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DEMOGRAPHIC PROCESSES AND THEIR IMPACT ON RURAL AREAS: THE EXAMPLE OF THE SOUTHWEST AND SOUTH-CENTRAL REGIONS

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Abstract
In a context of rapidly declining populations and deteriorating demographic characteristics, research on the development of implications and causes of spatial disparities is expanding to encompass more and more factors and characteristics of regions. The aim of this paper is to assess the demographic trends in the Southwest and South-Central statistical regions and their implications for rural development. The subject of the study are the territories of the two most populated regions in Bulgaria, which include diverse rural areas – mostly mountainous and semi-mountainous with natural resources and potential for economic diversification. They include the two largest cities with characteristics of agglomeration areas, but also the municipalities with the lowest population density. The object of the study are the demographic processes and characteristics and their impact on rural development. A complex methodological approach is applied, which uses and combines quantitative and qualitative methods and thus assesses the impact of the recorded demographic processes and changes. The study was carried out on the basis of information from the population censuses conducted in 2011 and 2021, current information of the National Statistical Institute and expert assessment of 57 surveyed specialists in the field of regional development, municipal administration and agrarian economy. The results are analyzed for the nine districts with rural areas in the Southwest and South-Central regions (NUTS3 level). The first part of the report presents and evaluates the changes in the number of the population, as well as some basic characteristics such as educational structure, coefficients of demographic dependence, economic activity, etc. A number of negative trends in the ongoing demographic processes have been assessed, which are most pronounced in the remote and border areas of the territory. In the second part of the report, the expert assessments of the respondents, recruited through a survey conducted in the period September 2023 – April 2024, are presented. They are divided into several areas: assessment of the educational and health infrastructures; assessment of the effects of educational and age structures on the development of rural areas; the impact of migration processes in direction to cities and abroad, etc. A four-point Likert scale was used. The prevailing opinion of the experts is that the level of income, the deteriorating educational and health infrastructures are among the main reasons for the negative demographic processes. They adversely affect entrepreneurial activity, the administrative capacity of local authorities and, in general, the quality of the workforce in rural areas. At the same time, the impacts are more pronounced in remote and border sparsely populated rural areas in the districts of Kardzhali, Smolyan, Kyustendil, Pernik and Blagoevgrad.
Keywords: demographic processes, economic activity, rural territories
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Introduction

The population of Bulgaria is decreasing. In the 21st century, for the twenty-year period (2001 – 2021), the population decreased by 21.6%. The rate of decline is significantly higher in rural areas of the country and is associated with low incomes, unemployment and poverty in these areas. Along with the reduction of the population and its density, there is also a deterioration of a number of qualitative indicators such as age structure, demographic replacement rates, ratios between the elderly population and the working age population, economic activity, etc. (Bardarov, Ilieva, 2020; Tsekov, 2021; Doitchinova, Wrzochalska, 2022; Ilieva, Bardarov, 2021; Doitchinova, Lazarova, 2023).

Some authors (Labianca M.; Valverde, 2019) define the demographic aging of rural areas as one of the most serious obstacles to generating development in rural areas. The deepening social decapitalization and decapitalization of the population "increasingly distances these spaces from their recovery and significantly hinders the implementation and effectiveness of rural development policies" (Leco et al., 2017, p. 97). An essential place in these processes is the loss of certain groups – most often – young, highly educated or economically active. In practice, this puts stress not only on economic prosperity, but also on the potential for the development of social and cultural capital. In the longer term, it is logical to expect a limitation of the community's capacity to act and recover (Bock, 2016, p. 557).

Some researchers (Wood, 2008; Carr, Kefalas, 2009) come to understand the emergence of a cyclical pattern in which the local economy and depopulation coexist and reinforce each other. Moreover, in cases of specialization of the region in the agrarian sector, the loss of population is accelerated and a connection is established between the reduction of the number of small farms and the reduction of the population in rural areas (Johnson, Lichter, 2019). On the other hand, different production specialization in the agrarian sector also affects the speed and characteristics of demographic processes in rural areas. (Doichinova, Miteva, 2020; Doichinova, Stoyanova, 2020).

