



NEW GROWTH AGENDA

**BUILDING A SKILLED
WORKFORCE**



Country Economic Memorandum

Serbia's New Growth Agenda

Serbia: Building a Skilled Workforce

At 3–4 percent economic growth a year, Serbia is not growing as fast as it could. Investment in its education and training system needs to focus on building the skills valued by today's labor market. The priorities are to:

1. Modernize general education: upgrade the curriculum and focus on quality in upper primary and secondary education, and on socio-emotional development; and optimize the school network where feasible to work more efficiently with the municipalities. Modernizing general education would help rebalance away from over-enrollment in vocational education.
2. Keep vocational education and training (VET) profiles up to date by continuously assessing their market relevance through coordination between the Ministry of Education, Science and Technological Development (MoESTD) and chambers of commerce, Ministry of Labor, Employment, Veteran, and Social Affairs (MoLEVSA), NES and other labor market actors.
3. Enhance accountability and the strategic relevance of higher education using a higher education diagnostic to help set the strategic direction and find opportunities to introduce quality assurance mechanisms.
4. Increase equitable access to preschool education by removing the flat 20 percent preschool co-payment for the poorest families.

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I Introduction

A Policy Imperative—It Is Urgent to Act Now

1. **Serbia now has an exceptional policy opportunity to promote skills development and create a productive future workforce and a prosperous economy.** With its population aging and the nature of work changing in a technologically transforming and globalizing economy, a highly skilled Serbian workforce would help generate growth in productivity. A more productive economy would then help Serbia to approach the living standards of its Western European neighbors as it moves forward on the path to EU accession. For Serbia, this is a policy imperative.
2. **Serbia is struggling to improve labor market outcomes.** Fewer than half of all adults are employed, with women, youth, and minorities particularly excluded from the labor market. And the productivity of the jobs that do exist is low.¹ Employers report a lack of relevant skills as the main obstacle to hiring, and almost a quarter of unemployed Serbians have completed tertiary education (STEP 2019). This mismatch holds back productive job creation. Both employers and graduates believe that the country's educational institutions do not equip students with important soft skills—socio-emotional skills—such as teamwork and decision-making, or with higher-order cognitive skills, such as problem-solving. National strategic documents and new laws are addressing the outdated curricula and obsolete teaching methods in elementary and secondary education.
3. **These factors have contributed to years of lost employment, causing problems related to labor market access and a productive, prosperous economy.** Of every 10 years between ages 25 and 55, the average Serbian spends over 3 years in unemployment or economic inactivity.² This number rises to 6.3 years per decade among those aged 55–64. The average Serbian woman spends 17 years of her working life in unemployment or inactivity, far more than women in EU and OECD countries. Most critically, so much inactivity represents a loss of human capital potential that could otherwise spur growth.
4. **Adding to the pressure is a plunging population: Serbia's population decline is among the fastest in the world, and is exacerbated by its high emigration rates.** The population is shrinking by 0.5 percent a year. By 2050, Serbia's population is expected to decline by 17 percent (United Nations 2015)—far more than its neighbors³ (Figure 1). One-third of university students plan to emigrate after finishing,⁴ and estimates suggest that this is also true of 30,000–60,000 Serbians of working age each year. Improving the quality and relevance of education and skills (Box 1) is essential to ensure that Serbia can maximize the potential of a shrinking population.

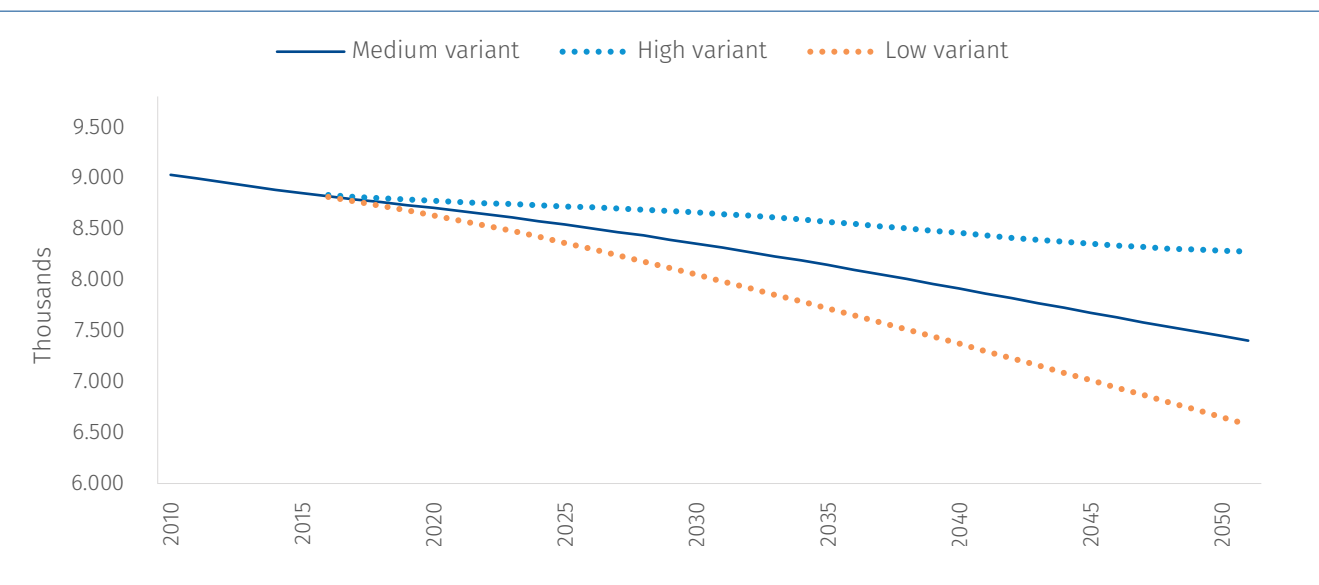
1 Statistical office of the Republic of Serbia, 2018.

2 Among Serbians aged 25–34 and 45–54, the average person spends 3–4 years in unemployment or inactivity (Arias Diaz et al. 2014).

3 Albania has forecast a 6 percent decline.

4 Minister without portfolio responsible for demography and population policy (2018).

Figure 1. Population Forecasts, Serbia, Low, Medium, and High Variants, 2010–50



Source: United Nations 2017.
 Note: This figure shows the most likely demographic development, the “medium variant” projection, together with reasonable lower and upper projections.

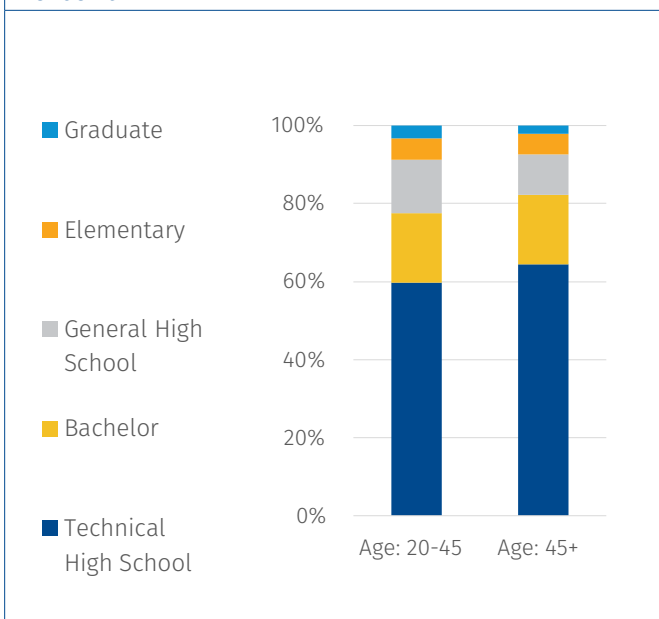
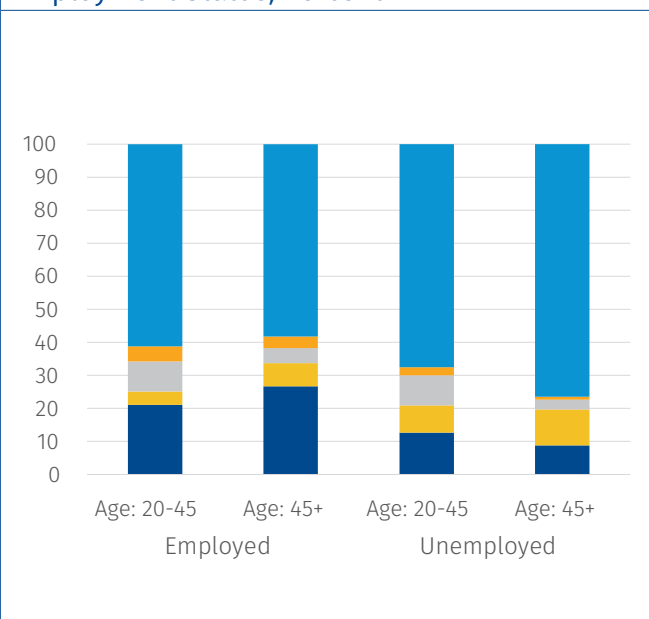
5. *Serbia needs a surge in job creation, which will have to come from higher private sector dynamism and address persistent labor market challenges.* Sustained employment increases will require on the demand side a boost in private sector job creation; and on the supply side reducing barriers and disincentives to work and improving worker skills. In Serbia, labor market status is associated with educational attainment (Figure 2). Higher literacy is associated with getting more skilled jobs (white-collar occupations at all skill levels) and often a job that is of higher quality.

