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Improving the competitiveness of the Serbian economy through education reforms

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***Abstract**: By using the causal analyses to examine correlation between the competitiveness level of the country and reforms in the field of education, this research aims to foresee possible educational reforms that would lead to greater competitiveness of the economy of the Republic of Serbia. The analysis presents how the competitiveness of a country can be measured, examines whether education is one of the indicators of competitiveness, evaluates competitiveness of the Serbian economy and reviews current state in all the relevant indicators in the field of education and all relevant reforms.This research uses the mix methodological approach and existing data from Global Competitiveness Index and one of its pillars dealing with human capital - Pillar 6 in order to foresee the educational reforms needed for Serbian economy to be more competitive. Results show that the quality of the human capital is one of the basic factors of competitiveness and that only quality education can lead to the rapid development of the Serbian economy and enhancement of its competitiveness. Research concludes that there is a great necessity in the Republic of Serbia for further reforms and investments in the education, especially in education of teaching staff and an innovative teaching programmes and curriculum for the most dynamic economy sectors, like ICT, trade, transport, tourism and financial services.*

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***Key words**:* competitiveness, economic development, reforms, economic governance, education

Unapređenje konkurentnosti ekonomije Republike Srbije kroz reforme obrazovanja

***Apstrakt**:* Korišćenjem kauzalne analize za ispitivanje korelacije između nivoa konkurentnosti države i reformi u oblasti obrazovanja, ovo istraživanje ima za cilj da predvidi moguće reforme obrazovanja koje bi dovele do veće konkurentnosti ekonomije Republike Srbije. Istraživanje analizira kako se može meriti konkurentnost jedne države, ispituje da li je obrazovanje jedan od indikatora konkurentnosti, ocenjuje konkurentnost ekonomije Republike Srbije, sagledava postojeće stanje u svim indikatorima u oblasti obrazovanja i razmatra sve relevantne reforme. Ova studija koristi kombinovane metode istraživanja i postojeće podatke Globalnog indeksa konkurentnosti i jednog od njegovih stubova koji se bavi ljudskim kapitalom - Stuba 6 kako bi se predvidele obrazovne reforme potrebne da bi ekonomija Republike Srbije bila konkurentnija. Rezultati pokazuju da je kvalitet ljudskog kapitala jedan od osnovnih faktora konkurentnosti i da samo kvalitetno obrazovanje može dovesti do brzog razvoja ekonomije Republike Srbije i povećanja njene konkurentnosti. Zaključak istraživanja je da u Republici Srbiji postoji velika potreba za daljim reformama i ulaganjem u obrazovanje, posebno u obrazovanje nastavnog kadra i inovativne nastavne programe i nastavne planove za najdinamičnije sektore ekonomije, kao što su informaciono komunikacione tehnologije, trgovina, transport, turizam i finansijske usluge.

***Ključne reči**:* konkurentnost, ekonomski razvoj, reforme, ekonomsko upravljanje, obrazovanje

1. Introduction

The aim of this research is to foresee possible reforms in the field of education that would lead to greater competitiveness of the economy of the Republic of Serbia (hereinafter RS). Bearing in mind that reforms in the area of education in the RS, that have been envisaged in the process of economic governance so far, have not been sufficient, the main hypothesis of our research would be that further reforms are needed especially ones that are focused on teaching staff and an innovative teaching programmes and curriculum, especially in the service sector.

Even though there are studies dealing with the topic of competitiveness of the economy of the RS (e.g. Vasiljević, 2009; Marinković et al. 2016; Petrović & Matić, 2021), there is a gap in existing literature on the topic of this research. Bearing that in mind, the research should contribute to a better understanding, expansion and deepening of the existing knowledge on the educational reforms as a tool for reaching greater competitiveness of the economy of the RS.

Taking into consideration numerous views of the authors on how improving the skills of a country and its education system will enhance economic position of a country, as well as economic position of its citizens (e.g. Hanushek, 2016; Dumciuviene, 2015; Holmes, 2013), analyses in the following chapters will cover all the relevant topics for the research. Firstly, one of the possible methodologies used to measure the competitiveness of a country, Global Competitiveness Index (hereinafter GCI) will be presented. Then, in the following chapters, assessment of education as one of the indicators of competitiveness, as well as evaluation of overall competitiveness of the RS economy and its competitiveness in all the relevant education indicators will be conducted.

All this will be done in the context of the European Union (hereinafter EU) accession process, i.e. preparing the RS for participation in the process of EU economic governance, it being a system of economic policies coordination of member states in order to improve economic and social development, boost economic growth, and achieve greater competitiveness of their economies.[2] The most important document of the RS within this cooperation process[3] and the document which represents the basis for dialogue on economic policies and social-economic issues is the Economic Reform Programme (hereinafter ERP). This document presents up to 20 most important structural reforms for a three-year period that should contribute to competitiveness and economic growth. The research will pay special attention to the education reforms that have been envisaged in all the ERP documents that RS has prepared so far.

After presenting main findings and results of the research, in the conclusion, necessary further reforms in the field of education that should boost further growth and economic development in the most dynamic sectors of RS economy will be proposed.

2. How to measure the competitiveness of a country – research methodology

One of the basic criteria for joining the EU, in accordance with the conclusions of the European Council adopted in June 1993 is the existence of a functional market economy and the ability to face the pressure of competition and market forces within the EU. When considering the market economy of a country, the question arises as to how its success is measured and whether, as some

[2] According to Arts. 120 and 121 of the Treaty on the Functioning of the EU, "member states conduct their economic policies to contribute to the achievement of the objectives of the Union".

[3] In order to prepare candidate countries and potential candidates for their participation in the economic governance process, in 2015 the EU has included them in this mechanism, although in a slightly less demanding form of cooperation - the *European Semester Light*.

authors claim, its success is most concretely expressed by the level of competitiveness, as one of the most important factors of its efficiency, economic growth and development (Leković, 2016).