The change in population numbers and characteristics is influenced by a wide range of diverse factors, but a weakness of most studies is that they focus only on one or a few factors and their impact (Chi, G., 2010). Economist researchers focus on: the characteristics of human capital (Wrzochalska, 2015) and its potential for sustainable development (Yordanova et al., 2024); of the educational structure of the population in rural areas (Wrzochalska, Łaba, 2022); the role of demographic processes in the development of rural areas (Mitova, 2018; Sugareva, Murgova, 2021; Doitchinova, Wrzochalska, 2022), etc. Other authors associate the uneven distribution of depopulation (Ilieva, Bardarov, 2021) with the distance from the main centers of employment, with an aging population, low fertility and low immigration (Johnson, Lichter, 2019). Last but not least, demographic processes are associated with the

state of health and educational structures, the quality of life in rural areas, etc. (Nikolova et al., 2018; Lazarova et al., 2023).
The results of a number of studies conclude that the development of rural areas depends on the capacity of rural communities and their ability to adapt to external changes. And among the main determinants of this capacity is human capital with its characteristics.
In this context, the purpose of the article is to assess trends in the demographic development of the Southwest and South-Central Statistical Areas and their implications for rural development.

Methodological framework

The object of research are the two most populated regions of the country – the South-Central Region (1,304,639 thousand people) and the Southwest Region (2,019,167 thousand people), and the subject – demographic processes and characteristics and their impact on rural areas. The used methodological approach combines quantitative and qualitative methods, namely statistical processing of information and expert assessment of specialists in the field of regional development of rural areas recruited through a survey. The used information is for the period 2011–2022 for the study of demographic processes according to data from the National Statistical Institute (NSI), the Population and Housing Census in the Republic of Bulgaria in 2021 and 2011 and other databases.
The survey was conducted in September 2023 – April 2024 throughout the country. For the studied regions, 57 experts participated in it – 28 from the South-Central region and 29 from the Southwest region. The majority of respondents are experts and managers in municipalities, in the regional offices of the National Agricultural Advisory Service, from the teams of local initiative groups, etc.
With the use of a four-point Likert scale, the impact of demographic processes on the administrative capacity of the municipal administration, entrepreneurial activity, the quality of the workforce, as well as the state of the current health and educational structures, the current level of pay and their impact on demographic processes is assessed.

Analysis of demographic processes

In the period between the two last population censuses (2011 and 2021), the number of populations in all surveyed districts in both surveyed regions decreased – within limits of 6.8% in Sofia District to 22.0% in Kyustendil. The population of the villages reduced much faster, from 11.6% in Sofia region to 35.8% in Pernik (Table 1).
Age dependency ratio is between 49.2 (Sofia region) and 66.3% (Kyustendil region). In the same areas, the lowest and maximum values of the ratio between the elderly population (over 65 years) and the population of working age are 25.7% and 46.2%, respectively within the South-Central Region only.

Table 1. Rural areas at the NUTS 3 level by province in 2021

	The rate of natural increase (2021)			Age dependency ratio (2021)		Economic activity (2023)
	Total (‰)	City (‰)	Village (‰)	Young and elderly to working age population (%)	Elderly to working age population (%)	
Blagoevgrad	–10.6	–8.5	–13.9	53.7	31.0	74.7
Kyustendil	–22.0	–17.2	–33.2	66.3	46.2	74.7
Pernik	–21.2	–17.1	–35.8	60.7	40.5	77.7
Sofia Province	–6.8	–6.5	–11.6	48.2	25.7	73.5
Kardjali	–11.1	–7.4	–13.5	56.0	34.1	67.7
Pazardjik	–14.0	–12.8	–16.2	57.0	33.2	72.5
Plovdiv	–11.3	–9.3	–17.0	55.6	32.2	72.8
Smolyan	–16.8	–12.2	–22.8	59.8	41.6	75.1
Haskovo	–15.5	–12.1	–24.3	60.9	37.5	67.8
For the country	–13.2	–10.5	–20.2	56.7	34.0	
The lowest value of the indicator	–6.8	–6.5	–11.6	48.2	25.7	67.7
Highest values of the indicator	–22.0	–17.2	–35.8	66.3	46.2	77.7

Source: NSI, 2022 and own calculations.