Box 1. What do we mean when we say “skills”?

When talking about skills, this paper refers to a multidimensional concept that goes beyond educational attainment to capture human capital more comprehensively. *Cognitive* skills are defined as the “ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought.” Literacy, numeracy, and the ability to solve abstract problems are all cognitive skills.

Socioemotional skills, sometimes referred to as noncognitive or soft skills, relate to traits covering multiple domains, such as social, emotional, personal, behavioral, and attitudinal. Job-relevant skills are task-related and build on a combination of cognitive and socio-emotional skills.

Source: Pierre et al. 2014.

Figure 2. Highest Education by Age Group, Percent**Figure 3. Highest Education by Age and Employment Status, Percent**

Source: Serbia's STEP Employer Survey, 2015–16.

6. *Among economic sectors where Serbia has a higher comparative advantage are information technology (IT), agriculture, and food products. However, large wage differentials and unattractive working conditions lead to emigration, especially for people with qualifications and skills.* The Systematic Country Diagnostic (2015) highlighted sectors with comparative advantages and found that Serbia is improving its integration into global value chains related to the export of manufactured parts and components and information communications and technology (ICT) services. Serbia has also benefited from the continuing boom in software outsourcing, thanks to the quality of the services provided by highly skilled IT specialists and the relatively low cost of production. However, the outflow of a highly educated workforce with technical skills is now recognized as a serious problem for the Serbian labor market.

Table 1. Value-added by Economic Sector, 1995–2016, Percent

Sector	Share			Annual Growth Rate	
	1995	2016	Change	1995–2005	2005–16
Manufacturing	22	18	-3.3	-0.3	2.7
Wholesale and retail trade; repair of vehicles	5	12	6.3	15.7	2.3
Real estate	12	11	-1.3	2.3	0.7
Agriculture, forestry, and fishing	14	10	-3.8	0.3	0.4
Health and social assistance	7	6	-0.6	4.0	-0.2
Transportation and Storage	4	5	1.0	3.1	3.6
IT and telecommunications	2	5	3.3	15.2	5.9
Construction	7	5	-2.0	0.0	0.6
Public administration, defense; social security	4	4	0.0	4.1	0.6
Education	4	4	0.0	2.0	2.1

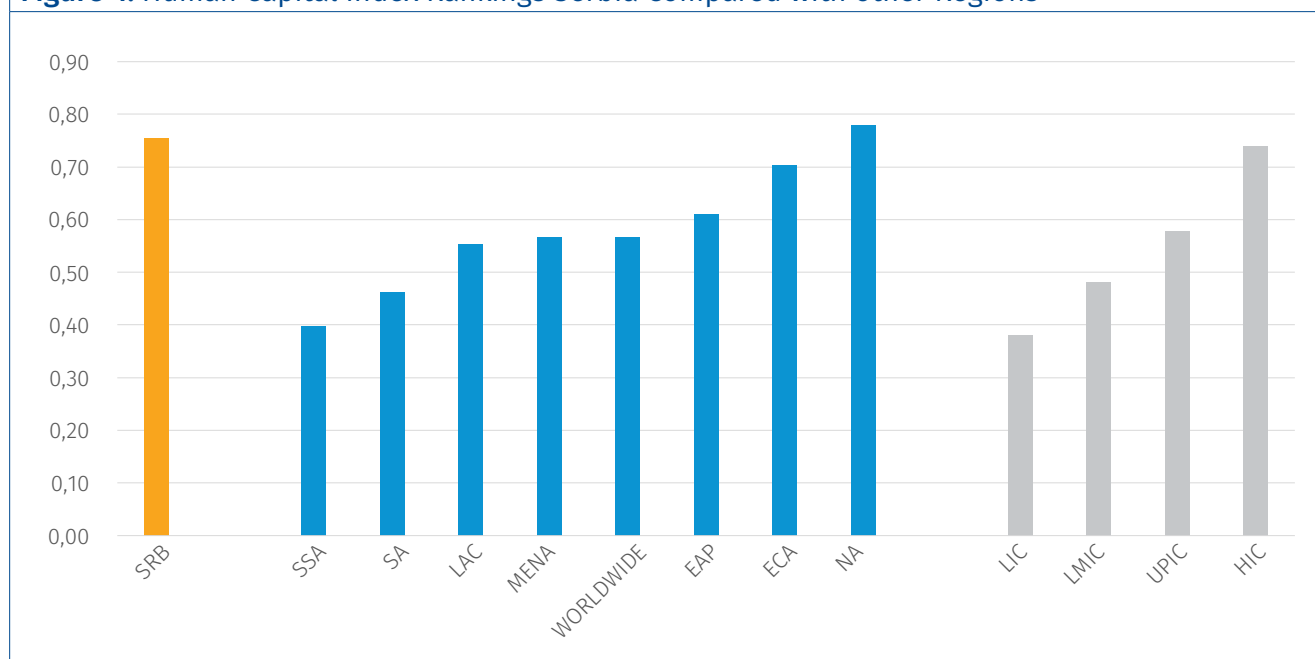
Table 1. Value-added by Economic Sector, 1995–2016, Percent

Sector	Share			Annual Growth Rate	
	1995	2016	Change	1995–2005	2005–16
Professional, scientific and technical services	3	4	0.9	4.8	3.1
Financial and insurance services	4	3	-0.4	-2.2	6.0
Electricity, gas, heating	2	3	0.7	8.1	0.5
Administrative and support services	1	2	0.5	5.1	4.1
Other services	1	2	0.2	10.0	-1.3
Mining and quarrying	2	2	-0.3	0.8	1.1
Hotels and restaurants	2	1	-1.0	-1.4	0.2
Water supply, sewage, Waste Management	2	1	-0.4	0.3	1.2
Arts, entertainment, and recreation	1	1	0.2	9.0	-0.6
Household activities; unclassified activities	0	0	0.1		-1.3

Source: Statistical Office of the Republic of Serbia.

7. *Serbia has a well-developed education system, but it could be better.* Enrollment is high through primary and secondary school and the Human Capital Index (HCI) ranks the country higher than the average for its region and income group (ranked 27th of 134 countries). Serbian children born today will reach 76 percent of their full potential by age 18. A child who starts school at age 4 can expect to complete 13.4 years of school by her 18th birthday; but when what children learn is factored in, expected years of schooling are only 11.2 (HCI 2019). However, since 2013, Serbia has reduced the percentage of 15-year-olds performing below basic proficiency, although functional illiteracy and innumeracy are still much higher than the EU average.

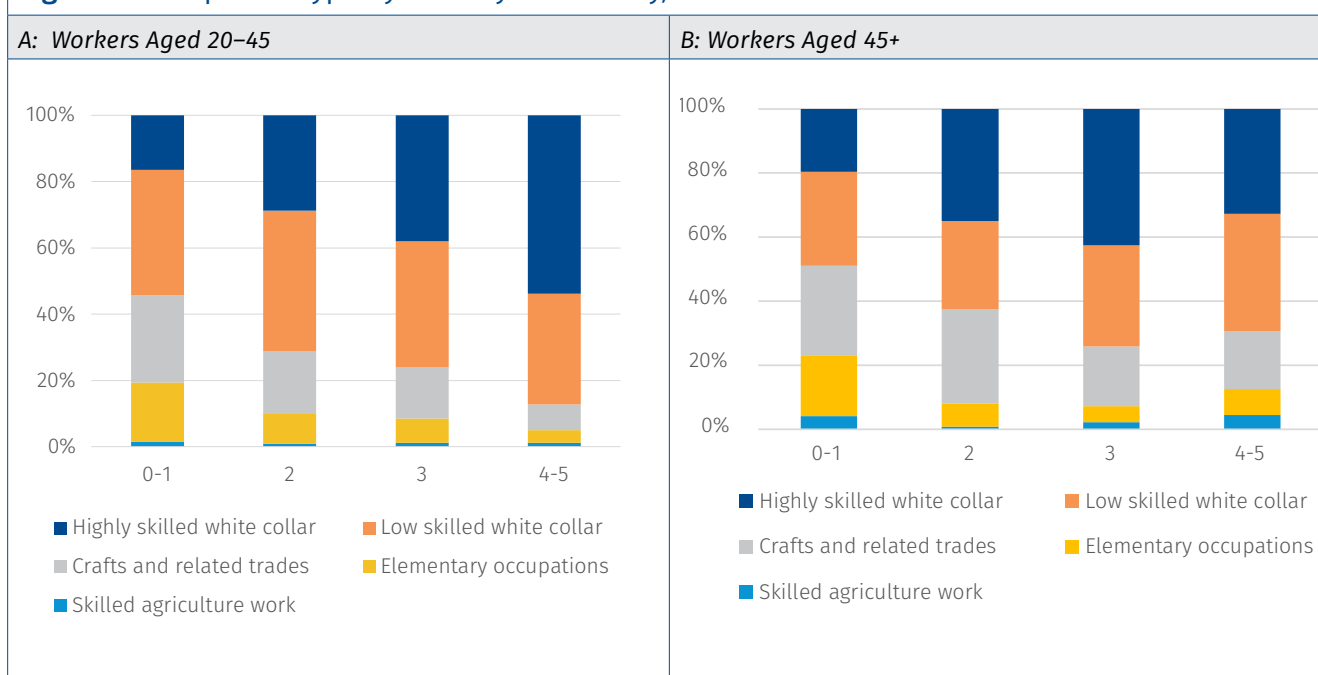
Figure 4. Human Capital Index Rankings Serbia Compared with other Regions



Source: World Bank 2018

8. *Some problems need to be addressed so that the Serbian education system can move from good to great.* These can be summarized as related to improving the quality, equity, and relevance of education and training to better meet societal needs. Better and more relevant skills lead to better jobs; e.g., higher literacy is associated with a higher probability of getting a quality job (Figure 5). Meanwhile, other skills required in the labor market today, such as socioemotional skills, are also correlated with educational attainment and degree of literacy.

