



INVESTMENTS IN EDUCATION AS A TOOL FOR THE ECONOMIC DEVELOPMENT OF REGIONS

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ABSTRACT

Purpose. The modern economic situation is based on the balanced development of the regions. Each of them needs the application of different policies and instruments to achieve success in the developed activities. Education is emerging as one of the serious opportunities for retaining the population in the regions, developing local business and achieving high economic results. **Methods.** The main research methods used are analysis and synthesis of the current regulatory framework, contemporary research on the problem, and data from official sources. **Results.** The presented results on investments in education are analyzed in two directions. Regarding investments in human capital and investments in the educational environment. A comparative analysis was performed according to the current and planned new scope of the level 2 regions. **Conclusions.** The conclusion draws conclusions regarding the change in the scope of level 2 regions. The trends, similarities and differences of investments in human capital and educational environment are outlined.

Keywords: professional qualification, innovations, pedagogical specialists

INTRODUCTION

The development of education systems is a major priority and challenge for modern societies. Since teachers are an essential element in the education system, increasing importance is given to their professional qualifications. Investments in improving the knowledge, skills and competences of teachers are investments in higher quality. All this seriously raises the issue of researching the professional competences of teachers. This also applies to searching for regional imbalances in the individual elements of the education system, as its integrity is important. Better prepared pedagogical specialists in individual regions of the country create conditions for better prepared students. This study also pays attention to the components of the educational environment. Its development through the prism of creating innovative schools is a key challenge. The combination of all these elements can allow the creation of a common model of management of the education system. In this way, serious

regional imbalances that would also affect the national economy will not be allowed. The results achieved from the study can be a good basis for creating measures and policies to reduce regional disparities and improve the quality of education. The purpose of the study is to analyze investments in education through the prism of increasing human capital and the educational environment as a factor for the development of regions.

METHODS

To achieve effective economic development at the national and regional levels, the territorial division of the country is of essential importance. The Regional Development Act regulates six level 2 regions, namely:

1. "Northwestern region, including the districts of Vidin, Vratsa, Lovech, Montana and Pleven;
2. North-central region, including the districts of Veliko Tarnovo, Gabrovo, Razgrad, Ruse and Silistra;
3. North-eastern region, including the districts of Varna, Dobrich, Targovishte and Shumen;
4. Southeastern region, including the districts of Burgas, Sliven, Stara Zagora and Yambol;
5. Southwestern region, including the districts of Blagoevgrad, Kyustendil, Pernik, Sofia and Sofia (Capital Municipality);

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6. Southcentral region, including the districts of Kardzhali, Pazardzhik, Plovdiv, Smolyan and Haskovo" (1).

According to the Management Program of the Republic of Bulgaria for the period 2025-2029 in the Regional Development and Public Works sector, one of the measures to achieve the objective "Territorial Development Planning" is the "Draft Law on Amendments to the Regional Development Law (in case of a decision to change the level 2 regions) approved by the Council of Ministers" (2). A new scope of level 2 regions has been defined by a decision of the Council of Ministers of 26.03.2025, which the NSI must submit to Eurostat for approval. "The Decision of the Council of Ministers proposes the separation of four level 2 planning regions, as follows:

1. Northern, including the districts of Vidin, Montana, Vratsa, Lovech, Pleven, Gabrovo, Veliko Tarnovo, Targovishte, Ruse, Razgrad and Silistra;
2. Eastern, including the districts of Dobrich, Varna, Shumen, Burgas, Sliven and Yambol;
3. Southern, including the districts of Sofia, Pernik, Kyustendil, Blagoevgrad, Pazardzhik, Smolyan, Plovdiv, Stara Zagora, Haskovo and Kardzhali;
4. Capital, including the district of Sofia (capital)" (3).

In accordance with the purpose of this study and as a tool for economic development of regions, the subject of analysis is investment in education. Some authors examine the relationship between education and economic performance. „Education is one of the most important social institutions. It is faced with difficult tasks and is widely regarded as one of the main development mechanisms. Therefore, the relation between the quality of education and economic performance is always of topmost importance.“ (4). Education and economic growth are represented by Gruševá, E. and Blašková, V. „Undoubtedly, every state wants to increase its economic level. In the context of Industry 4.0. technological development, increasing demands are placed on the technical knowledge and skills of employees. Therefore, education can be considered one of the main factors that could bring about an improvement in the economic level of countries.“ (5).

Other authors make a connection between education and human capital „While human capital is a broader concept than educational attainment, also consisting of underlying ability, personal characteristics (including health) and learning experiences (both pre and

post-school) that build knowledge and help people to be productive, much of the empirical literature has focused on widely available comparative measures of education such as years spent in the schooling system or enrolment rates.“ (6).

