\sigma=20.65\%$ , for 2020  $V\sigma=19.78\%$ . The results show that the variation in the average gross wage is decreasing, which means that the differences between these municipalities are small, but the differences concerning the indicators for the Northeast and Southeast regions are significant and the differences concerning the country are even larger. Regional economic disparities are significant not only within Bulgaria but also in comparing the surveyed municipalities with European ones (Rangelova, Bilyanski, 2019). It is evident from the presented distribution of municipalities according to the average gross wages by employment that the largest number of municipalities (11) fall into the group with the lowest wages, namely with wages up to 12,000 BGN, and 7 municipalities fall into the interval above 12,000 BGN up to 14,000 BGN. In reality, it turns out that 18 out of 21 municipalities fall into the Interval groups with lower average wages, and for 20 municipalities it is below the national average.

**Table 2. Distribution of the Municipalities According to the Average Gross Salary of the Employees Under the Employment Contract**

Grade	Average gross salary of employees (BGN)	Municipalities
Low	to 12 000	Ruen, Pomorie, Aitos, Veliki Preslav, Omurtag, Dolni Chiflik, Tervel, Tvarditsa, Nova Zagora, Novi Pazar, Straldzha
Moderate	from 12 000 to 14 000	Elhovo, Provadia, Karnobat, Chirpan, Kavarna, Balchik, Kazanlak
Significant	from 14 000 to 16 000	Popovo, Aksakovo
High	above 16 000	Radnevo

Source. NSI and authors' calculations.

Tracking the status and trends of the main demographic processes is an integral part of any analysis of the socio-economic development of regions and municipalities, as well as the assessment of regional and intra-regional disparities. The study of the demographic situation of municipalities and the aging of the population is extremely important from the point of view of forming a realistic assessment of the situation and adopting adequate measures and spatial models with the long-term aim of reducing the severity of the demographic crisis, as it is most pronounced in small municipalities (Kastreva, Patarchanova, 2021). In the municipalities analyzed, the population aged 0-14 years is decreasing by 1,927 people or by 2.48% in 2020 compared to 2018. It was found that the population aged 15-64 years is also decreasing, with a decrease rate of 1.32%, with a decrease of 3,899 people. In all municipalities, the share of the population aged 0-14 years is between 17% and 28%, with the largest share of the population of this age observed for the municipality of Tvarditsa around 28%, followed by the municipality of Straldzha with about 25%, Nova Zagora around 23%, etc. (Table 2). The municipality with the smallest share of the population in the age group 0-14 years is Radnevo (16.7%, 16.6%, 16.8%), and it is also the municipality with the largest share of the population aged 15-64 years (83.3%, 83.4%, 83.2%). During the period under review, no notable alterations in the population's age structure have been discerned at the municipal level. This assertion is corroborated by the values of the integral coefficient of structural changes and differences ( $K_s$ ), which are situated near 0, within the range of 0.00025 to 0.01351. This indicates that the age structure remains unchanging and that a stable structure, with a preponderance of individuals in the higher age groups, characterizes the population.

**Table 3. The Age Structure of the Population by Municipality**

Municipalities	2018		2019		2020		Integral coefficient Ks
	Age		Age		Age		
	0-14	15-64	0-14	15-64	0-14	15-64	
Aytos	21,0	79,0	21,0	79,0	21,0	79,0	0,00486
Karnobat	20,8	79,2	21,2	78,8	21,2	78,8	0,00337
Pomorie	18,5	81,5	18,5	81,5	18,2	81,8	0,00864
Ruen	20,6	79,4	20,2	79,8	19,9	80,1	0,01351
Aksakovo	19,7	80,3	19,6	80,4	18,6	81,4	0,01065
Dolni Chiflik	21,5	78,5	21,1	78,9	20,7	79,3	0,00416
Provadia	18,9	81,1	18,6	81,4	18,5	81,5	0,00411
Balchik	17,6	82,4	17,5	82,5	17,3	82,7	0,00438
Kavarna	18,1	81,9	18,0	82,0	17,7	82,3	0,00365
Tervel	19,9	80,1	19,6	80,4	19,6	80,4	0,00356
Nova Zagora	22,9	77,1	22,9	77,1	23,2	76,8	0,00121
Tvarditsa	27,7	72,3	27,6	72,4	27,8	72,2	0,00402
Kazanlak	19,1	80,9	19,4	80,6	19,4	80,6	0,00043
Radnevo	16,7	83,3	16,6	83,4	16,8	83,2	0,00131
Chirpan	21,8	78,2	21,8	78,2	21,7	78,3	0,00929
Omurtag	18,7	81,3	18,3	81,7	18,0	82,0	0,00362
Popovo	17,8	82,2	17,8	82,2	17,5	82,5	0,00118
Novi Pazar	19,2	80,8	19,2	80,8	19,1	80,9	0,00635
Veliki Preslav	16,9	83,1	16,7	83,3	16,4	83,6	0,00500
Elhovo	17,7	82,3	17,9	82,1	18,1	81,9	0,01031
Straldzha	25,5	74,5	25,1	74,9	24,6	75,4	0,00025