Figure 5. Occupation Type by Literacy Proficiency, Percent



Source: Serbia's STEP Employer Survey 2015–16).
Note: Literacy range: 0 to 5, with 5 being most proficient.

9. *In terms of equity, skills in Serbia are unequally distributed, which is important because income and educational attainment are closely associated.* Major disparities between population subgroups in access to education and in cognitive skills are evidence of untapped resources. Marked differences reveal that students from lower socioeconomic status (SES) backgrounds and those who have a rural residence, are female, or attended public schools all score consistently lower in basic proficiency levels (OECD, 2013).

10. *Roma and other minorities comprise an ever-growing share of Serbia's new labor market entrants, but there is a significant gap in their educational attainment.* It is estimated that by 2030 as many as 30 percent of new labor market entrants will be individuals from marginalized and vulnerable groups like the Roma. Given Serbia's objectives of economic competitiveness and EU accession, it is essential that minorities be equipped with the skills needed for the jobs of the future. Social exclusion of the Roma in Serbia is not only a social and human rights challenge, it is also an economic one and comes at a considerable cost to the Serbian economy.⁵

⁵ In particular, the social exclusion of Roma in Serbia has resulted in both productivity and direct fiscal losses. In 2011, exclusion of Roma resulted in productivity losses to Serbia of SRD 30.5–124 billion (€ 308 million to 1.25 billion), and in direct fiscal losses of SRD 7.6–30.8 billion (€76.5–311 million). The productivity losses are equivalent to at least 0.90 percent and as much as 3.64 percent of Serbian GDP, and the fiscal losses to at least 1.2 percent and as much as 5.0 percent of government spending. With Serbia aging and the younger Roma population making up an increasing share of the working-age population, these productive losses are expected to increase even further.

11. *This economic loss is driven by worse employment outcomes, both in terms of higher joblessness and especially lower wages, among the Roma population of Serbia.* Among the non-Roma population, half of working-age men and women have a job, whereas only a quarter of Roma do. Further, the average income for Roma who are employed is only about half of what the non-Roma population can expect to earn if working. These account for an overall lower productive contribution to the economy by Roma workers (World Bank Group 2017).

12. *Workforce skills for a prosperous economy are ultimately defined by the characteristics of the labor market and the nature of its jobs. Serbia has a timely opportunity to adapt its current skill development policies to create a more productive workforce.* These profound challenges create an exceptional opportunity to redesign education policies and formulate workforce strategies that will shape the future of skills in the region. Successful revision of education policies should take into account the multifaceted determinants of workforce skills and productivity—families, educators, and the social environment as well as the labor market.

Purpose and Methodology of this Note

13. *The goal of this note is to provide evidence-based, actionable policy recommendations for building 21st century skills in Serbia.* These are the core competencies that are critically important for success in careers and workplaces tomorrow. The note also takes stock of the current skills supply. It examines the effectiveness of today's training offerings and makes recommendations for how to better align skills supply with demand, identifying actions to scale up effective pre-employment and work-based training schemes and to leverage public-private partnerships (PPPs).

14. *The note incorporates both quantitative and qualitative analysis, drawing on findings from other studies of Serbia's education system and structured interviews with selected employers.* It synthesizes analyses of how Serbia's education system performs, identifies messages for policymakers, and recommends ways to enhance learning for all in Serbia.

Conceptual Framework—Skills for the Lifecycle

15. *The education system must prepare students for the challenges of tomorrow, taking into account trends that are reshaping society and the economy.* Among these are the growing integration of people and organizations across national borders, increasing urbanization, evolving family structures, and the unpredictable pace of technological change (OECD 2016). All these affect the skills that students need to live and thrive in a changing economic and social world. The education system forms the basis for acquiring the skills needed to meet the challenges of the 21st century and build resilience to unpredictable economic and social change.

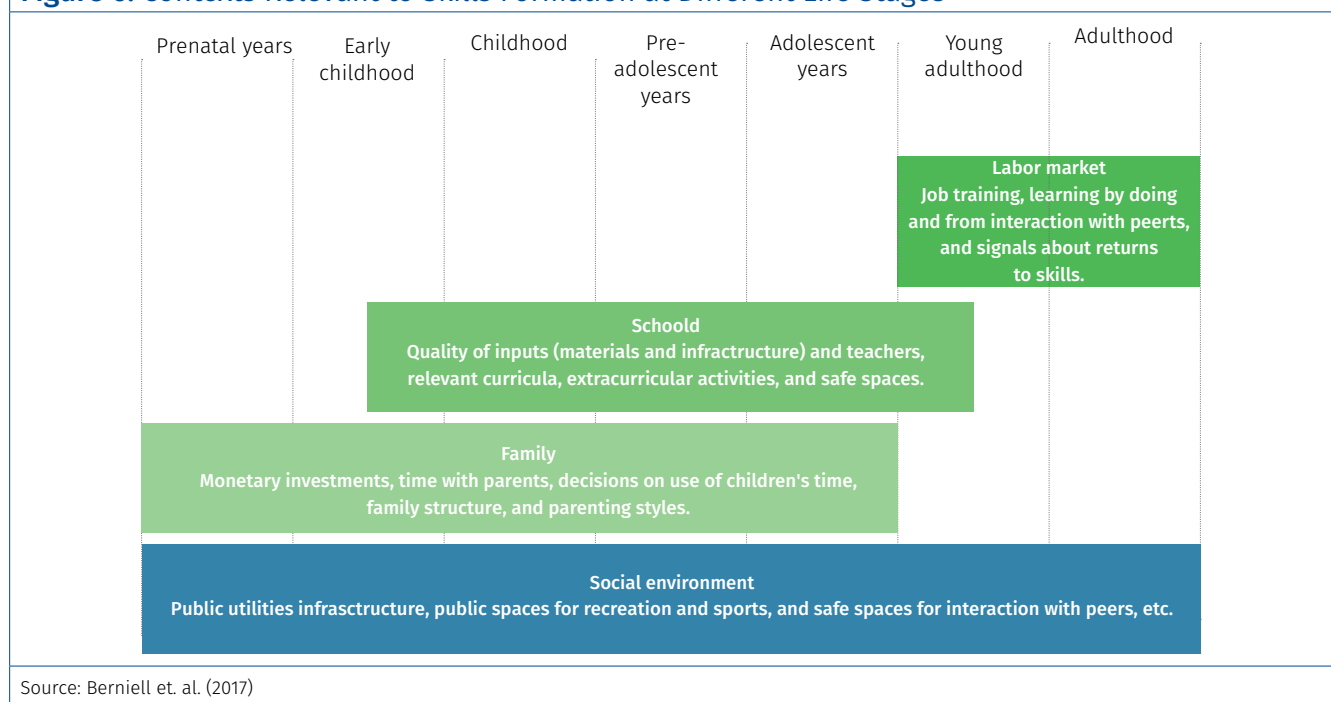
16. *As technology and market demands are transforming economies, across the globe policymakers, employers, and institutions acknowledge that education and workforce training systems must be agile in preempting and adjusting to changes.* Lifelong learning (LLL) is now considered a necessity in a world where individuals continually need to update their skills after, as well as during, formal education and pre-employment training. Simultaneously, firms are aware of major skills gaps in the workforce. Worldwide, 40 percent of employers report having difficulty filling positions (Manpower 2017)

17. *Economies require agile training systems that allow individuals throughout their careers to update their skills on demand.* This can often be most efficiently accomplished by

employers, which are well positioned to assess market demands and adapt swiftly to changing skills requirements. Gaps in access to quality training can be met by leveraging PPPs and increasing opportunities for individualized learning. These models may also offer valuable approaches to moving lagging regions to economic convergence via large-scale regional development projects.

18. *From prenatal years through adulthood, there are numerous options for skills formation across the lifecycle.* Successful analyses to inform education policies should recognize the multifaceted determinants of workforce skills and productivity across the life stages (Figure 6). A comprehensive approach would consider them all: labor markets to both shape and retrain active workers; individuals to be proactive in their own LLL rooted in family and school experiences; and governments to foster an environment that efficiently and effectively supports these efforts.