Another important indicator is the economic activity of the population, which according to a recent study (Doitchinova, Lazarova, 2024) is increasing in all areas. In 7 of the studied districts, an indicator above 70% was formed, and in only two of the districts (Kardzhali and Haskovo) the formed indicators were below 70% (67.8 and 67.7%, respectively). The highest economic activity is in Pernik district, being the difference with the lowest value of the indicator (Haskovo) 10 points.

The data from the two censuses show that there have been significant changes in the relative share of the highly educated population (Figure 1). Under the conditions of a reduced absolute number of inhabitants, in all regions the indicator has increased within limits of 3.75 points (Sofia region) to about 6% (Haskovo and Pazardzhik). In 2021, the highest relative share of the population with higher education is in Kyustendil (18.5%), Blagoevgrad (15.42%) and Pazardzhik (15.24%) districts. The presence of highly educated people is the least in the districts of Kardzhali (9.49%) and Sofia (10.75%). The formed difference between the maximum and minimum values is 9 points.

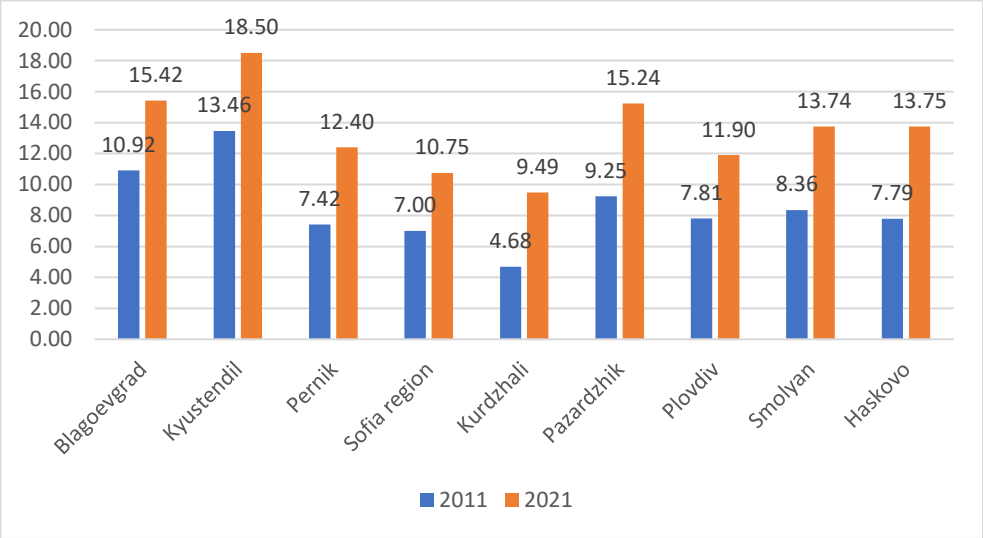

Figure 1. Relative share of the population with higher education in South Central and South-Western regions in 2011 and 2021

Source: NSI, 2024

Evidence for the improved educational structure is the decrease of population with primary and lower education (Figure 2). If in 2011 this population ranged from 39.64% (Kyustendil region) to 52.64% (Plovdiv region), in 2021 it decreased from 24.31% (Haskovo region) to 37.37% (Plovdiv region).