For the purposes of this paper, investments in education are examined in two directions. On the one hand, investments in human capital are analyzed through the training of pedagogical specialists for a degree of professional qualification. On the other hand, investments in the educational environment are presented through innovative schools on the territory of the Republic of Bulgaria. Innovations in schools are a prerequisite for the development of the material and technical base, training tools, and teaching approaches, in order to provide the opportunity to learn in a pleasant atmosphere and an environment close to the real one. Their complex nature is aimed at acquiring creative and imaginative thinking, digital skills, integrated knowledge, and the opportunity for individualization of learning. In his research Rosca-Sadurschi, L., Todos, I., Ceclu, L., they conclude that „In conclusion, we can say that innovative education and innovations in education, including digitalisation, will contribute to the growth and education of generations of young people able to adapt easily to all social, economic and political changes“ (7). Innovation and regional development are also the subject of analysis by other authors „The traditional view of regional development and innovation is based on the innovator-learner dichotomy: a small number of regions produce innovations, and others develop by learning from these innovative regions.“ (8).

Based on the theoretical review and in accordance with the purpose of the study, appropriate methods were used to achieve effective results. The research methodology included collecting current data and information regarding the purpose of the study, analyzing the data in accordance with the research problem, interpreting the results and formulating main conclusions.

RESULTS

The development of regions is largely based on territorial division and the accompanying socio-economic processes. Education plays a significant role in these processes, being a fundamental tool for increasing economic development at the national and regional levels. In the context of the research problem, data on the development of secondary education from

the perspective of investments in human capital and educational environment are presented. The data analysis is made according to the current and planned new scope of level 2 regions for the period 2022 - 2024.

Investments in human capital, as mentioned above, are represented by trained pedagogical specialists for a degree of professional qualification. **Figure 1** shows that the highest

percentage of pedagogical specialists with a degree of professional qualification for the period under review is in the Southwestern region. In the other regions, the number of trained teachers is approximately equal. Regarding the period under review, the South Central region is impressive, with a decreasing trend emerging - from 18.26% in 2022 to 9.97% in 2024, which is not noticeable in the other regions.

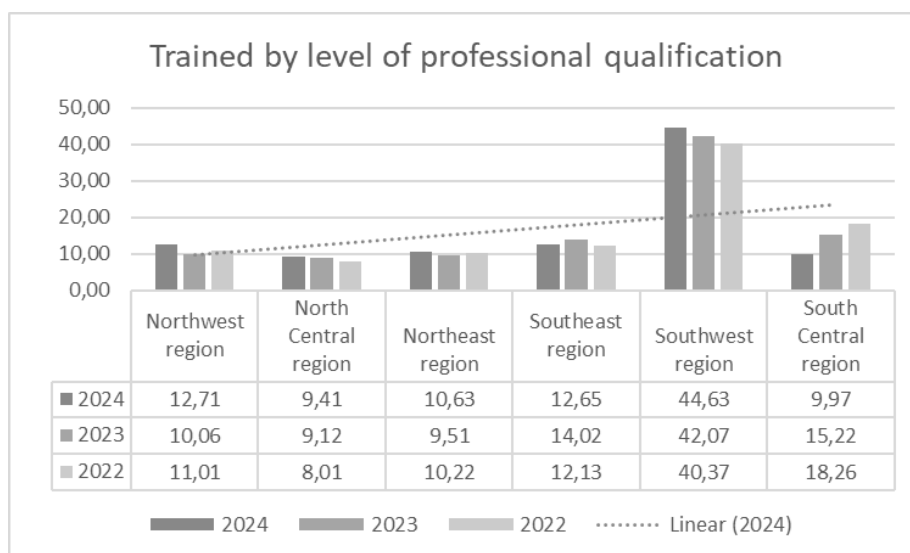


Figure 1. Trained pedagogical specialists for professional qualification level for the period 2022 – 2024, in six level 2 regions, source: author's analysis based on data from the National Agency for Vocational Education and Training (<https://www.navet.government.bg/bg/>)

When presenting and analyzing the data according to the planned new scope of level 2 regions (**Figure 2**), it is noticeable that during the period under review, the highest percentage of pedagogical specialists with a degree of professional qualification is in the Southern

region, and the lowest in the Eastern region. In 2024, the percentage of trained people is highest in the Northern and Eastern regions, while in the other two regions the percentage of those who have acquired professional qualifications decreases compared to the previous year.