Figure 6. Contexts Relevant to Skills Formation at Different Life Stages

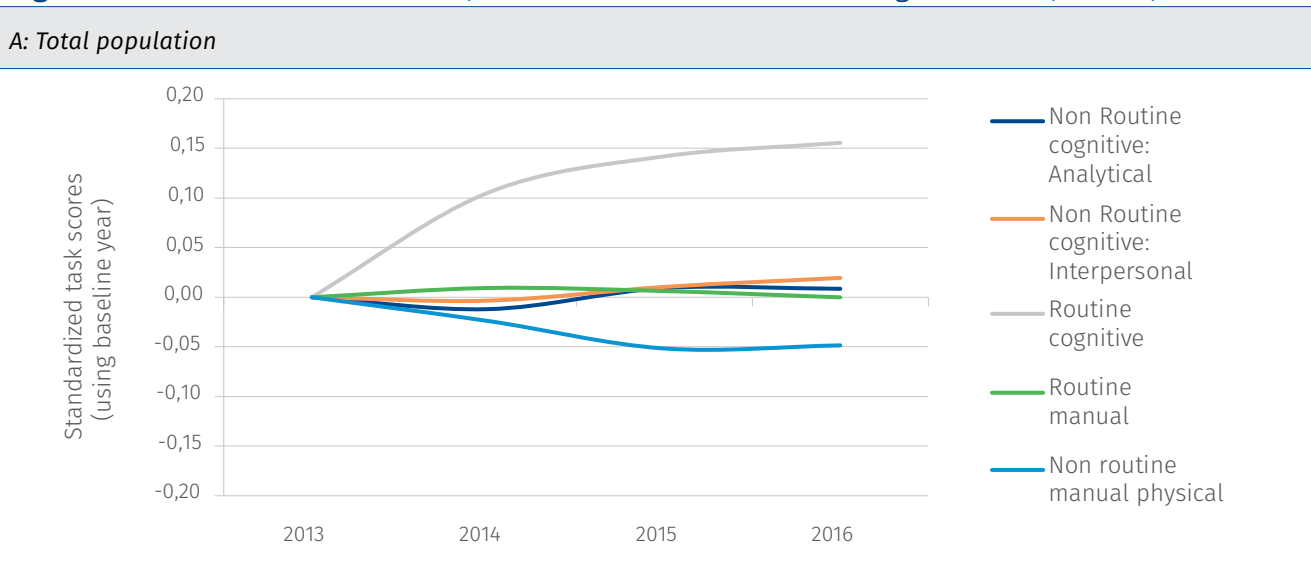


II The Skills Landscape in Serbia

19. *Serbia is making concerted efforts to improve its economic performance and attain EU membership; central to these efforts is ensuring adequate human capital and relevant skills.* The global financial crisis highlighted the need to accelerate Serbia’s unfinished transition to a market economy and to adopt fiscal consolidation measures. In 2009, 2012, and 2014, annual real GDP growth dropped below zero, partly because of an adverse external environment and partly due to weather shocks to agriculture (drought in 2012, floods in 2014). Over the last decade, the Serbian economy expanded by a mere 4 percent, a rate far below that of regional counterparts, but it has since shown signs of slow recovery, and the country is targeting EU integration. If labor is to become more productive, workers must have fundamental and dynamic skills that can help them adapt to the changing labor market and generate innovations; it is therefore important to understand how the skills picture is changing in Serbia and how that is affecting the structure of jobs.

20. *Jobs are becoming more cognitive and less manual or physical.* An analysis of the short-term evolution of the population in Serbia⁶ shows a steep increase in demand for jobs characterized by constant use of routine cognitive tasks and a plateau in reliance on nonroutine cognitive tasks like those that are analytical and interpersonal. It also shows a drop in demand for manual and physical tasks (Figure 8). This pattern is found in many other emerging economies, such as the Baltic countries, but not in most advanced economies, where there are fewer more routine tasks (Ridao-Cano and Bodewig 2018). This suggests that Serbia is in a less advanced stage of structural change than more advanced economies.

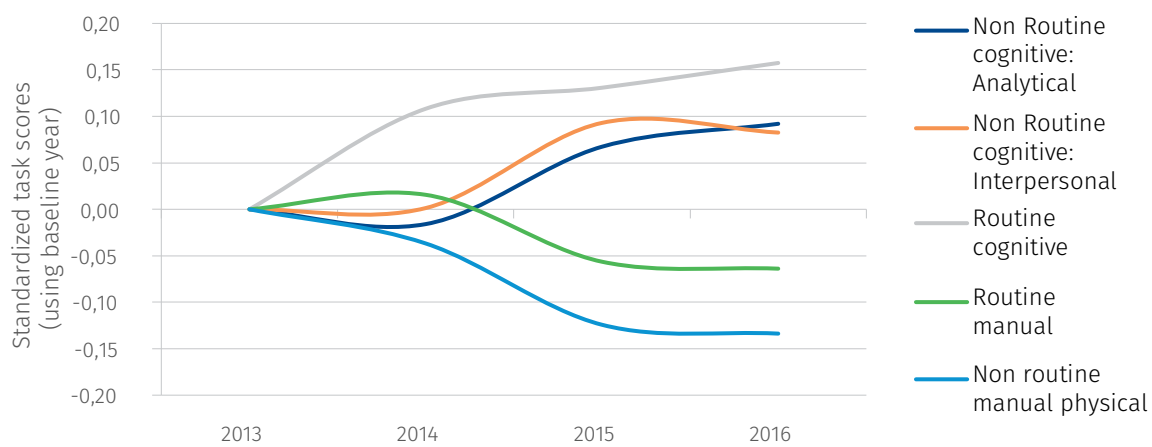
Figure 8. Standardized Task Scores, Jobs of all Workers and of Younger Workers, Serbia, 2013–16



6 The analysis was based on the approach of Acemoglu and Autor, 2011. Following their model, five measures of task content are constructed for each occupation, aggregated for each country and standardized over time: nonroutine cognitive analytical, nonroutine cognitive personal, routine cognitive, routine manual, and nonroutine manual. The task contents of jobs in Serbia was measured based on both occupational data from household surveys and the task content of U.S. occupations extracted from the Occupational Information Network (ONET) database version 19.

Figure 8. Standardized Task Scores, Jobs of all Workers and of Younger Workers, Serbia, 2013–16

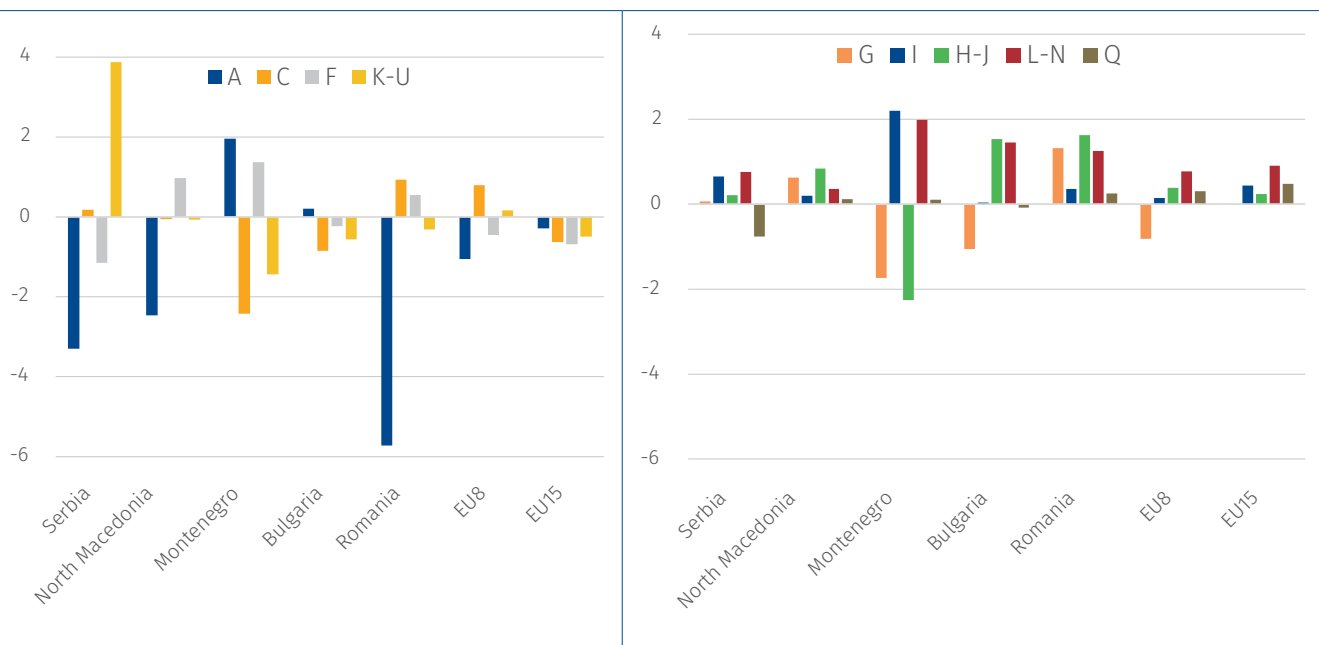
B: Younger Workers, Born 1985+



Source: 2013–15 data from Serbia’s Survey on Income and Living Conditions.

21. *The job patterns of Serbians born in and after 1985 are starting to resemble those in most advanced economies: there is a shift from manual to cognitive skills.* Demand for manual tasks, both routine and nonroutine, has gone down, and has gone up for nonroutine cognitive and interpersonal tasks (Figure 9). Nonroutine tasks illustrate demand for jobs that complement technology. This analysis is consistent with the drop in agricultural jobs and the rise in service jobs.