Due to the absence of a generally accepted definition of competitiveness, some authors dispute the possibility of defining the competitiveness of a state or region and even claim that the concept of competitiveness of the economy as a whole is a dangerous illusion (Krugman, 1994). One of the reasons for the lack of a consistent theory that would explain and define the concept of competitiveness may be that the competitiveness of the economy is influenced by a large number of factors, such as macroeconomic indicators, economic policy, workforce, natural resources, management methods, etc. (Porter, 2008). However, there are a large number of definitions of competitiveness, each of them giving primacy to some of its elements. Some emphasize economic growth as an important element of the concept, stating that competitiveness could be defined in the light of the predicted new growth path as the “ability of a country (region, location) to deliver the beyond-GDP goals for its citizens today and tomorrow" (Aiginger et al., 2013, p.13). Other authors emphasize the international component, defining the competitiveness of the national economy as "its ability to actively participate in international economic relations and, using its advantages, strengthens its position on the international market and realizes the growth of the population's well-being" (Leković, 2016, p.14). In addition to a vast number of definitions, according to the latest Global Competitiveness Report, national competitiveness is defined as “a set of factors, policies and institutions that determine the level of productivity in the country" (World Economic Forum, 2019).

The World Economic Forum[4] (hereinafter WEF) has been publishing reports on the global competitiveness (hereinafter GCR) of countries since 1979. In these reports, the competitiveness of a country's economy in the global framework is monitored by analyzing its Global Competitiveness Index (hereinafter GCI).

Since 2018, the competitiveness of countries has been measured based on an innovative method, i.e. revised index of global competitiveness GCI 4.0.[5] Since then, the achieved results of countries have been measured at the level of 12 individual pillars of competitiveness: Institutions, Infrastructure, Adoption of ICT, Macroeconomic stability, Health, Skills, Product market, Labour market, Financial system, Market size, Business dynamism and Innovation capability. The new methodology has brought major changes, both in the number of indicators[6] and in terms of the classification of indicators within the pillars.

[4] The WEF is an international organization with headquarters in Geneva, Switzerland, founded in 1971.
[5] With the release of its report for 2018, the WEF introduced a new methodology, with the aim of integrating the concept of the fourth industrial revolution into the definition of competitiveness.
[6] Compared to former 114, now 98 indicators are used, out of which 64 indicators are new.

Additionally, the value of pillars and indicators is now established on a scale of 0-100, i.e. from the worst to the maximum value, and all columns carry the same value.[7] According to the GCI 4.0 methodology, indicators used to calculate GCI are deriving from the "Executive Opinion Survey". This survey, which has been in use for almost 40 years, provides an annual assessment of the most important aspects of competitiveness for which statistical data are lacking because they are impossible or extremely difficult to measure at the global level (WEF, 2018).[8] For the research, the most relevant indicators are those in the field of education, and they will be dealt with in detail in the following chapters.

The GCR 2019 is the last report that assesses the competitiveness of world economies. Due to the Covid 19 crises in 2020 the GCI rankings have been paused and only a special edition of the report was published in 2020 on the topic of how countries are performing on the road to recovery.

Bearing all previously said in mind, in the research, in order to prove the main research hypothesis mixed methodological approach is used, both quantitative and qualitative research methods were used. In order to meet the basic methodological requirements, and bearing in mind the specificity of the research subject, general scientific, basic analytical and synthetical methods, as well as data collection methods are used. A theoretical analysis is complemented by the empirical analysis and statistical data from the existing source of GCI, more precisely "Executive Opinion Survey".

3. Education as one of the indicators of competitiveness

Unlike the concept of competitiveness, which was carried over to the domain of national economies from the domain of firms and companies in the second part of the last century (Stanišić & Milovanović, 2016), interest in the topic of education dates back to the period of Greek philosophers. Thus, Aristotle believed that education is "the process of enabling a person to fulfill his goal by making the most of all his abilities as a member of society" (Aristotle, Burnet trans. p. 45). It is also important to consider the difference between the concepts of education and pedagogy, so some of the modern authors define education as a narrower term, or a term that is identified with school education, considering it to be the process of acquiring knowledge, building skills and habits, the development of abilities, the adoption of a system of values and rules of conduct (Gvozdenović, 2011). However, what seems unquestionable

[7] All the competitiveness factors now have almost equal impact on the overall competitive position of a country's economy and therefore should have the same level of priority in reform processes.
[8] The survey consists of about 150 questions that are asked to managers in companies, who can assess the situation in that area in the country where the company operates, usually on a scale of 1 to 7. For more details, see Annex B of the WEF's Global Competitiveness Report 2018.

is that the education process is of exceptional importance for every society because “it has been proven that the quality of education is the main factor in economic development, the degree of democracy and the well-being of a society" (Đorđević, 2008, p.298).

Education is also considered a pivotal element of human capital of a country, which boosts the efficiency of workforce and helps economies improve their productivity in three ways: through increasing the overall capacity of the workforce to accomplish tasks faster and better; through secondary and higher education by facilitating the process transfer of knowledge about new technologies and innovative solutions; and through encouraging creativity, which develops the state's capacity to create new knowledge and technologies.[9] In addition to education influencing growth and development of a society and being an important indicator of the competitiveness of the national economy, an increasing number of authors (e.g. Dumciuviene, 2015; Dyba, 2011) believe that the global competitiveness of a country to the greatest extent depends on its ability to improve its technological development through knowledge and research.