Source. NSI and authors' calculations.

The main reasons for the changes in the age structure of the population are the reduced birth rate, the increased mortality rate, as well as the significant internal and external migration for education, professional realization, better wages, etc. Changes in the direction of deterioration of the age structure of the population in municipalities hurt the size and quality of labor resources. The negative process of transformation of the labor force has been observed over the last more than ten years which affects the Bulgarian region's economic situation (Borisova-Marinova, 2014). The prevalence of low-paid work in the municipalities under consideration, as well as the seasonal nature of work in some sectors, are among the reasons for the declining share of the working-age population. The municipality of Veliki Preslav has the lowest share of the population under working age and in different years its share is around 13%, followed by the municipality of Radnevo with a share between 13-14%, and between 14-15% the municipalities of Elhovo, Popovo, Nalchik, Kavarna and Omurtag. The highest share of the population under working age was found in the municipality of Tvarditsa (about 24%), followed by the municipalities of Straldzha and Nova Zagora with about 19% of the population each (Table 4). The general trend for the municipalities is towards a decrease in the relative share of the population under working age.

**Table 4. Structure of the Population Under, in, and Over Working Age**

Municipalities	Under working age			Working age			Overworking age		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Aytos	18,2	18,4	18,3	60,9	60,4	60,6	20,9	21,1	21,2

Karnobat	17,3	17,5	17,7	57,6	57,6	57,5	25,1	24,9	24,9
Pomorie	15,8	15,7	15,4	60,5	60,2	60,1	23,7	24,1	24,5
Ruen	18,4	18,3	17,9	62,9	62,4	62,7	18,7	19,3	19,5
Aksakovo	16,9	16,6	15,7	59,4	59,8	60,6	23,7	23,5	23,7
Dolni Chiflik	19,2	18,8	18,5	60,9	61,0	61,5	20,0	20,1	20,0
Provadia	15,8	15,6	15,4	58,6	58,9	59,1	25,6	25,4	25,5
Balchik	14,8	14,8	14,5	60,2	60,0	60,2	25,1	25,2	25,3
Kavarna	15,0	15,0	14,7	58,8	58,5	58,7	26,2	26,5	26,5
Tervel	17,3	17,1	16,9	60,7	60,5	60,7	22,0	22,4	22,4
Nova Zagora	19,3	19,3	19,3	56,3	56,1	56,2	24,5	24,5	24,5
Tvarditsa	24,2	24,2	24,2	54,6	54,9	55,0	21,2	21,0	20,8
Kazanlak	15,6	15,7	15,8	57,5	57,2	57,0	26,9	27,1	27,2
Radnevo	13,7	13,6	13,5	59,1	59,1	59,2	27,2	27,3	27,3
Chirpan	17,2	17,4	17,1	53,5	53,5	54,0	29,3	29,1	28,9
Omurtag	16,1	15,5	15,0	60,2	60,2	60,4	23,8	24,3	24,6
Popovo	14,3	14,3	14,2	57,3	57,3	57,6	28,4	28,4	28,2
Novi Pazar	16,5	15,9	15,9	58,6	59,0	58,8	24,9	25,1	25,3
Veliki Preslav	13,6	13,4	12,9	57,8	57,8	58,2	28,6	28,8	28,9
Elhovo	14,0	14,2	14,2	56,1	56,0	56,0	29,9	29,8	29,8
Straldzha	20,2	20,4	19,7	51,5	51,8	52,5	28,3	27,8	27,8

Source. NSI and authors' calculations.