Figure 9. Industry Shares of Employment Compared, 2011–17

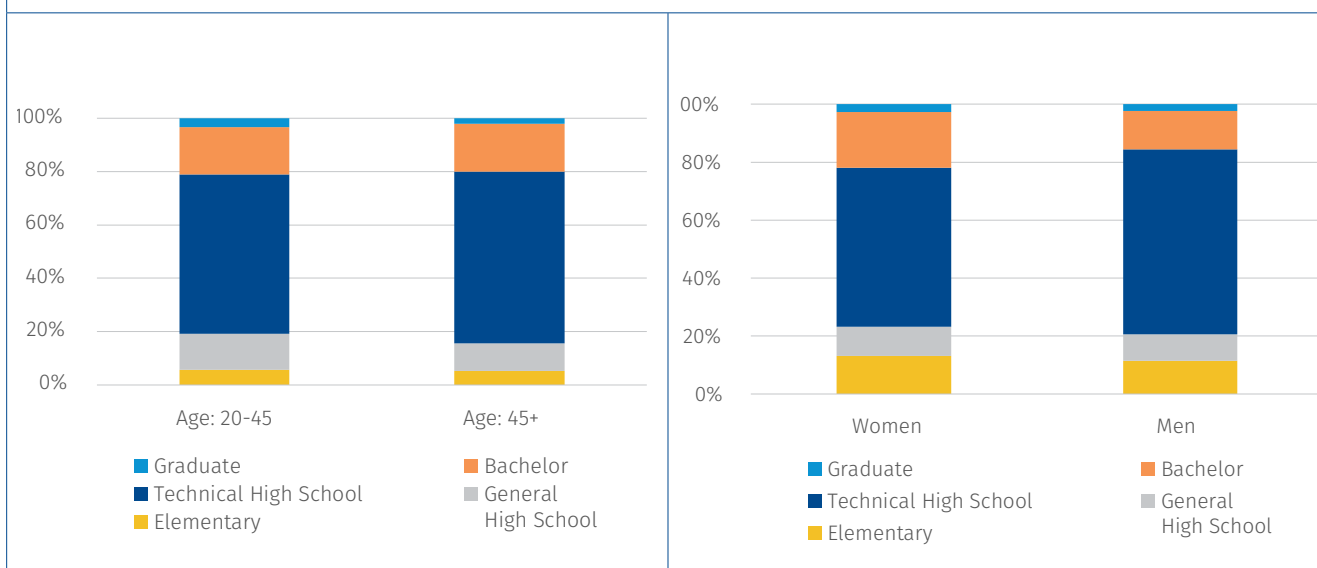


Source: Eurostat 2019 data; World Bank staff calculations.

Note: Letters refer to NACE Rev. 2 sector codes: A = Agriculture, forestry and fishing; C = Manufacturing; F = Construction; K-U = Services; G = Wholesale and retail trade; I = Accommodations and food service activities; H-J = Transportation and storage and Information and communication; L-N = Real estate activities, professional, scientific, and technical activities, and administrative and support service activities; Q = Human health and social work activities.

22. *The shift in relevance and in types of skills is closely linked to what goes on in education in Serbia, where educational attainment has been relatively high, and where many pursue a technical education.* Educational attainment is high among both young (aged 20–45) and middle-aged (age 45+) adults, which suggests that access to education has long characterized Serbia. Moreover, men and women achieve similar levels of educational attainment, with women earning more tertiary education and men more technical high school degrees (Figure 10).

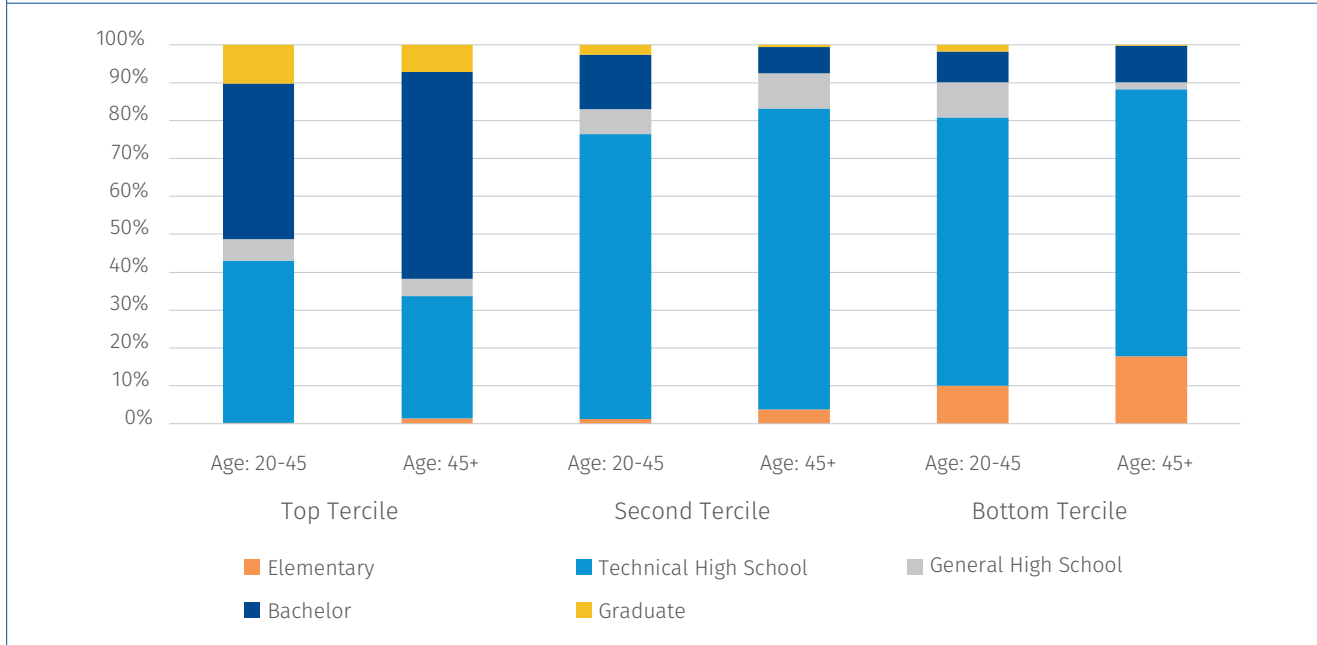
Figure 10. Highest Education Attainment in Serbia by Age Group and Gender, 2016, Percent



Source: STEP Household Survey 2016, representative of urban areas.

23. **Income and educational attainment are closely associated.** In the top income tercile, 62 percent of the 45+ age group and 51 percent of the younger group have bachelor’s degrees or higher. The proportions of those with higher education are significantly smaller in the lower income terciles (Figure 11).

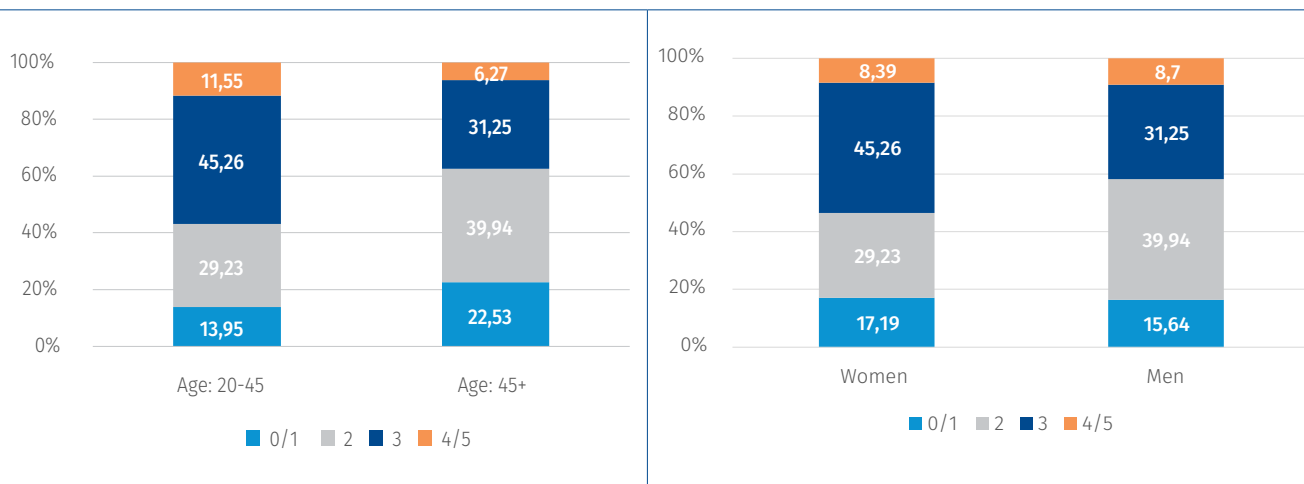
Figure 11. Educational Attainment, Age, and Income Tercile, Percent



Source: STEP Household Survey 2016, representative of urban areas.a

24. **In terms of basic skills, literacy is higher for younger groups, which points to progress in learning outcomes.** Despite having similar levels of educational attainment a much higher percentage of people in the lower ranges (0–2) of literacy are aged 45+, and a much higher percentage of those aged 20–45 are in the middle or upper range of literacy (3–5). Clearly, learning outcomes and skills acquisition have improved over the past few decades. Women also score higher in literacy proficiency than men (Figure 12).