Determining the education system as a priority of a country and permanent reforms aimed at its improvement are important because the development of the country relies on the development of education (Avelar et al., 2019). It is important to emphasize that now more attention is paid to the quality of education, because education is not evaluated only by the years spent in the education system, but also by the quality of schooling acquired during those years. The level of student’s cognitive skills has a great impact on the subsequent rate of economic growth in that country, because "it is not enough to simply spend more time in school, you have to learn something" (Hanushek et al., 2008, p.64). Because of all of the above, it is considered that the new global economy is actually a knowledge-based economy.

The WEF also recognized the importance of education for the competitiveness of a country. Within the framework of the old methodology, indicators used for education topics were divided into two pillars: Pillar 4 - Health and basic education and Pillar 5 - Higher education and training and in accordance with the new methodology, all issues related to the topic of education are classified in Pillar 6 – Skills.

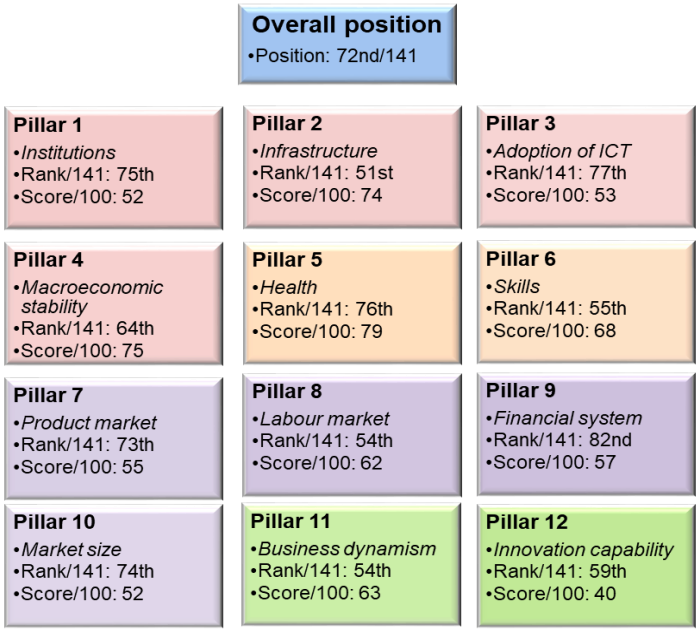
4. The economy of the Republic of Serbia and its competitiveness

As already mentioned, one of the basic criteria for joining the EU is the existence of a functional market economy and it is necessary to consider how

[9] For more details, see: Klaus, S. (2015). *The Global Competitiveness Report 2015-2016.* World Economic Forum.

the economy of the RS is evaluated in this context. The European Commission, in its Report on RS for 2022, states that some progress has been made and that Serbia is “between a moderate and a good level of preparation” (European Commission, 2022, p. 65) when it comes to the development of a functional market economy. As presented in the Graph 1. and according to the data in the GCR for 2019, the RS achieved a GCI value of 60.9 (out of 100), which places it in the 72nd position out of 141 world economies, and achieved best rank in Pillar 2 - Infrastructure and worst in Pillar 9 – Financial system.

Graph 1. Performance Overview of the RS in the GCR 2019



Source: *The Global Competitiveness Report, 2019*

Although the RS achieved the same value of 60.9 as in the GCR for 2018, other economies made progress, so the relative position of Serbia worsened by 7 places. Adding to this, after the crises caused by the Covid pandemic, it was expected that economic policy of the RS, primarily fiscal policy would return to a sustainable path, but unfavorable geopolitical situation heightened risks that were present and brought new ones. Growing inflation and intensified energy crisis completely changed the international environment and now pose a great challenge to all national economic policies. These reasons are, according to the Revised Fiscal Strategy for 2023 with Projections for 2024 and 2025 of the

RS, the main factors affecting the slowdown of domestic economic dynamics. Presented in the Table 1 are projected basic macroeconomic indicators.