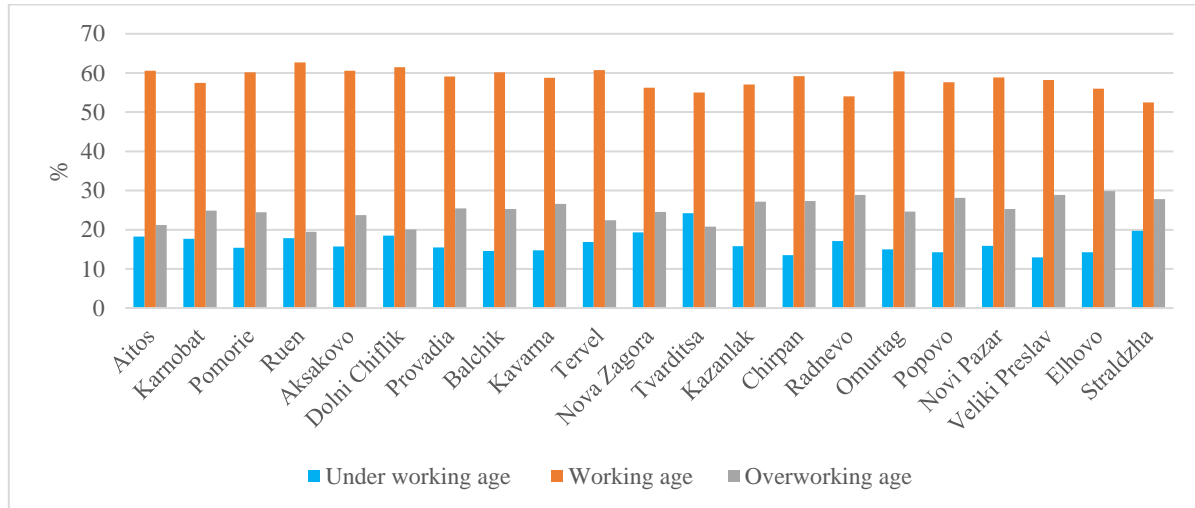


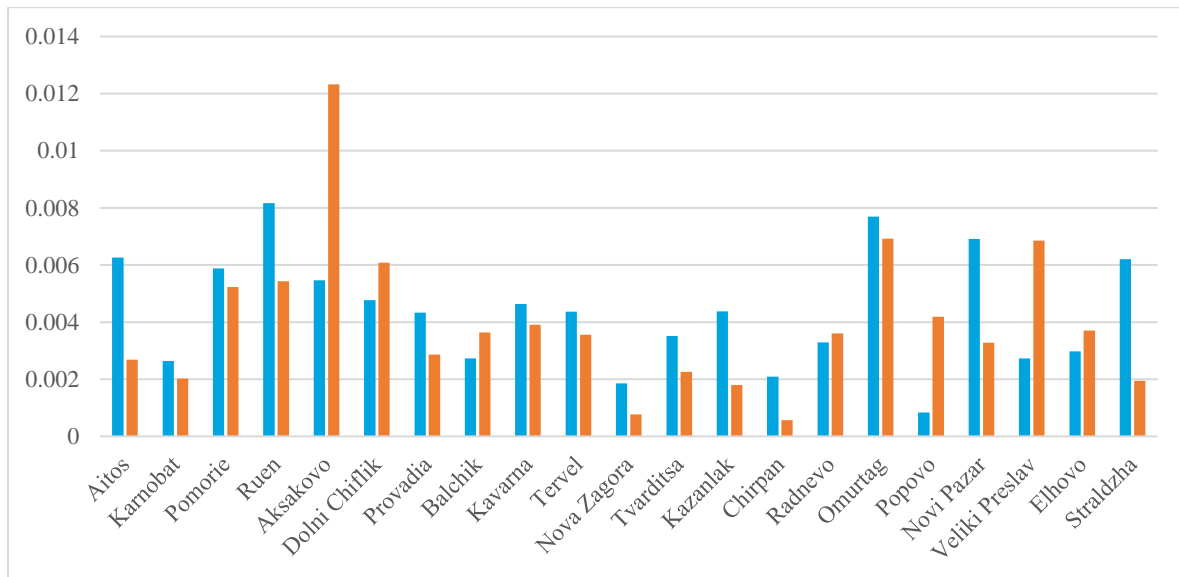
Figure 2. The Structure of the Population Under, in, and Overworking Age in 2020