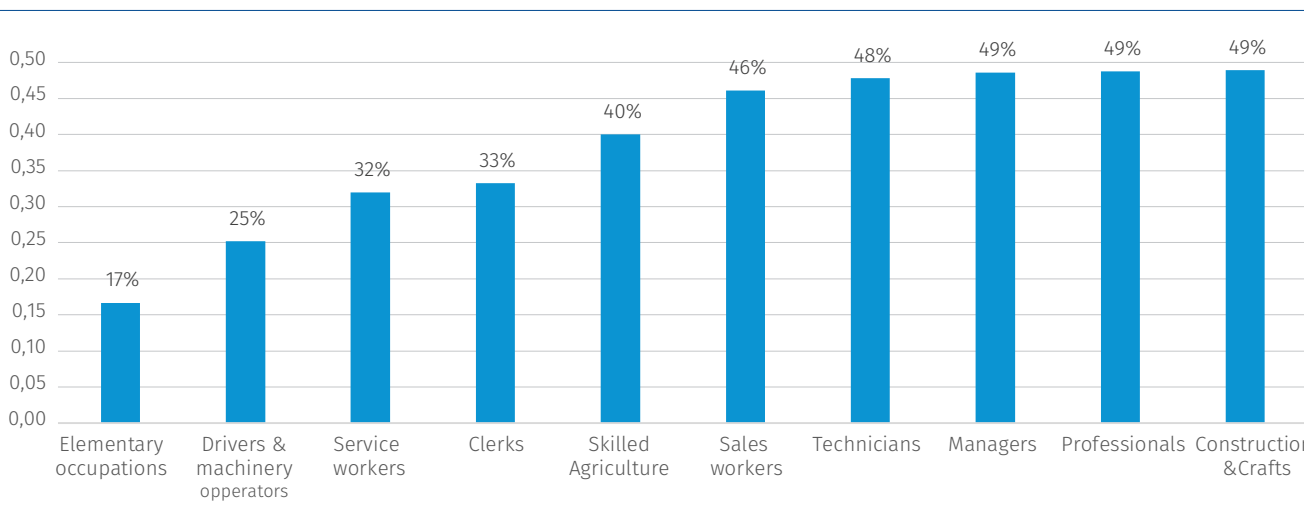
Figure 12. Literacy Proficiency by Age Groups and Gender, 2016, Percent



Source: STEP Household Survey (2016). Representative of urban areas.
 Note: Literacy ranges 0-5. 0 signifies not literate; 5 signifies advanced literacy.

25. *Despite progress, Serbian firms still report problems finding employees with the right skills.* For all sectors surveyed, applicants lacking the required skills were identified as one of the main obstacles to hiring. Lack of experience and an insufficient number of graduates were also identified as significant challenges throughout the economy. In agriculture, working conditions (the expectation of higher wages elsewhere) were also perceived as a major obstacle.

Figure 13. Difficulties Finding Applicants with Required Skills by Occupation, 2015–16, Percent



Source: Serbia's STEP Employer Survey (2015-2016).

26. *Serbia's labor market values a combination of skills.* A survey of employers in areas vital to the Serbian economy found that firms value a combination of socio-emotional, technical, and advanced cognitive skills. In fact, employers express a marked preference for socio-emotional skills like reliability, resilience, and teamwork. Table 2 presents the values that each key market sector places on each skills domain; Table 3 specifies the skills within each domain that Serbian employers consider relevant. Considering the concerns about socio-emotional skills, it is critical that the Serbian school and skills systems make them a priority.

Table 2. Skills Valued by Serbia’s Labor Market by Sector

	Energy	Manufacturing	Agriculture & fishing	Information Technology	Motor vehicles
1	Reliability	Reliability	Reliability	Job-specific technical skills	Reliability
2	Resilience	Resilience	Job-specific technical skills	Reliability	Resilience
3	Teamwork	Job-specific technical skills	Adaptiveness	Adaptiveness	Job-specific technical skills
4	Job-specific technical skills	Adaptiveness	Teamwork	Resilience	Creative problem solving
5	Adaptiveness	Teamwork	Resilience	Teamwork	Teamwork

Color Key	Socio-emotional	Technical	Advanced cognitive
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Source: Serbia’s STEP Employer Survey (2015-2016).

Table 3. Skills Relevant for Serbian Employers

Advanced Cognitive Skills	Socio-emotional Skills	Technical Skills
Problem solving	Control: Ability to modulate and restrain impulses, focus attention, delay gratification, and inhibit impulsive responding	Computing and programming
Communication	Resilience: Ability to bounce back from adversity and thrive in the context of risk	Knowledge of markets and laws
Creative critical thinking	Ethics: Strength of character, social responsibility, and principled behavior; being honest and fair, following rules, following through on actions, and behaving responsibly	Sales skills
Time management	Achievement motivation: Oriented to success, mastery, and sense of purpose. High degree of independence; capacity and drive to pursue difficult tasks and work toward desired goals	Design
Learning	Teamwork: Getting along with others, understanding their points of view, communicating effectively, being helpful and agreeable, not engaging in aggressive or bullying behavior	Driving

Source: Serbia’s STEP Employer Survey 2015-16); STEP Household Survey 2016; Guerra, Modecki, and Cunningham 2014.

Box 2. Firm Case Study: Objectives and Findings

A comprehensive review of the on-the-job training programs of 10 Serbian firms was carried out to identify examples of well-designed training programs at top-performing, diverse firms; understand how much firms invest in their employees; analyze skills gaps in new hires that workplace training addresses; and examine firm approaches to PPPs.

Firms selected specialized in marketing and product design, beverage production, supermarket chain management, clothing production, the automotive sector, transport and logistics, food production, IT, telecommunications, and gas production. The number of employees varied from 120 to 12,500.

About half the companies interviewed provided new hires with a mentor who was a more senior or experienced staff member from the same department (a “buddy” program). Many companies have talent pipelines for training individual staff they would like to put on a higher management track. There is significantly more investment in these employees, with the focus being to generate a mix of technical, job-related skills, and soft skills.

Most firms provided almost all training internally, though many outsourced most of their soft skills training. In most of the firms training for blue-collar workers was more intensive and structured than training for white collar workers. Most training was face to face, practical, and hands-on. All but one stated training were not directly linked with promotions.

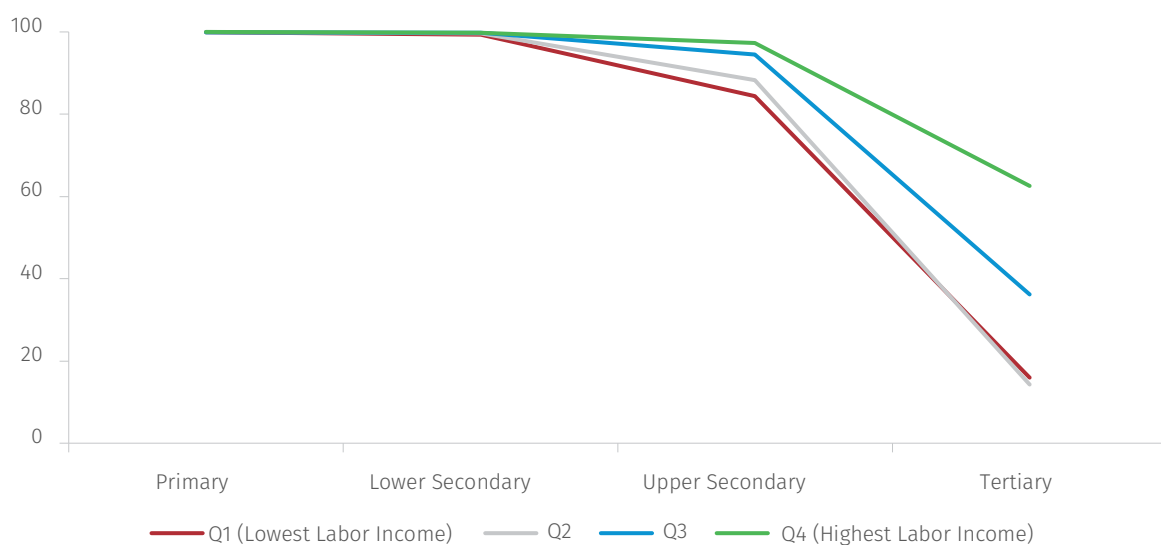
Employers commented on the lack of job-readiness of recent graduates as well as lack of socioemotional skills. The skills mentioned by all employers were: team work, work ethic, communication skills and other professional skills such as timeliness. Table B2.1 summarizes the findings:

Table B2.1. Findings from the On-the-Job Training Review

Company	BG Reklam	Coca Cola HBC	Ahold Delhaize	Falke	Gasteln	Gebruder Weiss	Leoni	Saga	Sirogijno	Telenor
Training Methods and Delivery										
Training Provider										
Method of Delivery										
Location of Training										
Frequency of Training										
Training Structure and Design										
Employees Receiving Training										
Average Hours per Year										
Skills Development Focus										
Concrete Objectives of Training										
Training Compulsory										
Formal Assessment of Training										
Compensation for Training										
Individualization of Training Delivery										
Individualized Annual Training Plan										
Training Linked to Promotion										
Training Accounting for Previous Learning										

27. *Workers who have cognitive and interpersonal (socioemotional) skills will be more successful in the labor market than workers who do not, but the education system does not nurture those skills.* Nor does it provide equal opportunities for all students to build relevant skills. Students' SES and the inability of the education system to serve as an engine of social mobility widens Serbia's skills divide. The disparities start with a shortage of preschool education, particularly for low-income and Roma groups, and are worsened by the uneven quality of primary education. They culminate in low enrollment rates in higher education, particularly for students from more disadvantaged families (Figure 14).

Figure 14. Education Attainment by Parental Labor Income Quartile, Serbia, 2016, Percent



Source: Data from Serbia's Survey on Income and Living Conditions, 2016 World Bank staff calculation.