Table 1. Projection of basic macroeconomic indicators RS

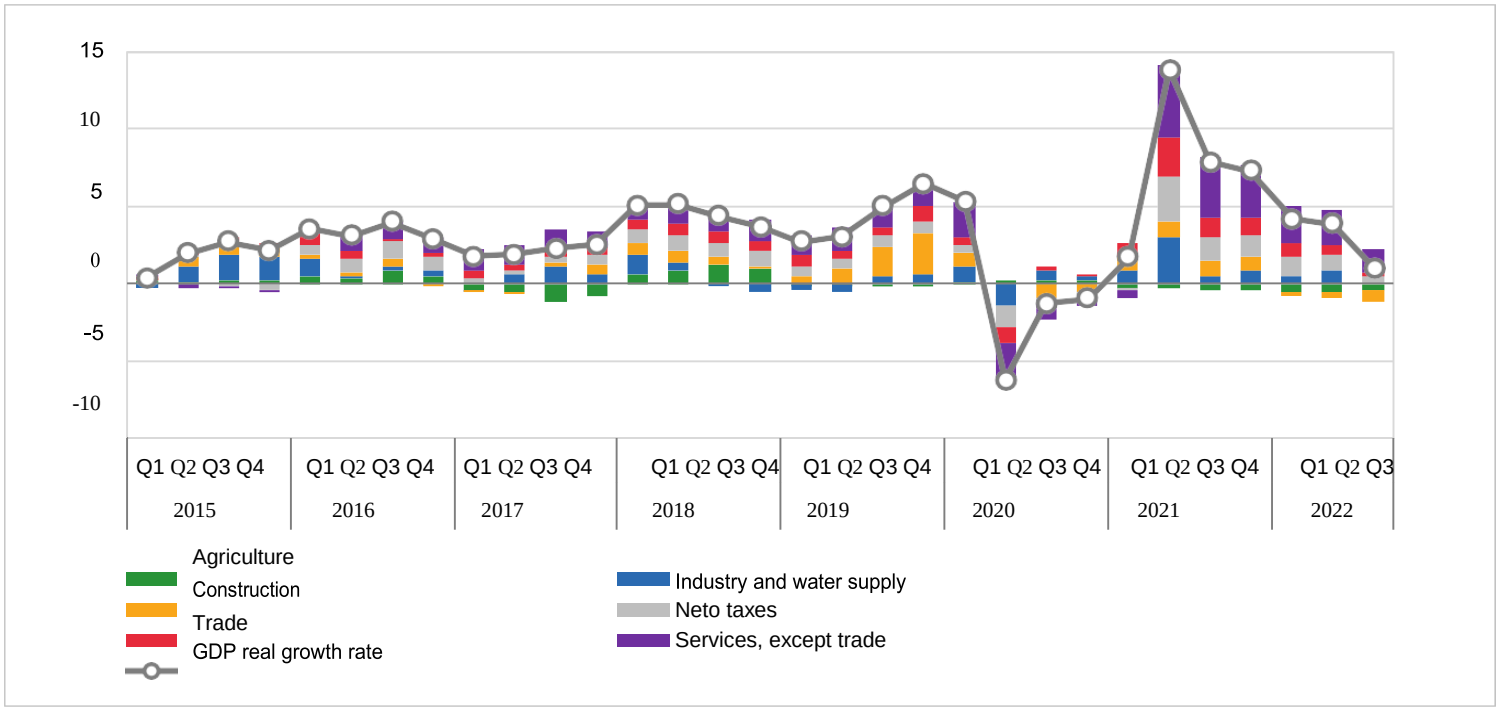
	Estimate	Projection		
	2022	2023	2024	2025
GDP, billion dinars (current prices)	7,082.5	8,025.1	8,776.3	9,519.4
Real GDP growth, %	2.5	2.5	3.5	4.0
GDP deflator, %	10.2	10.6	5.6	4.3
Real growth of individual components of GDP, %				
Private consumption	3.9	2.5	2.9	3.6
Government consumption	0.4	-2.0	0.8	0.8
Gross fixed capital formation	0.0	2.4	5.2	5.8
Exports of goods and services	12.3	4.9	8.8	10.6
Imports of goods and services	12.8	4.0	6.8	8.8
Balance of goods and services, in EUR, % GDP	-12.2	-10.9	-9.4	-8.4
Current account balance, in EUR, % GDP	-9.0	-8.5	-6.7	-6.0
Inflation, period average, %	12.0	12.5	5.3	3.0

Source: Ministry of Finance

According to Porter (1990, p.73) “there are striking differences in the patterns of competitiveness in each country, no nation can or will be competitive in all or even most industries" so the question arises which economic branches in the RS are the most competitive. In accordance with the current macroeconomic trends,[10] in the second quarter of 2022 the dominant driver of economic growth in RS, observed from the production side, was the service sector. As can be observed in the Graph 2, the growth was achieved due to the increase in trade, transport, tourism and services with dominant state participation. Positive contribution to growth was also achieved by industry, especially due to manufacturing sector and mining, while the negative contributions came from construction and agriculture.

[10] See the presentation: Current macroeconomic trends, October 2022, Ministry of Finance RS, Current macroeconomic development – presentation (mfin.gov.rs)

Graph 2. Contributions to the annual growth rate of GDP - production side (p. p.)



Source: Trends, III quarter 2022, Statistical Office of the Republic of Serbia

According to the new projections, the service sector will remain the prevailing source of economic growth in the country, mostly due to the good developments in the following sectors: information and communication technologies, trade, transport, tourism, and financial services.

The most dynamic sector in the last decade in the RS is the sector of information and communication technologies and this makes it “the driving engine of the development and economic growth” (Ministry of Finance, 2023, p.110) with a share of 23.8% in the total service’s export. This is due to the fact that export of information and communication services recorded a constant growth over the years as well as that there is a great demand for labor in this field on the national labor market, even for students who have still not completed their studies, due to high demand and a permanent shortage of personnel.

5. Main findings and research results

In order to contribute to the analysis of the necessary reforms in the RS, in the field of education, it is necessary to consider previous reforms in this field, especially those aimed at improving the competitiveness of the economy. As already mentioned, ERP document among other things,[11] presents up to 20 most important structural reforms for a three-year period that should contribute most to competitiveness and economic growth of RS. The number of areas covered by the proposed structural reforms varies from year to year,[12] but the topic that is always present is the area of education. In every ERP document in the period from 2015, when the first document was prepared, until the latest document for the period 2023-2025,[13] at least one reform in the field of education has been envisaged.

One reform has been part of all the ERP documents – structural reform dealing with the topic of qualifications which are oriented to the labor market needs, with two main aspects, establishment and implementation of the NQFS and dual system of education in RS.

In order to make a transition to a sustainable economy, country has to implement reforms that are contributing to competitiveness and growth. Bearing in mind that in all ERP documents special attention has been paid only to some of the GCI indicators, in this chapter the position of RS will be analyzed in comparison to other countries of the world in all the relevant global competitiveness indicators in field of education.

[11] The ERP document consists of two basic parts, one dedicated to the macroeconomic, fiscal and monetary policy and the other part that provides an overview of priority structural reforms.
[12] The last cycle envisaged 13 areas, see: Economic Reform Programme 2023-2025 of RS.
[13] ERP 2023-2025 was adopted by the RS Government on January 26, 2023.

According to the GCR for 2019, within Pillar 6 - Skills, overall position of the RS is the 55thplace (out of 141 countries), with achieved value of 68.2 (out of 100). Indicators within this pillar are: 1. Mean years of schooling; 2. Scope of training of teaching staff; 3. Quality of vocational schools and training; 4. Skills of graduates; 5. Digital skills at the population level; 6. Ease of finding trained workers; 7. Expected number of years of education; 8. Insisting on critical reasoning in teaching; and 9. Number of students per teacher in primary schools.