Source. NSI and authors' calculations

The working-age population in these municipalities is between 50% and 62%, with the smallest relative share in the municipality of Straldzha, followed by the municipalities of Chirpan and Tvarditsa. The largest relative share of the working-age population was found in the municipality of Ruen, followed by the municipalities of Dolni Chiflik, Tervel, Aitos, and Aksakovo. The share of the population over working age is between 19% and 30%, with the highest share in the municipality of Elhovo, followed by Veliki Preslav and Chirpan.



To establish the intensity of the changes in the structure of the population under, in, and over working age, the integral coefficients of structural changes and differences with a chain base by the municipality were calculated. The obtained values of the integral coefficient are between 0 and 0.014 and show that no significant changes have occurred in the structure of the population under, in, and overworking age of the municipalities under consideration for the period 2018-2020 (Figure 3). Based on the obtained values of the integral coefficient in comparison with other municipalities, slightly more pronounced changes in the examined age structure of the population are registered for the municipality of Aksakovo.



**Figure 3. Integral Coefficient of Structural Changes and Disparities of the Population Under, in, and Overworking Age by the Municipality**

Source: NSI and authors' calculations

Furthermore, the evolution of the population's distribution by age group is monitored, encompassing not only changes in the relative share of the population under, in, and overworking age but also the dynamics of the number of individuals within these age groups. The degree of variation in total population, population under, in, and overworking age across municipalities is evaluated using the coefficient of variation ( $V\sigma$ ). The results obtained for the coefficient of variation of the total population in the municipalities are as follows: for 2018,  $V\sigma=51.52\%$ ; for 2019,  $V\sigma=51.46\%$ ; for 2020,  $V\sigma=50.79\%$ . These figures demonstrate a significant variation in the municipalities' population, indicating significant differences between them on this indicator. It is of considerable cognitive value to monitor the extent of variation across municipalities in the number of individuals below, at, and above the working age threshold. The coefficients of variation obtained for the population under working age in the municipalities for 2018, 2019 and 2020 also demonstrate significant differences on this indicator. The values were as follows: for 2018  $V\sigma=50.45\%$ , for 2019  $V\sigma=51.00\%$ , for 2020  $V\sigma=51.27\%$ . Furthermore, significant variation is observed between municipalities regarding the indicator "Working age population." The corresponding coefficients of variation are as follows: for 2018  $V\sigma=50.99\%$ , for 2019  $V\sigma=50.63\%$ , and 2020  $V\sigma=49.7\%$ . The values of the coefficient of variation in the indicator "Population over working age" are as follows: for 2018  $V\sigma=56.04\%$ , for 2019  $V\sigma=56.09\%$ , for 2020  $V\sigma=55.36\%$ . Notably, the differences between municipalities based on the working-age population are the most pronounced when compared to the other population indicators.

The analysis results demonstrate a notable variation in the population below, at, and above the working age threshold. This indicates significant discrepancies between municipalities, which are crucial considerations given the pivotal role of the human factor in the economic development and prosperity of both individual municipalities and planning areas (Rangelova, Bilyanski, 2018). A crucial aspect of the demographic analysis at the municipal level is the monitoring of the age dependency ratio dynamics. This enables the assessment

of the demographic situation and the formulation of appropriate policies to enhance the country's demographic development. Additionally, it facilitates the forecasting of labor market needs, the anticipated burden on social systems, and the potential for economic growth. The overall age dependency ratio indicates the number of individuals in the 'dependent' age groups (those under 15 and over 65) per 100 individuals in the 'independent' age group (15 to 64) (NSI; Slaveva, 2023).