III Skills Stocktaking: Diagnosis Through the Life and Education Cycle

Access, Equity, and Equality in Early Childhood Education and Care

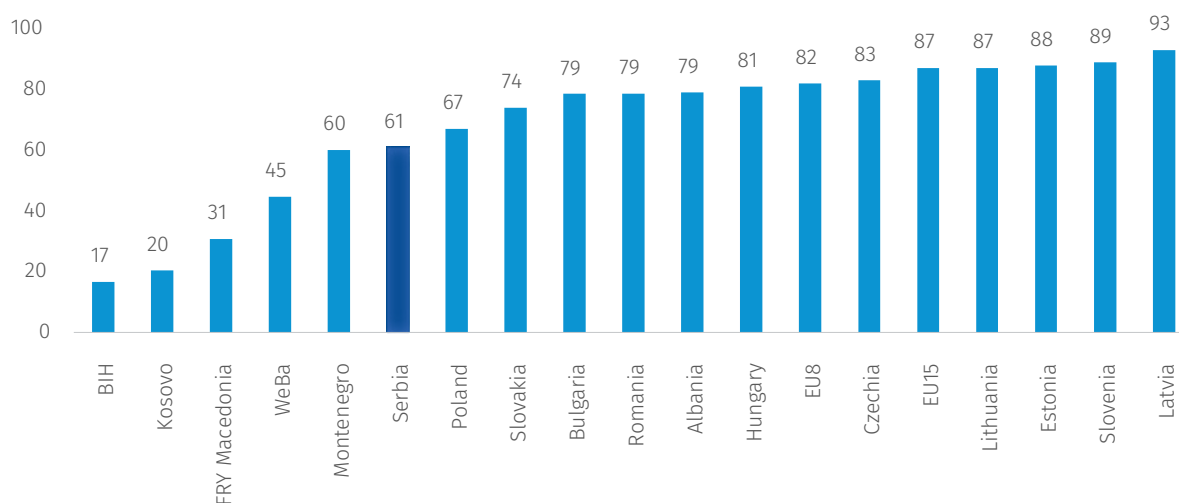
28. *Early childhood education and care (ECEC), including preschool education, lays the foundation for children to acquire cognitive skills and is critical to formation of the socio-emotional skills that the labor market so highly values today.* International evidence shows that a lack of early learning and development opportunities often explains poor learning outcomes in primary and secondary education.⁷ That is why quality ECEC interventions have been shown to have significant and long-lasting benefits. ECEC has a high cost-benefit ratio and a higher rate of return for each dollar invested (9 to 13 percent annually in Serbia [World Bank 2017]) than interventions in primary, secondary, and tertiary education.

29. *Starting to build socioemotional skills is one of the most important gains of ECEC.* In the early years, children begin to form close relationships and develop expectations of behaviors for both themselves and others (Lally 2009; Rogoff 2003). They also learn to control their emotions and actions, to perceive others' perspectives, and to empathize (Hinnant and O'Brien, 2007; Montroy et al., 2016). These socioemotional skills are the basic building blocks for development of more complex social and emotional skills later on in life and ultimately support cognitive learning. Children rapidly develop their intellectual capacities through actively gathering, sorting, analyzing, and processing information. Coupled with rapid development of children's physical abilities, notably sensory-motor control, the exploration of and engagement with others and their environments is the basis for continuing development of an individual's language skills, attention, memory, reasoning, and imagination (Goswami 2008; Bornstein and Lamb 2011). The nature and extent of early learning depends heavily on family, school and the wider community providing a nurturing and stimulating environment. Children who display more social and emotional competence early in elementary school find it easier to build relationships with teachers and peers and perform better academically than children with weaker social and emotional skills (McClelland et al. 2007). Recent analyses also suggest that early social and emotional learning ultimately earns economic returns comparable to those of early learning in cognitive domains (Paull and Xu 2017).

30. *Despite all the benefits of preschool education, enrollment for Serbian children aged 3–5 is low, especially in comparison with the EU 2020 target of 95 percent of children enrolled starting at age 4.* As of 2017 Serbia had a pre-primary level net enrollment ratio (NER) of 61 percent (UNESCO UIS 2019). In neighboring Bulgaria and Romania, which are in the same income classification as Serbia, the pre-primary NER is 18 percentage points (pp) higher (Figure 15). As in many other countries, in Serbia attendance in ECEC programs is correlated with improved student performance. Analysis of the Programme for International Student Assessment (PISA) and the Trends in International Mathematics and Science Study (TIMSS) confirms this pattern. After controlling for socioeconomic characteristics, PISA 2012 data show that participation in ECEC programs predicts later mathematics performance. Serbian children who had attended ECEC programs for more than one year scored, on average, 14 points higher than their peers who had not (Figure 16).

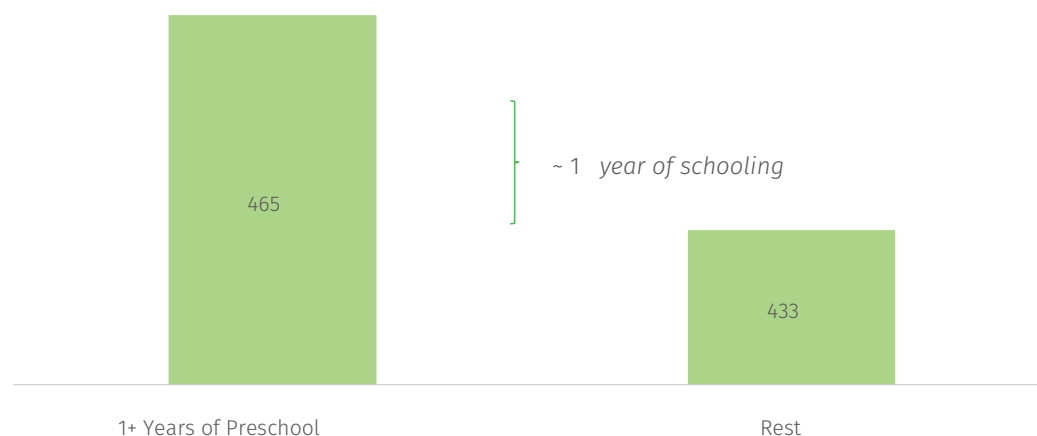
⁷ For example, studies in five Latin American countries (Chile, Colombia, Ecuador, Nicaragua, and Peru) recorded large cognitive differences between children in the poorest and the richest segments of society. Most of the differences were apparent by age 3, and had often worsened by age 6, and were largely unchanged thereafter (Schady et al., 2014).

Figure 15. NER in Preprimary Education Compared, 2016 or Latest, Percent



Source: UNESCO Institute for Statistics.
 Note: ECA-UM = Upper-middle-income countries in Europe and Central Asia.

Figure 16. PISA 2012 Mean Scores in Mathematics by ECEC Attendance



Source: PISA 2012 data, World Bank staff analysis.

31. *Unequal access aside, the inequities of the Serbian education system are already evident in preschool.* When children’s economic, social, and cultural status (ESCS) is considered, almost 80 percent of higher-ESCS children attend more than one year of pre-primary education, compared with only 10 percent of those from the bottom ESCS and even less among Roma (Figure 17). Different factors affect access in preschool, including number of preschool spaces available, parental attitudes where children are taken care of at home, and the costs of preschool education (Figure 18).

Figure 17. Children aged 36–59 Months in Early Childhood Education, by Family Income Quintile, Percent.

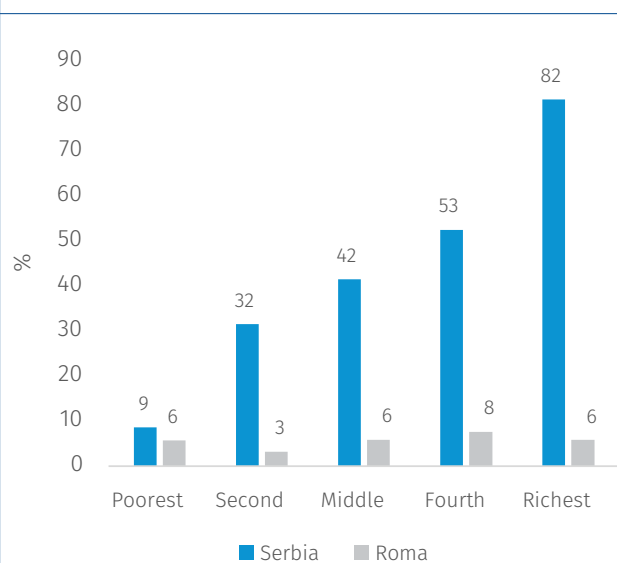
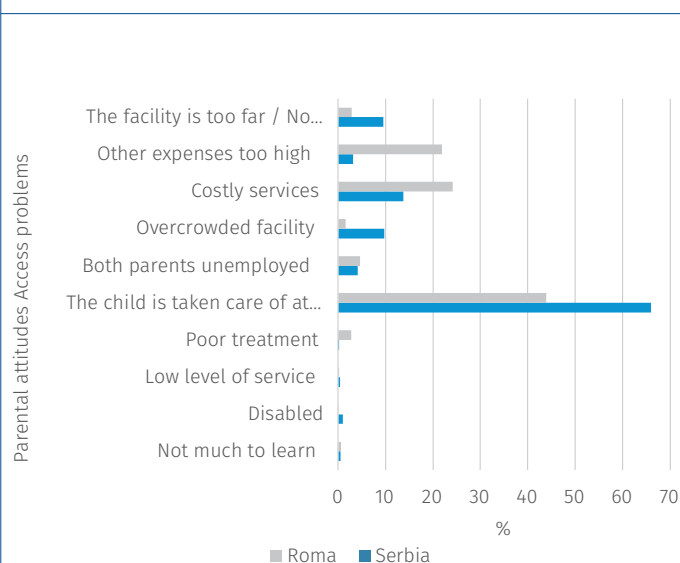