Since the new methodology has completely changed the system and number of indicators, it is not possible to consolidate and compare the results for the period covered by previous methodology, but below as presented in Table 2, are values for the indicators, according to the new methodology, for 2018 and 2019.

Table 2. Comparison of Pillar 6 results achieved by the Republic of Serbia in the Global Competitiveness Reports for 2018 and 2019

New methodology IGC 4.0				
	IGC 2018		**IGC 2019**	
	Position/ 140 states	**Achieved value**	**Position**/ 141 states	**Achieved value**
Overall position of RS	**65**		**72**	
6th pillar: Skills 0–100	56	67,5	55	68,2
6.01 Mean years of schooling, years	39	11,0	43	11,1
6.02 Extent of staff training1-7 (best)	92	3.7	104	3,6
6.03 Quality of vocational training 1–7 (best)	81	3,9	84	3,9
6.04 Skillset of graduates 1–7 (best)	54	4,2	65	4.1
6.05 Digital skills among active population 1–7 (best)	73	4,2	77	4.1
6.06 Ease of finding skilled employees 1–7 (best)	70	4,1	51	4,4
6.07 School life expectancy years	61	14,6	59	14,8
6.08 Critical thinking in teaching 1–7 (best)	64	3,5	63	3,6
6.09 Pupil-to-teacher ratio in primary education ratio	45	14,5	43	14,3
Source: *The Global Competitiveness Reports* for 2018 and 2019				

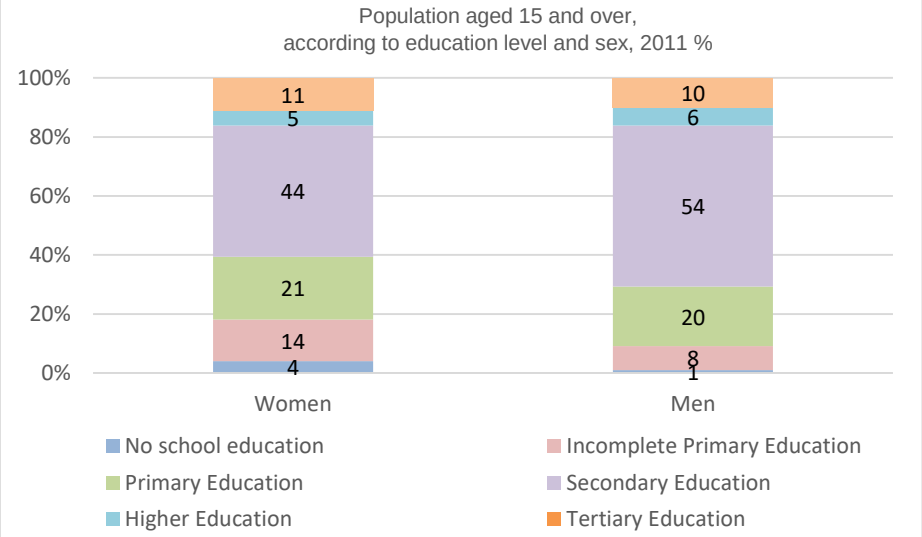
The overall value within this pillar in the GCR for 2019 improved by 0.7 points and this increase is due to better results RS achieved within the subcategories: Ease of finding skilled employees, Critical thinking in teaching, Pupil-to-teacher ratio in primary education and the School life expectancy. Worse results were achieved in the sub-categories of: Skillset of graduates, Quality of vocational

training, Mean years of schooling, Digital skills among active population and extent of staff training. In the next part of the chapter, analysis for each of these indicators will be provided.

Mean years of schooling - Indicator 6.01.

The first indicator in the Skills pillar shows the average number of completed years of education of the population over 25 years old. The level of education of the population is a significant factor of economic growth, and the advantage of this indicator is that it is "clear, comparable for all countries, and there are sufficiently long series of reliable data of the analyzed countries" (Petrović & Gligorić Matić, 2021, p.224). Compared to all other indicators within Pillar 6, the RS achieves the best position for this indicator, 39th in the 2018 Report, and a slightly worse 43rd position in the 2019 Report, with values of 11 and 11.1 years of average level of education. Since data gathered in the 2022 Census of population, households and dwellings on Educational attainment, on literacy and computer literacy will not be officially published until the end of July 2023, a Graph 3 presents currently available data on education level of RS population.

Graph 3. Education level of the population of the Republic of Serbia



Source: Census 2011, SORS

The fact that around 22% of the population of people over 15 years of age, do not have a complete primary education, even though primary education is compulsory and free of charge, is quite worrying.

The average level of education of the population, as an indicator, does not take into account the quality of education in the country, which is one of the biggest flaws the new methodology has in the area of Pillar 6. The previous IGC 3.0 methodology had the quality of education as an indicator, so it is not clear why this indicator was omitted in the new methodology. The quality of education in the RS is important to consider in light of results achieved by RS students on the PISA (Programme for International Student Assessment) test,[14] which are below the OECD average, both on reading and mathematics tests, as well as on science.[15]

Extent of staff training - Indicator 6.02.

The second indicator provides an answer to the question of the extent to which teaching staff are invested in training and development.

The assessment of the European Commission on the scope of training of teaching staff in RS is that the basic system-wide training of teachers is provided and that it is implemented to support new curricula and programs for the development of key competences of students so that they include about 75% of education professionals.[16] Nevertheless, according to the GCR for 2019, RS achieves the worst position in this indicator out of all nine indicators, a big drop of 12 places only in one year of the reporting period.

What some analyzes show, one of the main problems of teaching staff is the problem of their training in ICT (Electrotechnical Faculty Belgrade, 2017). Although the digital competence of teachers is assessed to be good, around 56% of teachers in secondary vocational schools stated that they need a medium or high level of additional professional training in this area. In order to solve this problem and improve the digital competences of teaching staff, a new curriculum has been developed,[17] with regular checks of their digital competences. This is very important bearing in mind that ICT is the most dynamic sector in RS.