**Table 5. Age Dependency Ratio by Municipality for the Period 2018-2020**

Municipalities	Age dependency ratio (%)			Absolute growth (percentage points)		Growth rate (%)	
	2018	2019	2020	$\Delta_{2019/2018}$	$\Delta_{2020/2019}$	$??'_{2019/2018}$	$??'_{2020/2019}$
Aytos	54,1	54,5	54,8	0,4	0,7	0,7	0,7
Karnobat	62,0	62,4	62,5	0,5	0,6	0,7	0,2
Pomorie	53,1	54,2	54,9	1,1	1,8	2,0	1,3
Ruen	49,2	49,6	49,6	0,4	0,4	0,9	0,0
Aksakovo	56,8	56,9	55,3	0,1	-1,4	0,2	-2,8
Dolni Chiflik	53,7	53,0	52,5	-0,7	-1,3	-1,3	-1,1
Provadia	58,7	58,6	58,6	-0,2	-0,2	-0,3	0,0
Balchik	54,4	54,9	55,4	0,5	1,0	0,9	0,9
Kavarna	57,5	58,4	58,5	0,9	1,0	1,6	0,1
Tervel	53,8	53,8	54,4	0,0	0,6	0,1	1,1
Nova Zagora	64,3	65,0	65,8	0,7	1,5	1,1	1,3
Tvarditsa	69,2	69,2	69,7	-0,1	0,5	-0,1	0,8
Kazanlak	60,9	62,4	63,0	1,5	2,1	2,4	1,0
Radnevo	56,5	57,1	58,0	0,6	1,4	1,0	1,4
Chirpan	73,1	72,4	72,6	-0,7	-0,6	-1,0	0,2
Omurtag	54,1	54,5	54,9	0,3	0,7	0,6	0,7
Popovo	61,5	62,4	62,0	0,9	0,4	1,4	-0,7
Novi Pazar	57,7	58,7	58,8	0,9	1,1	1,6	0,2
Veliki Preslav	60,4	60,5	60,8	0,1	0,4	0,2	0,5
Elhovo	63,7	64,7	65,4	1,0	1,8	1,6	1,1
Straldzha	79,4	78,1	77,1	-1,3	-2,3	-1,6	-1,2

Source: NSI and authors' calculations

The lowest and most favorable values of the age dependency ratio are observed in the municipality of Ruen (49.6%), followed by the municipalities of Dolni Chiflik, Tervel, Aytos, Omurtag, Pomorie, Aksakovo, Balchik, and so forth (Table 5). The municipality of Straldzha exhibits the highest value of the age dependency ratio (77.01%), followed by the municipalities of Chirpan, Tvarditsa, Nova Zagora, and Elhovo.



Figure 3. Ranking of Municipalities by Age Dependency Ratio

Source. NSI and authors' calculations.

The degree of variation of municipalities according to the age dependency ratio of municipalities was also estimated using the coefficient of variation ( $V\sigma$ ), and the following results were obtained.  $V\sigma=11,21\%$ , which gives sufficient grounds to claim that on the summary indicator "Age dependency ratio" there are

no big differences between the municipalities, and they are characterized by the aging of the population, which hurts the economic and social processes in the municipalities.

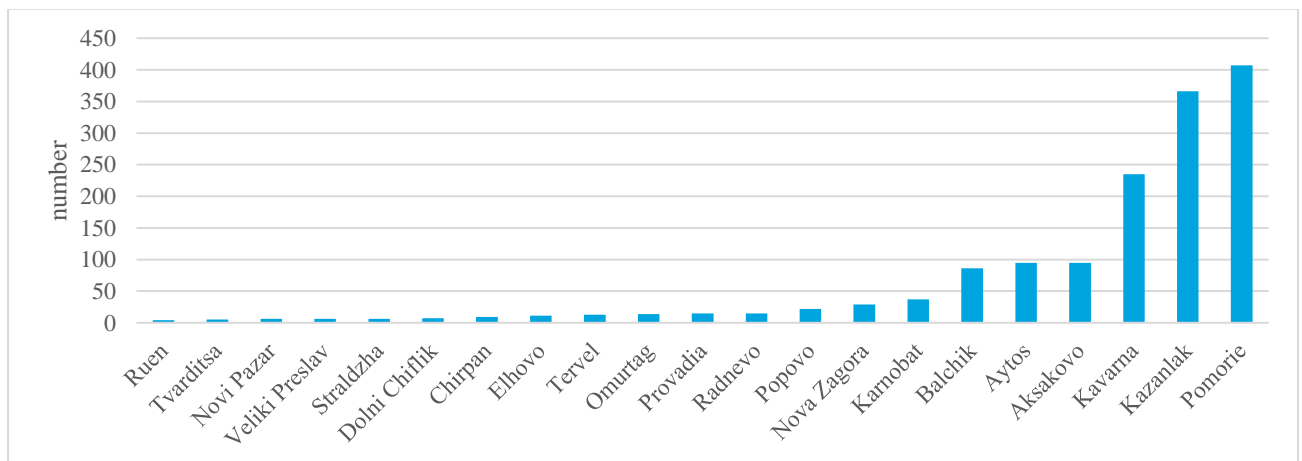
The analysis and visualization of the distribution of municipalities according to the age dependency ratio provides a basis for grouping municipalities into four groups, presented in Table 6.