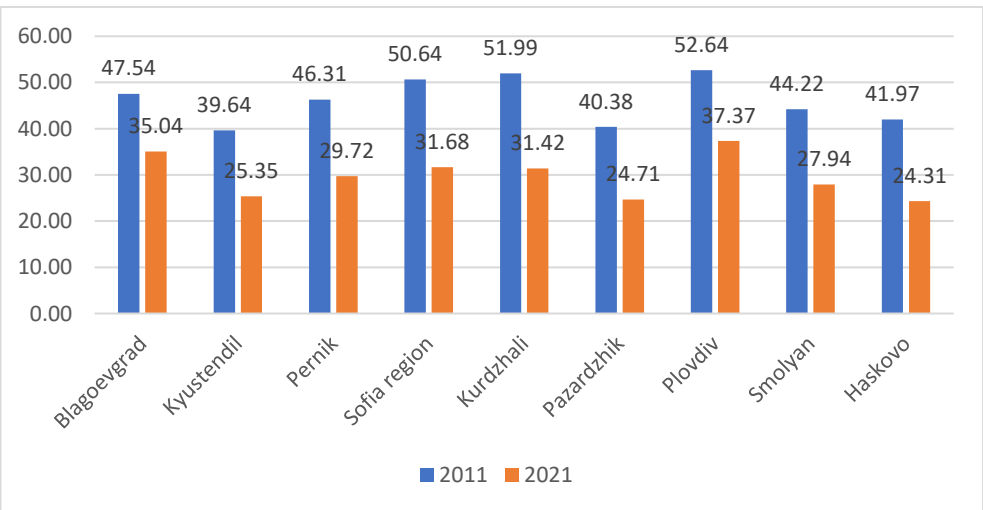

Figure 2. Relative share of the population with primary and lower education in South Central and Southwest regions in 2011 and 2021

Source: NSI, 2024

Expert assessment of the impact of demographic processes on the development of rural areas

The expert assessment of the respondents for the studied areas show the highest values for the ongoing migration processes in the areas of Kyustendil, Plovdiv and Smolyan, followed by Kardzhali. The highest scores are in the range of 3.0 – 3.38 in five of the areas (Figure 3).

The lowest rating of the respondents was in the Pazardzhik district – 2.0.

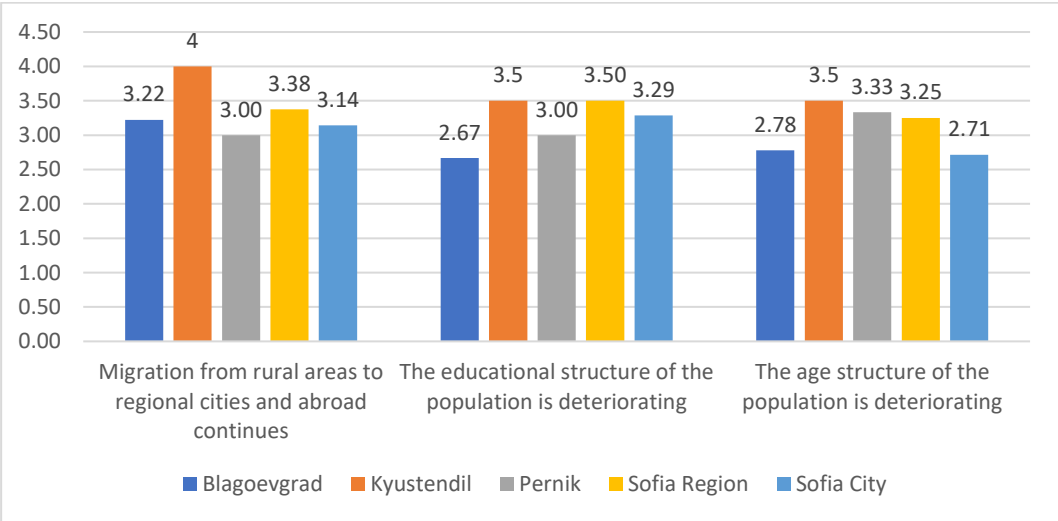

Figure 3. Expert assessments of the migration processes and the deteriorated age and educational structures in the Southwest region

Source: own study

The opinion about the deteriorating educational and qualification levels of the population is widely supported by the respondents in all areas. The highest scores are in Kyustendil and Pazardzhik regions (Figure 4). The assessment of the deteriorated age structure in Kyustendil received the maximum possible assessment.

The deteriorating educational structure was rated the lowest in the districts of Kardzhali, Blagoevgrad and Smolyan – 2.6, 2.67 and 2.83, respectively. In practice, this means that in these areas it is not assessed as a leading factor for the current state.