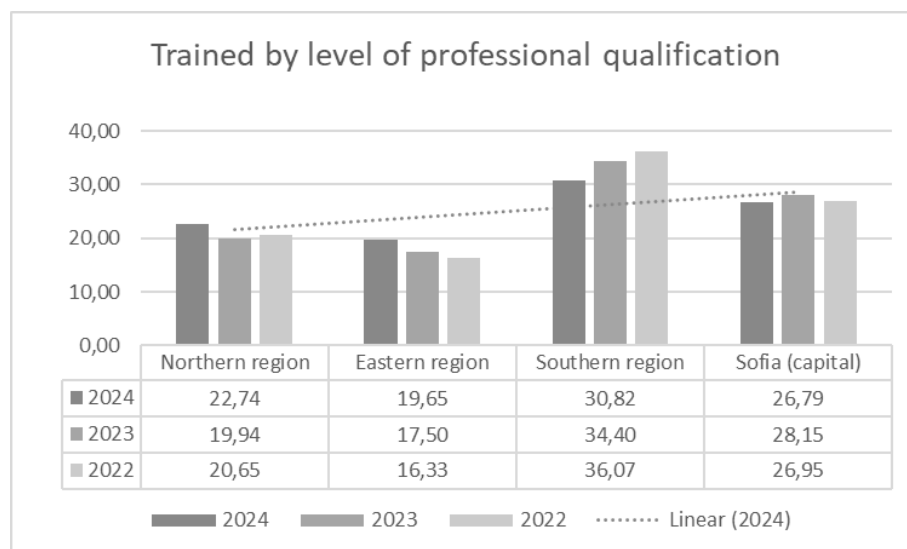


Figure 2. Trained pedagogical specialists for a professional qualification level for the period 2022 - 2024, in four level 2 regions, source: author's analysis based on data from the National Agency for Vocational Education and Training (<https://www.navet.government.bg/bg/>)

Despite the growing trend of professionally qualified pedagogical specialists, other factors in the educational sphere are also of significant importance for the economic development of the regions, such as investments in the material base; updating of educational content, responding to the development of social processes and the needs of the labor market; learning and teaching methods; acquired knowledge and skills of students, etc. All this is part of the introduction of innovations in the educational process and the functioning of innovative schools in Bulgaria, which are the subject of analysis in the development. Given their complex nature, they are a tool for researching investments in educational environments. The Preschool and School Education Act regulates innovative schools, as „schools that achieve improvement in the quality of education by: developing and introducing innovative elements in terms of the

organization and/or content of education; organize management, training and the learning environment in a new or improved way; use new teaching methods; develop learning content, curricula and syllabuses in a new way“ (9). Innovations in schools provide opportunities for learning through modern and up-to-date methods and approaches, aimed at critical thinking and developing the potential of students in an environment close to the real one (10). A requirement in this direction is that the training takes place in a modernized learning environment, providing the opportunity for the application of the relevant innovations.

Figure 3 presents the innovative schools in Bulgaria for the period 2022 - 2024 in the six level 2 regions. As can be seen, their number is largest in the Southwestern region, which is the only one with a trend of increase during the period under consideration. In the remaining regions, the number of innovative schools in 2024 is smaller compared to the previous year.

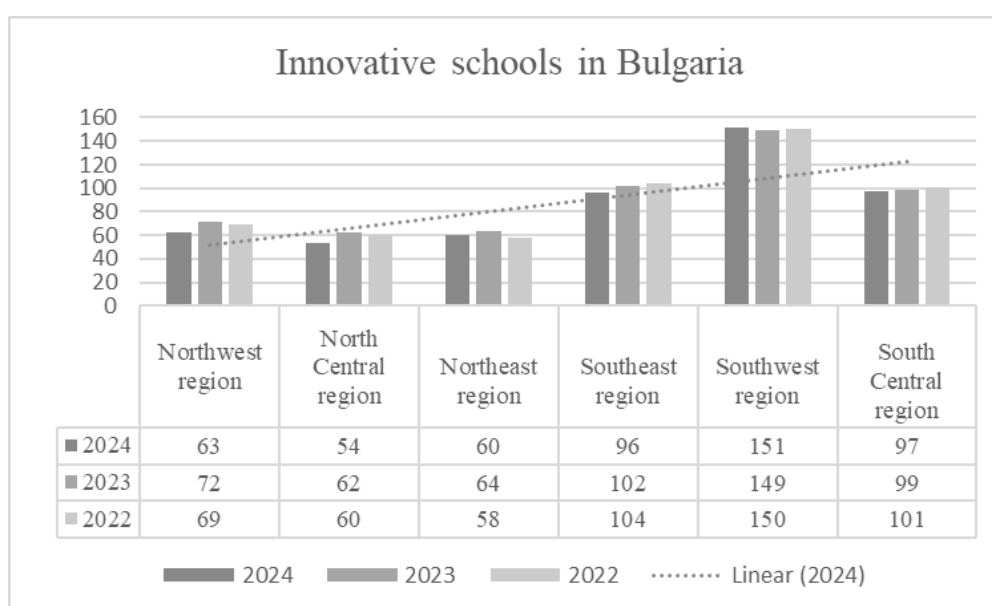


Figure 3. Number of innovative schools for the period 2022 – 2024, in six level 2 districts, source: author's analysis based on data from the Ministry of Education and Science (<https://www.mon.bg/dyasno-menyu/inovativni-uchilishta/>)