**Table 6. Distribution of Municipalities by Age Dependency Ratio**

Grade	Age dependency ratio (%)	Municipalities
Low	to 50	Ruen
Moderate	over 50 to 60	Dolni Chiflik, Tervel, Aytos, Omurtag, Pomorie, Aksakovo, Balchik, Radnevo, Kavarna, Provadia, Novi Pazar
Significant	over 60 to 70	Veliki Preslav, Popovo, Karnobat, Kazanlak, Elhovo, Nova Zagora, Tvarditsa
High	over 70	Chirpan, Straldzha

Source. NSI and authors' calculations

Another indicator that demonstrates the extent of population aging and the strength of the underlying demographic processes is the indicator “Newly Commissioned Dwellings”. During the period spanning 2018 to 2020, the municipalities of Pomorie, Kazanlak, and Kavarna recorded the highest number of newly commissioned dwellings, with 407, 366, and 235, respectively. The mean value of the total number of newly constructed dwellings that were brought into operation is 70.6, with a coefficient of variation of 163.4%. This indicates a considerable degree of variation between municipalities about this indicator. The geographical location and the availability of tourist facilities exert a significant influence on the number of newly constructed dwellings commissioned in coastal municipalities. In contrast, the state of the local economy is the primary determinant of construction activity in other municipalities.



**Figure 4. Total Number of Newly Commissioned Dwellings by Municipality for the Period 2018-2020**

Source. NSI and authors' calculations

From the distribution of municipalities according to the total number of newly built dwellings put into operation presented in Figure 4, we can see the great differentiation, even polarization, between the

municipalities and the conclusion that more favorable living conditions, professional development, and prospects for the local economy are the municipalities of Pomorie, Kazanlak, Kavarna, Aksakovo, Aitos and Balchik (Table 7).

**Table 7. Distribution of Municipalities According to the Total Number of Newly Built Dwellings Put into Operation**

Grade	Total number of newly commissioned dwellings	Municipalities
Low	to 10	Ruen, Tvarditsa, Veliki Preslav, Novi Pazar, Straldzha, Dolni Chiflik, Chirpan
Moderate	over 10 to 50	Elhovo, Tervel, Omurtag, Provadia, Radnevo, Popovo, Nova Zagora, Karnobat
Significant	over 50 to 100	Balchik, Aitos, Aksakovo
High	over 100	Kavarna, Kazanlak, Pomorie

Source. NSI and authors' calculations.

The analysis of key economic, social, and demographic indicators for municipalities in the north-eastern and south-eastern regions has yielded the following conclusions:

Significant disparities and disproportions between municipalities have been identified, particularly in the indicators “Number of beds in accommodation”, “Foreign direct investment”, “Number of newly built dwellings commissioned”, “Number of enterprises”, “Net sales revenues”, and “Output”.

The discrepancies between the municipalities about the indicators “Average gross wages of employed persons”, “Population”, and “Population under, in, and overworking age” are less pronounced.

The population exhibits a notable lag in the indicator “Average gross wage of employees in employment” relative to the two planning regions and the national average.

The key factors influencing the disparate development of the municipalities, and their respective development potential can be attributed to several factors, including their territorial location, proximity to the sea, stable demography, the opportunities for tourism and related activities, the state of the local economy, the presence of traditional industries, and so forth (Rangelova, Bilyanski, 2018).