[14] PISA stands for “triennial survey of 15-year-old students that assesses the extent to which they acquired skills in reading, mathematics, learning, in financial literacy and global competencies”.
[15] The PISA 2021 assessment has been postponed to 2022 due to post-Covid difficulties, so last available date is from 2018, when 8,300 students from the RS participated in the testing, and the achieved test results in reading are 439 points (OECD average 493), mathematics 448 points (OECD average 489) and science 440 (OECD average 487). See: "Serbia - Country Note - PISA 2018 Results", OECD 2019 Volumes I-III.
[16] See: EC Report on the RS for 2021.
[17] In 2019 "Framework of Digital Teacher Competences - Teacher for the Digital Age" has been adopted, Ministry of Education, Science and Technology and the Institute for the Improvement of Education and Training, Belgrade, 2019.

Quality of vocational training - Indicator 6.03.

The quality of vocational schools and training in RS has been evaluated in the last two reports with score 3.9. (1 being extremely poor quality to 7 excellent).

The number of students attending secondary schools in the RS is at the same level as in the previous couple of years and amounts to 243,756 in the 2021/2022 school year.[18] The largest number of high school students attend secondary vocational schools, as many as 72.4% of students, and mostly in the fields of economics, law and administration, electrical engineering, health and social protection, mechanical engineering, trade, catering and tourism. Although the number of general secondary education - gymnasium students is slightly increasing, the percentage is still only 27.6%.

According to the OECD analysts and the results of the PISA tests, in the countries of the Western Balkans, students who attend vocational schools in comparison to students who are in general education programs show lower achievements. After graduating from vocational high school, students lack the adequate knowledge and practical skills necessary in the workplace. This is not the case in some EU member states, such as Hungary and Italy (OECD, 2020). An additional problem with the quality of vocational schools in the RS is the fact that, despite the progress made with the introduction of dual education, “the quality and relevance of education and training does not fully meet labour market needs” (European Commission, 2022, p.7).

Skillset of graduates - Indicator 6.04.

This indicator is actually an average score for two survey questions: "to what extent do high school graduates possess the skills needed by companies?" and "to what extent do university graduates possess the skills needed by companies?", where answers range from 1 (not at all) to 7 (largely). The result of RS in the last report is value of 4.1 and 65th position.

In order to determine the level of knowledge and skills possessed by high school graduates, it is necessary to have a standardized system of high school graduation exams in the country. Through the implementation of the project "Improving the Quality of Education by Introducing Examinations at the end of Secondary Education", a state matura was introduced in the RS, which includes general, professional and artistic matura and a final exam. Students who entered secondary schools in the 2020/2021 school year will be the first generation to take the state matura.

To successfully implement the state matriculation process in the RS, it would be necessary, according to the OECD, to develop the concept of a new system

[18] Statistical Office of the Republic of Serbia, https://publikacije.stat.gov.rs/G2022/Pdf/G20225683.pdf

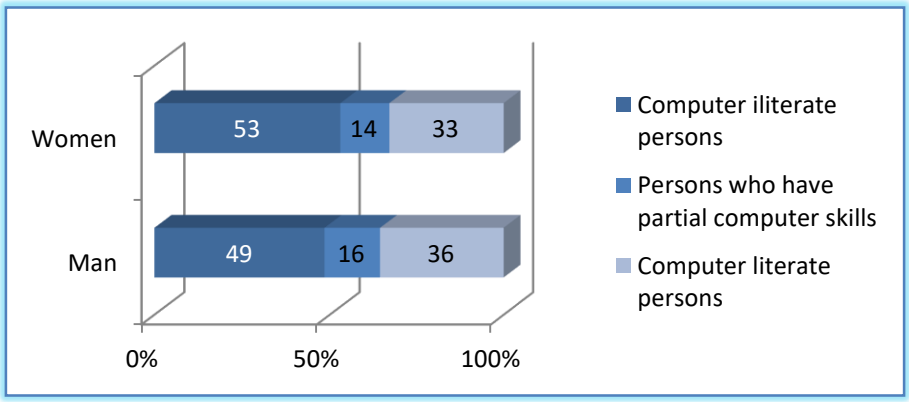
of enrolling students in tertiary education; complete the matriculation exam model; establish a sustainable administrative and IT system for the implementation of matura; set a realistic time frame for implementation; and ensure public understanding and support for the new system (Maghnouj, Soumaya et al., 2020).

One of the reasons that better results have not been achieved in this indicator could be the fact that Serbia has a significant number of young people who are outside the education and training process, hence NEET[19] youth rate was 13.5% in Q3 of 2022 (for young people aged 15-24). Average in the EU, according to Eurostat data for the same time period, is 10.2%.

Digital skills among active population - Indicator 6.05.

Indicator 6.05 in the Pillar Skills assesses the extent to which the active population possesses sufficient digital skills. RS achieves quite poor results within this indicator, worse by four positions than in the report from 2018. Graph 4. presents data on the computer literacy of the population in the RS aged 15 and over.

Graph 4. Population aged 15 and over by computer literacy and gender, 2011 (%)



Source: Census 2011, SORS

During last few years, some reforms have been envisaged and the Strategy for Digital Skills Development in the RS for the period 2020 to 2024 has been adopted, with the objective of improving the digital knowledge and skills of all citizens. This will be done through innovating digital competences in the

[19] Abriviation NEET stands for: "Youth not in employment, education or training".

education system and further improving digital skills in relation to the needs of the labour market.