According to the planned new scope of the level 2 regions (**Figure 4**), the largest number of innovative schools is in the Southern region, followed by the Northern, Eastern and Sofia (capital). This trend has persisted throughout the analyzed period. Only in the Southern region in 2024 did innovative schools increase compared to the previous year, while in the

other regions they decreased. A similar trend is observed in the current scope of level 2 regions. The presented and analyzed data on investments in education show the main similarities and differences for the period 2022-2024 in a comparative plan according to the number and scope of level 2 regions in the Republic of Bulgaria.

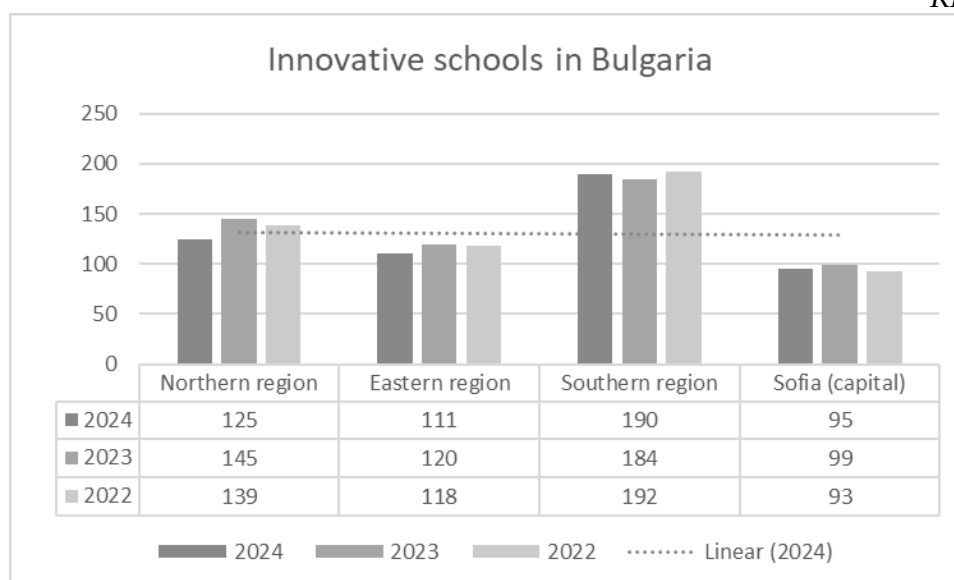


Figure 4. Number of innovative schools for the period 2022 – 2024, in four level 2 districts, source: author's analysis based on data from the Ministry of Education and Science (<https://www.mon.bg/dyasno-menyu/inovativni-uchilishta/>)

CONCLUSION

The analysis and the applied methods show the main trends in education at the regional level and can be summarized in several directions. First: The change in the current and planned new scope of the level 2 regions consists of the following: The Northern region encompasses the Northwestern region, the North Central region and only the Targovishte district from the Northeastern region. The Eastern region includes the Northeastern region without the Targovishte district and the Southeastern region without the Stara Zagora district. The Southern region includes the South Central region, the South-Western region without the Sofia Municipality and only the Stara Zagora district from the South-Eastern region. The Capital Region covers Sofia (capital). Second: Those trained for a professional qualification level in the planned new scope of the level 2 regions are distributed relatively evenly across the four regions. While in the current scope in the Southwestern region, the percentage of those trained is significantly higher than in the other regions. Third: The trend observed in the current scope of the regions in 2024 compared to 2023 - a decrease in the percentage of pedagogical specialists with a degree of professional qualification in the South-Eastern and South-Central regions is maintained in the planned new scope of the level 2 regions. Fourth: Under the current scope of the level 2 regions, the number of innovative schools in the South-West region is the largest, and in the North-Central region it is the smallest. Under the planned new scope, the number of

innovative schools is the largest in the South region, and the smallest in Sofia (capital). Fifth: The trend observed in the current scope of the regions in 2024 compared to 2023 - a decrease in the number of innovative schools in all regions except the Southwestern region - is maintained in the planned new scope of the regions of level 2 - a decrease in the number of innovative schools in all regions except the Southern region. Sixth: The economic development of regions is linked to improving the quality of education in them. Therefore, investments in educational infrastructure, modern methods and technologies, and increasing professional competencies are key to achieving high results.

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