The municipalities of Pomorie, Kazanlak, Balchik, Kavarna, and Radnevo, as well as Aksakovo, are the most prominent in terms of the majority of the indicators.

To reduce the disparities between the municipalities of the North-Eastern and South-Eastern regions, as well as the other municipalities of the country with a population between 10,000 and 30,000 people, it is necessary to implement a special and targeted policy for priority development. This should be designed to increase the economic attractiveness of these municipalities for investors, create the necessary infrastructure to ensure accessibility and connectivity, increase incomes and living standards, improve access to social infrastructure, and be given priority funding under operational and national programs.

In practice, these municipalities play an important role in the regional development of Bulgaria and the regions where they are located. It is incumbent upon the state to promote an investment policy at the regional level by the provisions of the single market. This will help to reinforce economic reform and industrial restructuring and to stimulate trade. An indispensable component of this alignment is the obligation of a country seeking to develop its regions to define and implement specific objectives about the socio-economic advancement of municipalities with populations ranging from 10 to 30 thousand. This will

serve to reinforce the foundation of Bulgarian regional policy. It is thus possible, with the requisite adaptations, to endeavor to address the economic disparity between regions and to prioritize this objective.

## Conclusion

It can be concluded that in the municipalities of 10 to 30 thousand people in the Northeast and Southeast planning regions, the most dynamic changes in the indicators illustrating infrastructure and socio-demographic categories are highlighted. There has been a general decline in overall economic indicators, while household resource indicators have exhibited a gradual improvement. The objective of economic development policies is to create a higher level of economic playing field by addressing the socio-economic disadvantages of certain regions. This is done to artificially close the gaps that exist between regions. In practice, this has resulted in tangible economic and social transformations with an uncertain future. Over time, these will give rise to new regional economic systems, the vitality and competitiveness of which remain open to question. This is because the level of urbanization, expressed as a percentage of the urban population of the total population of municipalities, also remains relatively high, indicating the absence of significant population movements from rural to urban environments or vice versa. Instead, there has been a notable increase in migration to other countries or to the capital city. This is because regional shifts have occurred in a variety of ways regarding household resources, infrastructure, and economic structures. The output of industrial enterprises has declined significantly or even disappeared entirely, which demonstrates that these structures are the least able to adapt to the changes that are characteristic of a market economy. In the case of municipalities with high dynamics, the most significant contributors to the composition of the index of local economic development are socio-demographic indicators and those of household resources, which exhibit a predominantly positive (increasing) trend. In municipalities exhibiting negative dynamics, the local economic development index is predominantly shaped by economic and infrastructure indicators. The characteristic indicators of infrastructure development demonstrate a slight deterioration or a tendency to remain static. The socio-demographic indicators, namely infant mortality, county migration, and immigration demonstrate a negative trend, particularly in the context of an increase in the infant mortality rate. There is a discernible trend towards greater disparities between municipalities exhibiting varying degrees of economic development and those that are less developed, particularly in terms of economic indicators and household resources. It is noteworthy that while economic indicators are generally declining, there are instances where household standards of living are improving in specific municipalities. As numerous researchers in the field of socio-economic development have observed, the experience of the former Soviet bloc countries demonstrates that the process of transition tends to exacerbate existing disparities (Galjak, 2018). This is because the factors that typically exert control over economic activity are replaced by free market forces through the gradual removal of all constraints. The rate of implementation of the reform(s) is the determining factor in the extent of regional disparities, whether they grow more or less rapidly. This has resulted in the ascendance of agriculture as an economic force in areas with favorable climatic and soil conditions and the concentration of service sectors in administrative centers. It is inherent to the concept of regional policy that it encompasses all activities that exert a substantial impact on the growth and advancement of a region. In the public sector, this may include, inter alia, changes in the education and training sector, labor market reform, infrastructure improvement, environmental protection and improvement, enterprise development, technology transfer, and attracting foreign investment and sector development. Furthermore, the effective utilization of regional investment programs that commence at the mesoregion level and become operational only when the administrative regions have agreed to cooperate is sought. The experience gained by countries within the European Union about decentralization has demonstrated that local and regional partners are best positioned to assess the actual issues existing within their areas of responsibility. Furthermore, they are directly affected by these issues and will be fully engaged if they are provided with the opportunity to influence the decisions taken. Finally, the direct involvement of local partners fosters a sense of responsibility for their actions.