However, one of the main obstacles to improving digital knowledge and skills of all citizens is communication infrastructure, especially in rural areas and all schools in RS. According to ERP 2023-2025, some projects that are dealing with these issues are ongoing, so that broadband access communication infrastructure for 400 settlements has been provided as well as introduction of fast internet in about 1,800 schools (Ministry of Finance, 2023).

Some progress has also been made by the development of the Unified Education Management Information System (EMIS), but the necessary prerequisites for further progress are the provision of the Internet to all schools, their adequate equipping and the introduction of relevant digital teaching content.

Ease of finding skilled employees - Indicator 6.06.

The ease of finding skilled workers is measured by the extent to which companies can find people with the skills needed to fill their vacancies. RS made really great progress by 19 positions in the GCR for 2019. The achieved progress is partly a consequence of the development of secondary vocational education through the construction of educational profiles with standard qualifications and a dual education model.

An integrated National Qualifications Framework of the RS (hereinafter NQFS) for life-long learning, which encompasses all levels and types of qualifications, has been established in 2018. Main purpose of this system is better overview, transparency and comprehension of the existing qualifications systems through regulation and improvement of the qualifications system in accordance with the requirements of economic and social development.

Also, the application of the model of secondary professional education began starting from the 2019/2020 school year, in accordance with the Law on Dual Education. This model entails that theoretical teaching and exercises are carried out in schools while practical work takes place in companies. In the 2022/2023 school year, the total number of profiles based on dual education with qualification standards has reached the number of 65. The dual education in higher education was also introduced and this model of education has been implemented in ten higher education institutions, along with 95 companies that have been accredited and 36 accredited study Programmes (Ministry of Finance, 2023).

Despite all of the above, according to the European Commission, the mismatch of educational profiles and supply with the needs of the labour market still represents a long-term and systemic problem in the RS (European Commission, 2022). In addition to this, another challenge in the field of finding

trained workers is the departure of the working-age population, i.e. the emigration of the highly educated population of the RS and this trend surely has a negative effect on the economic development.

School life expectancy - Indicator 6.07.

This indicator shows the overall number of years of schooling (from primary to tertiary education) that awaits school-age children in the country. A higher value of this indicator implies that children will spend more years in school and will longer be part of the education system. Data for RS shows average of 14.8 years, which puts it in 59th place.

The Law on Fundamentals of Education System[20] governs the basis of the system of preschool, primary and secondary education. Preschool and primary education are compulsory and free, so children spend nine years in compulsory education, from the age of five and a half, when preschool education starts, until the end of eight years of primary education. Primary education takes place in two educational cycles: the first cycle includes the period from the first to the fourth grade, while the second includes the period from the fifth to the eighth grade.

Secondary education is also free, but still not compulsory. It consists of four years of general education or two to four years of vocational education.[21]

There are currently some proposals to extend compulsory education to secondary education as well. Even though this would, among other things, require a change of the Article 71 of the Constitution, it would be an important step in the education system improvement.

The higher education system reform began in 2003, with the accession to the Bologna Process and by the adoption of the new Law on Higher Education in 2005, while all newly enrolled students have been studying according to the new reformed programs since the 2007/08 school year. The higher education system has three levels of study: First-level studies consist of basic academic studies and professional career studies, while second-level studies consist of diploma academic studies for a master's degree, specialist professional career studies and specialist academic studies. Doctoral academic studies are third degree studies.

Critical thinking in teaching - Indicator 6.08.

The next indicator evaluates "how the style of teaching is assessed" in a country, using values ranging from 1 – 7 and accordingly to the WEF (2019) 1

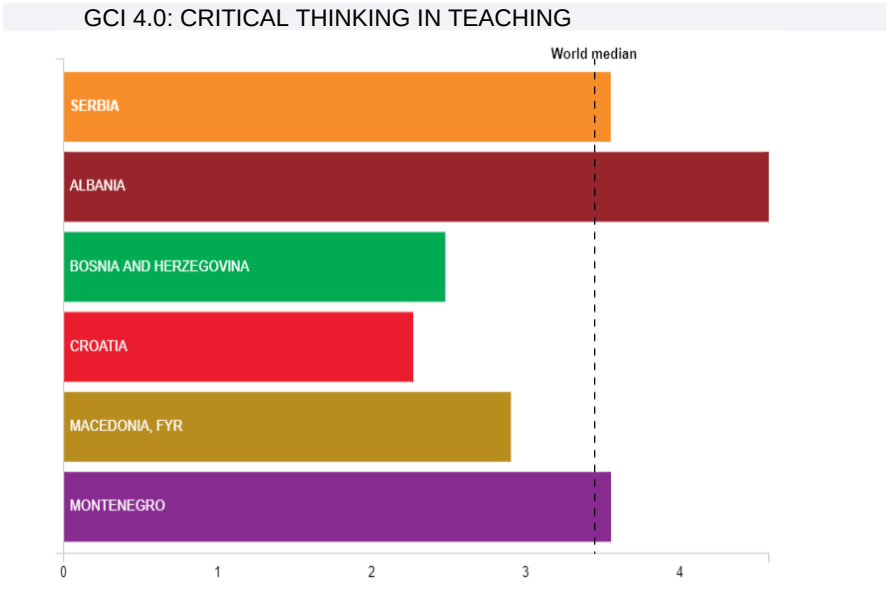
[20] "Official Gazette of the RS", No. 88/17, 27/2018 – second law, 10/2019, 6/2020.

[21] The Law on Secondary Education stipulates that the secondary education can be carried out in: gymnasium; vocational school; art school; a mixed school and a school for students with developmental disabilities and disabilities.

means “frontal, teacher based, and focused on memorizing” while 7 means – “encourages creative and critical individual thinking”. While analyzing this indicator and its values, the question arises on how to teach students to think critically, how to reach a level of knowledge that is not a pure reproduction of what they have learned? As stated in the analysis "What is needed in order to develop critical thinking in schools?" (Radulović & Stančić, 2017) there are certain elements of the school program that are implemented with the aim of improving critical thinking that have proven to be successful. This is due to the fact that the program successfully: connects the learning of critical thinking with certain content; approaches students with the goals they want to achieve; uses and combines multiple learning methods; and provides training to teaching staff.