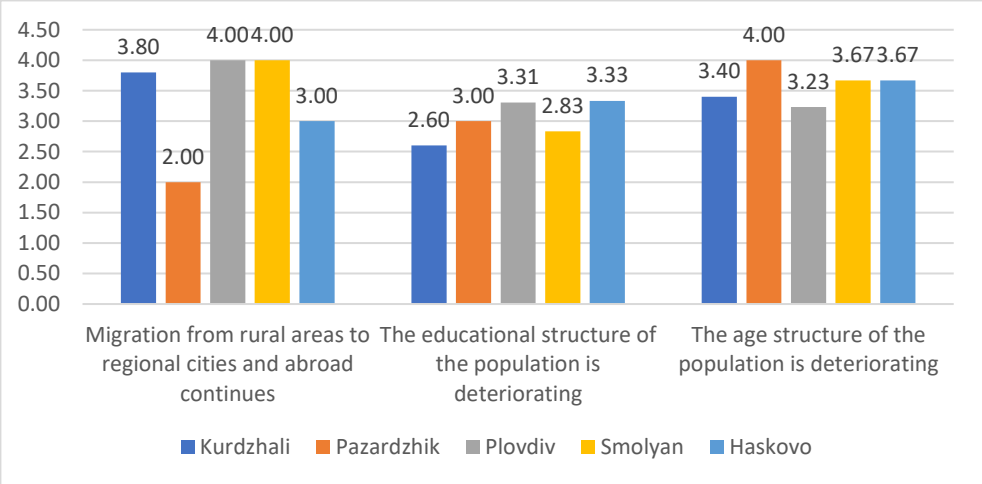

Figure 4. Expert assessments of migration processes and deteriorated age and educational structures in the South-Central Region
Source: own study

Together with the current age and educational structures, the degree of development of the educational and health infrastructures in the rural areas is also assessed. According to the experts, education is poorly developed in Kyustendil and Sofia regions, and health care in Kyustendil, Pernishka and Sofia regions (Figure 5). The adverse impact of low incomes on demographic processes has the highest support from respondents in Kyustendil and Pernik districts, followed by Blagoevgrad.

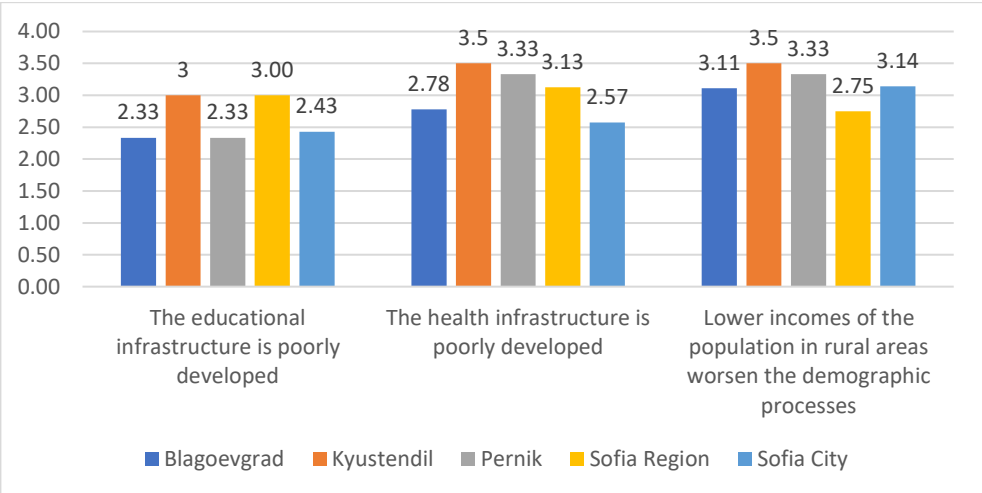

Figure 5. Expert assessments of educational and health infrastructures and income impact of demographic processes in the Southwest region
Source: own study

In the districts of the South-Central Region, Blagoevgrad and Sofia districts are in first place according to the assessment of underdeveloped educational and health infrastructures (Figure 6).

