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## From the Editor



The education of a country's population is one of the key drivers of its economic progress. Knowledge and skills that directly affect the productivity of employees are acquired through education. In addition, education affects people's ability to adopt and create innovations that are a fundamental driver of productivity growth and overall economic progress. The economic progress of a country depends on the average level of education of its citizens, but also on the quality of education. The average level of education is usually measured by the average number of years of schooling of the adult population. A useful additional indicator of education is the percentage of the adult population who has completed primary, secondary or higher education. In addition to the years of education, the quality of education is also important, which maintains the amount of knowledge and skills acquired during one year of schooling.

Empirical research based on data for almost all countries of the world and covering a period of several decades generally confirms that a higher average level of education of a country's population has a positive effect on its economic growth in the future. Empirical research on the impact of education quality on economic growth is smaller and relates to a smaller number of countries and shorter time periods. These studies show that the quality of education has a strong positive impact on economic growth. Therefore, it is important to assess the performance of education in Serbia from the point of view of its economic growth in the future. It is relevant that Serbia is standing at 38% of the level of development of 15 old EU member states, or 56% of the level of development of CEE EU member states, while it is 10-15% more developed than the countries of the Western Balkans.

The average number of years of schooling of the adult population reflects the coverage of the country's population by education in the period of the previous few decades. From the point of view of the economy, the average number of years of education of the labor force is important, i.e. the education of the population between 15 and 64 years of age. The average number of schooling years of citizens aged 15-64 in Serbia in 2015 was 11.7 years, which is slightly below the average of Central and Eastern European countries (11.8 years), while it lags behind the average of developed countries slightly more (12.9 years). An important indicator of education is the percentage of the

population who has completed a certain level of education. In Serbia, over 97% of the population between the ages of 25 and 64 has completed primary school, 72% has completed secondary school, and about 15% has completed college. Serbia's position in terms of population coverage by a certain level of education can be assessed by comparison with the Czech Republic, which is one of the most developed countries in Central Europe, and Germany, one of the most developed European countries. In the Czech Republic, almost 100% of the population has completed primary school, 90% secondary school, and about 20% has completed university, while in Germany, the entire working age population has completed primary school, 83% has completed secondary school and 25% completed university.

Based on the previous comparisons, it can be concluded that according to the number of average years of education of the labor force, Serbia does not lag behind the countries of Central Europe, while the lag behind the countries of Western Europe is somewhat larger. However, the percentage of the population that has completed secondary or higher education in Serbia is lower than in the countries of Central and Western Europe.

A comparison of countries according to the amount of education, measured by the average number schooling years, or the percentage of the population that has completed a certain level of education, implies that the quality of education in all countries is similar, i.e. that approximately the same amount of knowledge and skills is gained in all countries during one year. However, everyday experience and empirical research indicate that there are significant differences in the amount of knowledge and skills acquired during one year of schooling in different countries. Differences in the quality of education imply differences in productivity, but also the ability to adopt and create new technologies, which is crucial for the functioning and progress of the economy.

The quality of primary education is assessed on the basis of standardized PISA tests, which are implemented in nearly 80 countries around the world, and which test the literacy of fifteen-year-olds, as well as their knowledge of mathematics and natural sciences. Students from Serbia had an average 442 points on the PISA tests held during 2018, which is similar to the results achieved on previo-

us tests. Compared to the average of 15 countries from Central and Eastern Europe, in 2018, Serbia achieved 19 points less on the PISA test, which roughly corresponds to the knowledge and skills acquired in the period of half a year of schooling. Of all Central and Eastern European countries, nine of them achieved better results than Serbia, while six countries had poorer results. Southeast European countries had weaker results than Serbia: Albania, Bulgaria, Bosnia and Herzegovina, Montenegro, Northern Macedonia and Romania, while all Central European and Baltic countries had better results than Serbia. Serbia lags behind the developed countries, OECD members, by 45 points, which corresponds to the knowledge and skills acquired during one year of schooling.

There are no standard international tests to measure the quality of secondary education by country, which is a consequence of the relatively large heterogeneity of educational profiles. The indication of the quality of secondary education in Serbia is given by the attitudes of employers and their associations according to which the qualification structure of participants in secondary vocational schools is not harmonized with the requirements of the market. There is a widespread opinion among employers that students of secondary vocational schools do not get enough practical knowledge and skills that are necessary to do the job.

The quality of higher education is more difficult to compare on the international level due to the great heterogeneity of educational profiles as well as the existence of a number of relevant criteria on the basis of which the quality of higher education is measured. The quality of university education is usually measured on the basis of the results of scientific research conducted by professors (number and quality of papers and prestigious awards), as well as on the basis of employment opportunities for graduate students and their progress. Shanghai list is the most famous, and within it universities are ranked based on the results of scientific research. On the Shanghai list for 2021, the best placed university from Serbia is the University of Belgrade, which is ranked between 500th and 600th place, while the University of Novi Sad is ranked between 900th and 1000th. From Central and Eastern Europe, only 4 universities were placed among the best 500, while from the former Yugoslavia, the University of Ljubljana is in the same group as the University of Belgrade, and the University of Zagreb is ranked between 600th-700th places.

More than 31,000 higher education institutions from around 200 countries are ranked on the Spanish Webometrics Ranking of World Universities list. According to this list, the University of Belgrade ranks 451st in the world (9th in CEE), the University of Novi Sad ranks 995th in the world (47th place in CEE), while the University of Nis and Kragujevac are among the 2000 best universities in

the world. The best ranked private university Singidunum is in 2940th place in the world (232nd place in CEE), while other private universities are significantly poorly placed.

Based on the above mentioned, it could be concluded that the level and quality of education in Serbia are approximately in line with its level of development, which means that for economic growth in the coming years it is necessary to improve both the comprehensiveness and the quality of education. The key changes in education that should support economic growth relate to improving the quality of education.

In the period 2005-2018, Serbia did not make progress in the results of PISA tests based on the average number of points, nor did it improve its relative position compared to other countries, which indicates that the reforms that were implemented in that period did not improve the quality of primary education. Therefore, it is obvious that changes are needed in the teaching contents, way of teaching, selection of teachers and policy of their rewarding.

In the field of secondary education, it is necessary to have a greater harmonization of educational profiles with the requirements of the market, but also a greater representation of practical knowledge and skills in secondary vocational schools. The planned introduction of compulsory secondary education is a key step towards improving the comprehensiveness of education, because students are only able to perform professional jobs after finishing high school. Therefore, it is important to introduce compulsory secondary education as soon as possible.

The current position of state universities, especially University of Belgrade, on the international quality ranking list is at the level of Central European countries, which is a solid result. However, Serbia's ambition to reach a high level of development in the coming decades requires a significant improvement in the quality of higher education. In Serbia, there are a number of proposals for higher education reforms that represent a solid basis for the adoption of appropriate measures, which would result in improvement of university education and especially scientific research conducted by professors at universities. In order for such reforms to be implemented, political will within the state is necessary, but also readiness for changes within the academic community. The state has an additional responsibility to improve regulations related to private universities, in order to encourage the improvement of their quality. The state and public companies, as largest employers, by employing workers with the best performance, have the opportunity to send a signal to educational institutions in which direction they should change.