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## References

- Beleva, I. (2014). Impact of the demographic crisis on the labour market in Bulgaria. In Sofia. Marin Drinov.
- Benjamin, B. (2021). Demographic analysis. Routledge.
- Borisova-Marinova, K. (2014). Research on demographic reproduction of the workforce in Bulgaria - problems and perspectives. The demographic situation and the development of Bulgaria (pp. 727-738).
- DOITCHINOVA, J., LAZAROVA, E. (2023). DEMOGRAPHIC CHANGES AND INEQUALITIES: REGIONAL DIFFERENCES WITH A FOCUS ON RURAL AREA IN BULGARIA. Scientific Papers Series Management, Economic Engineering in Agriculture & Rural Development, 23(4).
- Galjak, M. (2018). East-west demographic divide in the EU: A regional overview. Stanovništvo, 56(2), 1-21.
- Ivanov, B. (2020). Demographic shift of rural and non-rural areas in Bulgaria. Topic: China-CEEC Cooperation and Development Time: November 18, 2020 Hosts: Shanghai Jiao Tong University (SJTU) University of Nation and World Economy (UNWE) Organizer: SJTU Bulgarian Center, 69.
- KASTREVA, P., PATARCHANOVA, E. (2021). Creating Spatial Models of Demographic Processes Using Cluster Analysis for Demographic Policy Planning in Bulgaria. Journal of Settlements & Spatial Planning, 12(2).
- Mintchev, V., Shopov, G., Kaltchev, I., & Boshnakov, V. (2017). MIGRATION OF BULGARIAN POPULATION-CHARACTERISTICS AND RELATIONS TO THE REGIONAL SOCIO-ECONOMIC DISPARITIES. Economic studies, 26(1).  
NSI – statistical data.
- Rangelova, R., Bilyanski, V. (2018). DEMOGRAPHIC DEVELOPMENT OF BULGARIA IN A REGIONAL PLAN AS A BASIS FOR ECONOMIC DEVELOPMENT. Economic Studies, 27(6).
- Rangelova, R., Bilyanski, V. (2019). ECONOMIC ASPECTS OF DEMOGRAPHIC CHANGES IN THE EUROPEAN UNION AND IN BULGARIA. Economic Studies, 28(5).
- Slaveva, K. (2020) Analysis of differences in key indicators of economic development of Northern and Southern Bulgaria - trends and challenges. Proceedings. Academic Publishing House Tsenov.
- Slaveva, K. (2023) Study of the changes in the age dependency ratio of the population and their effects in the economy, Vol. 41, No.2.
- Slaveva, K., Petrov, K., Tsonkov, N. (2024). ASSESSMENT OF REGIONAL DISPARITIES AND DYNAMICS OF MUNICIPALITIES WITH A POPULATION FROM 10,000 TO 30,000 IN EASTERN BULGARIA. Scientific Discussion, Vol. 1, № 89. 29-39. 10.5281/zenodo.11866404.
- Szymańska, A. (2022). Demographic Changes in the Countries of the Western Balkans—A Comparative Analysis with the European Union. Comparative Economic Research. Central and Eastern Europe, 25(3), 161-182.
- The National Strategy for Regional Development of the Republic of Bulgaria for the period 2012 - 2022. <https://www.strategy.bg/StrategicDocuments/View.aspx?lang=bg-BG&Id=772>.
- Totev, S. (2017). Regional Disparities in Bulgaria and EU countries. Trakia Journal of Sciences, 15(Suppl 1), 1-5.
- Tsekov, N. (2021). Current trends in the demographic development of municipalities in Bulgaria. Papers of BAS. Humanities and Social Sciences, 8(2), 171-186.
- Tsonkov, N. (2023). Assessment of Bulgarian municipalities in providing basic services and shaping the local business environment. Ekonomika a spoločnosť, 24(1), 108-134.
- Yusuf, F., Martins, J. M., Swanson, D. A. (2014). Methods of demographic analysis.
- Zarkova, S. (2018). Regional Disparities In Bulgaria Today: Economic, Social, And Demographic Challenges. Народностопански архив, (3), 44-54.