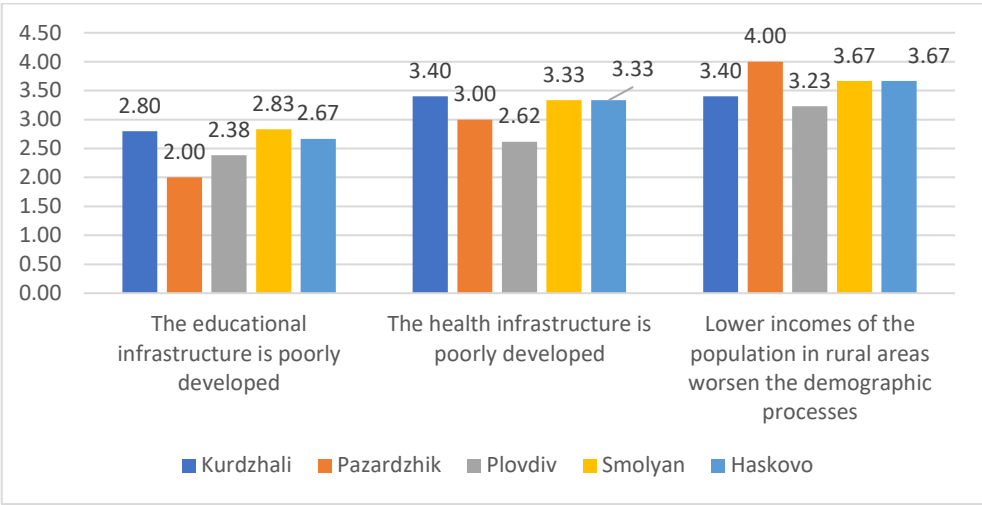

Figure 6. Expert assessments of educational and health infrastructure and income impact of demographic processes in the South-Central Region

Source: own study

The experts' assessments of the impacts of the demographic processes in rural areas are shown in Figure 7 and Figure 8. The assessment of the impact of these processes on the administrative capacity of the municipal administration in the rural areas of Kardzhaly (3,4) and Smolyan regions (3,17) is the highest in the South-Central region and those in Kyustendil (3.0) and Blagoevgrad regions (2.78) are the highest on Southwest region. In practice, these are more remote and border areas.
Demographic processes lead to a decrease in entrepreneurial activity, especially in the districts of Smolyan and Haskovo (3.5 and 3.33 respectively) and in Kyustendil and Blagoevgrad (3.5 and 2.78).
Last but not least, the ongoing demographic processes are the cause of a decrease in the quality of the workforce. They are rated highest in Pazardzhik and Kardzhali districts (respectively 4.0 and 3.6) of the South-Central region. In the Southwest region, the statement received the highest support in Kyustendil and Pernik (in both the assessment is 3.0).

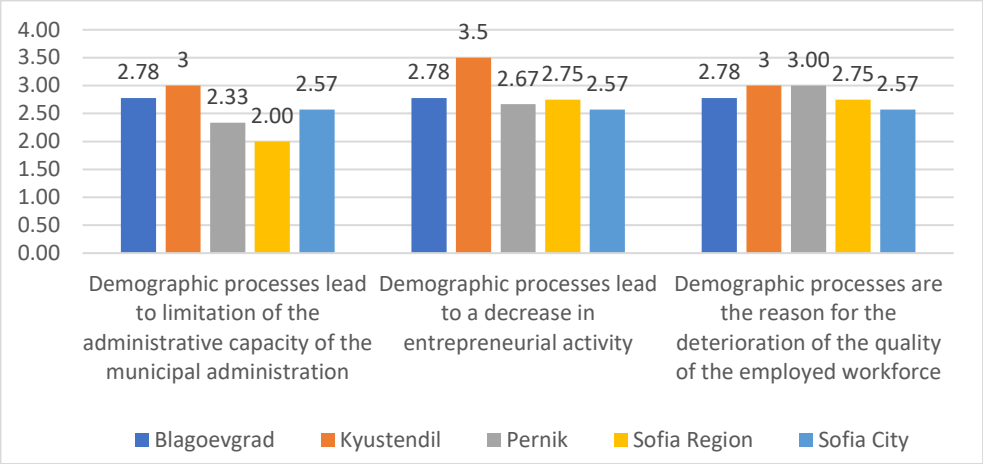

Figure 7. Expert assessments of the impacts of demographic processes on administrative capacity, entrepreneurial activity and the quality of the labor force in the Southwest region