Serbia achieved a slightly better result according to this indicator in the last report, and advanced by one place. Graph 5 is a comparative presentation of the achieved results of the countries of the region according to the latest GCR. Albania has the best indicator values, with a value of 4.6 and 18thplace, and the worst has Croatia, with value of 2.3 and 138th position. Montenegro and Serbia achieved the same value of 3.6 and they occupy the 62nd and 63rd positions, respectively.

Graph 5. Ranking of countries in the region by the GCI 4.0 indicator - critical thinking in teaching



Source: https://govdata360.worldbank.org/indicators/

Pupil-to-teacher ratio in primary education - Indicator 6.09.

The average number of students per teacher, based on the number of students and teachers in primary schools, is the last indicator in the Skills pillar. With the number of 14.3 students per teacher, RS ranked 43rd out of 141 world countries.

What is worrying is the declining demographic trend, which leads to a decrease in the number of students in primary education in the RS. Latest data shows that a number of pupils in the primary education amounts to 507,374 with 64,233 new pupils enrolled in the first grade, but the coverage of children is still not complete, even though primary education is compulsary.[22]

In connection to this indicator, latest Strategy dealing with the Development of Education and Training in the RS until 2030[23] envisages special goal 1.5 - *Improved quality of initial education of teachers and educators,* which implies an increase in the number of accredited study programs for teacher education and an increase in the number of interns who have completed the internship period. It has been envisaged to establish a monitoring system for graduated students who have the conditions for the teaching profession, promotion of professional development activities for teachers, and work will be done to provide scholarships for students to enroll in teacher education programs for subjects/fields in which there is an insufficient number of teachers. All these reforms should positively effect the number of teaching staff in the RS.

6. Conclusion

As "national prosperity is created, not inherited" (Porter, 1990, p.73) it is necessary to improve and invest in areas that most contribute to the national prosperity and greater economic competitiveness in the global framework. In the research, the current competitiveness of the RS economy has been analyzed, as well as the economic branches that contribute the most to its economic growth. The research considered how the field of education affects the competitiveness of the economy and specifically how the reforms in this field, foreseen in the process of economic governance, can contribute to the improvement of the competitiveness of the economy of RS.

The education system of Serbia has good results in comparison to other countries in the region, and there has been an improvement in access to education as significant institutional reforms have been undertaken in recent years. However, what can be concluded from the previous analyses is that, in

[22] Statistical Office of the Republic of Serbia, https://publikacije.stat.gov.rs/G2022/Html/G20221072.html

[23] The Government of the RS adopted the Strategy on June 3, 2021.

addition to the previous reforms in education, it is necessary to implement reforms that would further influence the greater competitiveness of the RS economy. Namely, in addition to reforms that affect the quality of vocational training, it is necessary to implement reforms that affect other indicators of competitiveness, especially those in which RS achieves the worst results. This can be done through reforms aimed at some of the basic factors of quality education: teaching staff (monitored through indicator: training of teaching staff) and teaching programs and relevant curricula (monitored through indicators: skills of graduates and digital skills of the population).

Reforms aimed at creating high-quality or improving the quality of existing teaching staff must be implemented through upgrading the conditions for their work, from salary reform, improving the position and recognizing the importance and role of teachers, continuous monitoring of their needs and long-term investment in the development of teachers, but also a measure to motivate candidates for enrollment in study programs for education and work in education.

As worse results were achieved in the indicators concerning the skills of high school graduates and digital skills at the population level, reforms of teaching programs and school curricula are needed as well. The goal would be improvement of their quality so that greater support would be provided to pupils and students after leaving their studies which will further advance position of these young people at labor market. Greater attention should be devoted to the modernization of education through innovative teaching methods and its digitization.

Bearing in mind that the service sector, as we have presented in the Chapter 4 of the research, is projected to be the most important source of economic growth in the future, educational reforms should focus more on this sector and consequently provide our economy with competitive advantage. Teaching programs and curricula should focus more on research and innovation in the sectors of information and communication technologies, transport, tourism, trade, as well as in financial sector.

Additionally, what the WEF indicators do not track and should be considered as extremely important, is the education financing system. Numerous researches (e.g. Goczek et al., 2021; Barro and Lee, 2015; Awaworyi et al., 2017) indicate that the percentage of the budget allocated for the field of education is in direct correlation with its quality, and consequently with greater competitiveness of the state's economy.

The funds allocated in the RS for the field of education are certainly not enough. In the budget for 2023, only 3.34% of GDP has been allocated for education and in total budget expenditures, expenditures for education participate with

15.65%.[24] If the data for several previous years is analyzed, there is a noticeable trend of declining participation[25] and certainly the investments are lower than the average investments in the EU, which are around 4.6% of GDP. As stated in the latest Education Strategy, it is necessary to increase the budget funds for education, because it is of strategic importance for the further economic and social development of the country.

As shown through this research, the quality of the human capital is one of the basic factors of competitiveness so it can be concluded that only quality education can lead to the rapid development of the RS economy and its greater competitiveness. Accordingly, there is a great necessity for further reform and investments in the basic components of quality education, especially in education of teaching staff and an innovative teaching programmes and curriculum, especially for the most dynamic economy sectors, like ICT, trade, transport, tourism and financial services.

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[24] See: The Budget Law of the RS for 2023 ("Official Gazette of RS", No. 138/2022).

[25] Expenditures for education in the budget of the RS for 2022 amounted to 3.42% of GDP and in 2021 to 3.56% of GDP.

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