Source: own study

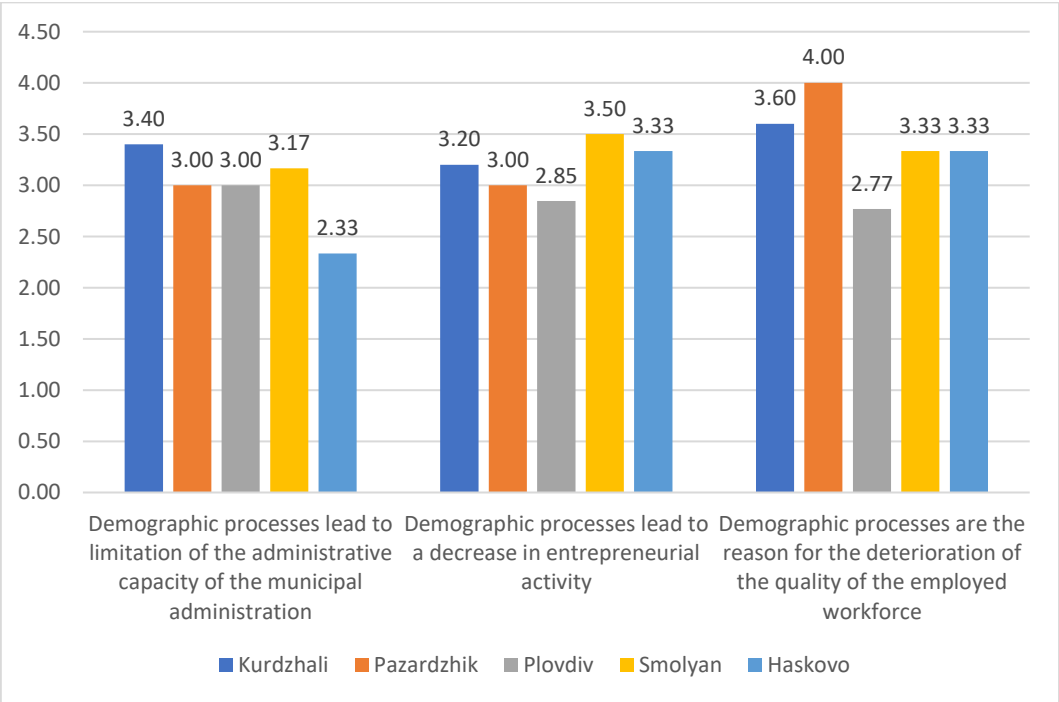

Figure 8. Expert assessments of the impacts of demographic processes on administrative capacity, entrepreneurial activity and labor force quality in South Central Region

Source: own study

Conclusion

Based on the analysis, a number of conclusions can be drawn, the most important of which are:

- ✓ The population in rural areas, including in the settlements of the village type, decreases faster compared to the data for the country as a whole and for the territories with settlements over 15 thousand inhabitants;
- ✓ The results of the population censuses of 2011 and 2021 show a deterioration of the age structure and the ratio between the elderly and working-age population. In some areas, the indicators reach values that not only threaten the population's reproduction opportunities, but also negatively affect administrative capacity, local entrepreneurship, etc.
- ✓ In the conditions of population reduction, an improvement of the educational structure was observed, but it was not confirmed in the opinions of the surveyed experts;
- ✓ The state of the educational and health infrastructure was negatively assessed in all regions;
- ✓ Among expert assessments of the impacts of demographic processes, negative assessments prevail.
- ✓ In terms of age and educational structures, the highest negative scores are for rural areas, which are located in territories that are far from large urban centers and border areas. In these areas, unemployment is high and entrepreneurial activity is extremely low.

Negative demographic processes and unfavorable qualitative characteristics of the population in rural areas impair the capacity of local authorities and communities to implement the rural development policy based on the “bottom-up” approach. The latter complicates the creation of local development strategies and their financing. On the one hand, the number of active farmers and rural residents with entrepreneurial ideas to be included in development strategies is limited. On the other hand, the several-year period from the development of the local development strategy to the implementation of the specific project for farm modernization, diversification of economic activity or development of non-farm business becomes a reason for hesitation of potential beneficiaries or for refusal to implement the project. All this leads to difficulties in all stages of the implementation of the “Community-Led Local Development” approach.

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