Figure 18. Reasons for Nonattendance of Children aged 36–59 Months in an Early Childhood Education Program, Percent



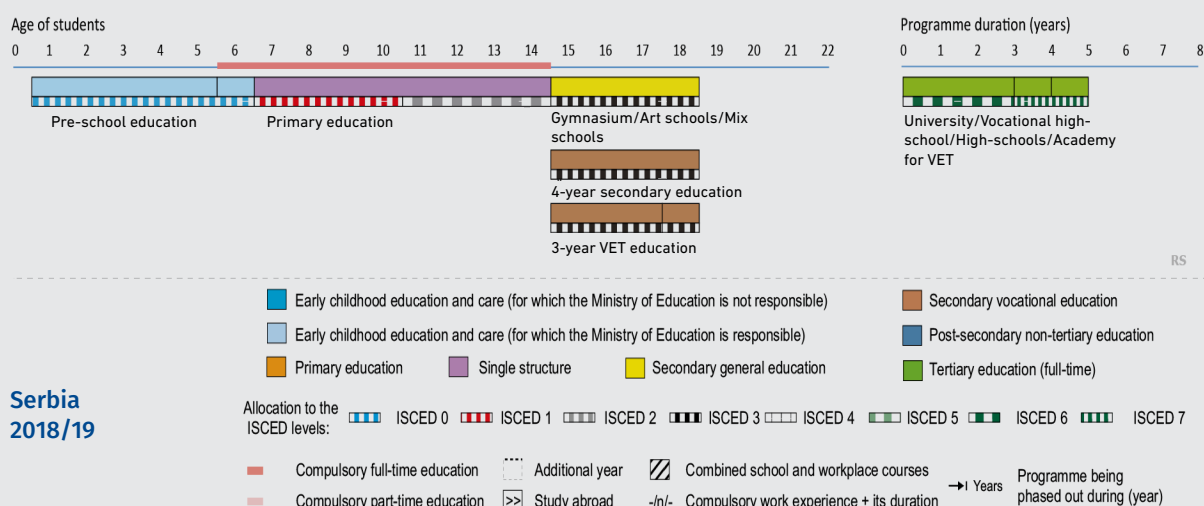
Source: Serbia Multiple Indicator Cluster survey and Serbia Roma Settlements Multiple Indicator cluster survey, 2014.

32. *Serbia's financing of preschool education, in which self-governing localities finance most of the cost, is regressive; poorer municipalities have lower NERs because they have fewer financial resources.* Unlike the compulsory Preparatory Preschool Program, program for children between 5.5 to 6.5 years old financed by MoESTD, preschool education is financed by local governments—each jurisdiction determines the per-pupil cost each year. The local governments cover up to 80 percent of the cost with the rest (at least 20 percent) financed by the parents, regardless of their ability to pay. This regressive financing model further implies that poorer municipalities find it financially difficult to expand the supply of preschool slots as needed. Since 2018, tuition has been free for children whose parents are beneficiaries of the Financial Social Assistance preschool program and for other vulnerable groups, though how well this policy is implemented is yet to be assessed. The World Bank's continuing project in Serbia, Inclusive Early Childhood Education and Care, is designed to (1) improve access to and the quality of ECEC, especially for children from socially disadvantaged groups; (2) reduce inequities by creating new spaces in preschool education; and (3) improve program quality through teacher training and more child-centered curriculum and teaching approaches.

Box 3. Serbia's Education Systema

The education system in Serbia consists of early childhood education and care (ECEC), and primary, secondary, and higher education. Primary education and preparatory preschool programs are compulsory and free. Secondary education is free but not compulsory. As for higher education, the law requires that all citizens have access under equal conditions. Education is compulsory for nine years; children enter at the age of 5½, when they start the Preparatory Preschool Program (PPP), followed by 8 years of primary education. The average age for leaving full-time compulsory education is 14½. At the end of primary education, students take a high-stakes exam. A combination of the results and their grades get students a score based on which they will be placed in secondary (gymnasium or vocational) education. Vocational education has 3- and 4-year programs. Students of 4-year vocational programs can then go on to higher education institutions. The higher education system offers two types of study: academic, organized at universities; and applied, organized either at colleges of applied studies or at universities.

Figure B3.1 Structure of Serbia's Public Education System



Source: Eurydice, 2019

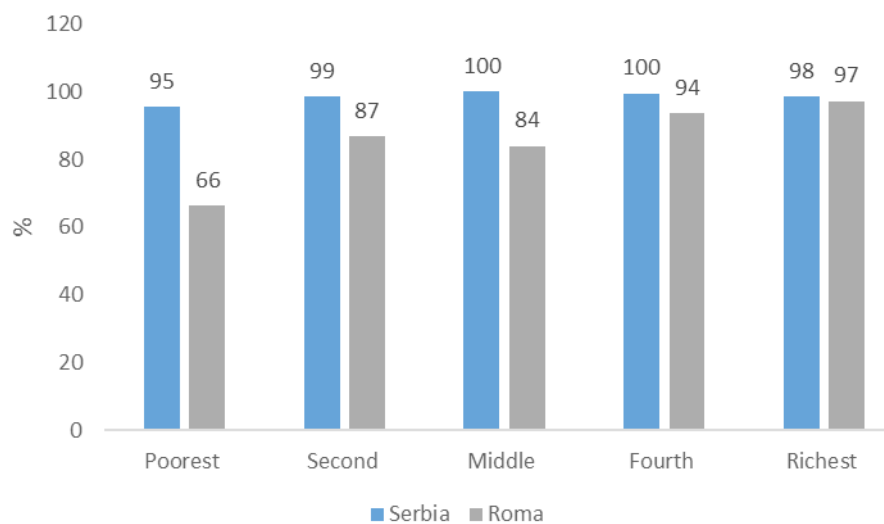
The Ministry of Education Science and Technological Development is responsible for drafting and applying education policies in Serbia. Schools and preschool institutions have significant autonomy in organizing and realizing their educational programs. The Chamber of Commerce organizes the technical and vocational education and training (TVET) dual system in cooperation with MoESTD. Higher education institutions also have considerable autonomy. Institutions at all levels can be state (public) or private. Public educational institutions are mainly funded from the state budget on an input-based system. Private educational institutions do not receive any public funding, direct or indirect.

^a Eurydice 2019.

Access, Quality, and Equity in General Compulsory Education

33. *Serbia has high enrollment rates from primary through lower secondary education, but enrollment in general compulsory education is much lower for disadvantaged groups; among the poorest Roma, enrollment rates are only 66 percent—20 pp lower than access for the poorest in the general population.*

Figure 20. Children aged 36–59 Months in Early Childhood Education, by Family Income, Percent



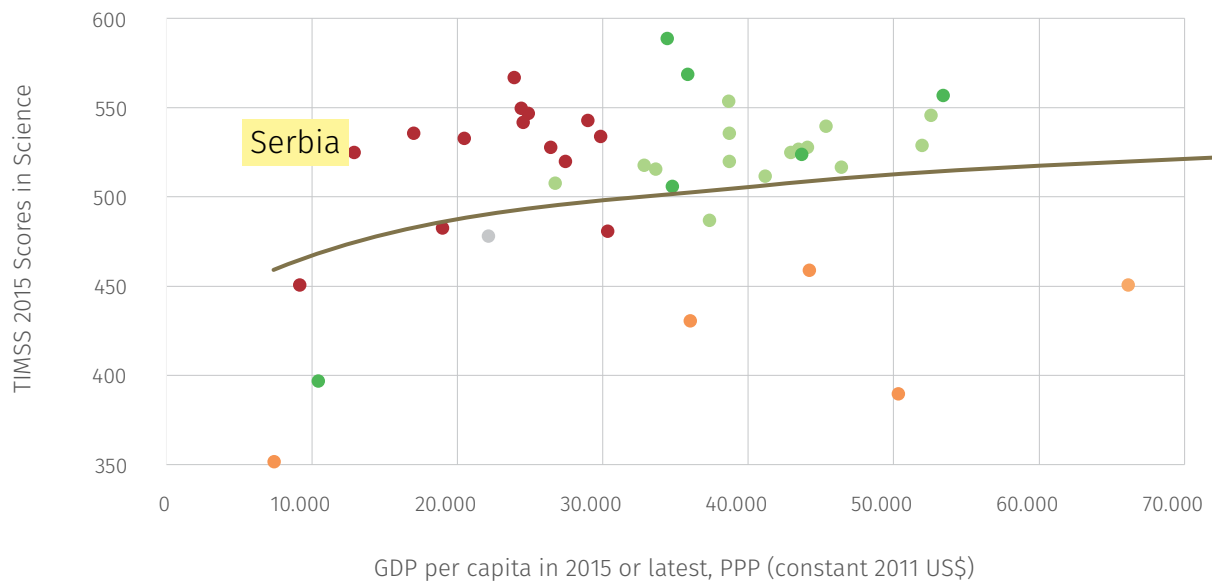
Source: Serbia Multiple Indicator Cluster survey and Serbia Roma Settlements Multiple Indicator cluster survey 2014.

34. *Beyond access, a critical measure of the system's performance is acquisition of skills through the entire process of schooling, an area where Serbia has problems.* While the country does well in the early primary grades, the quality of learning seems to decline in the higher grades. The education system should be able to impart both socio-emotional and cognitive skills to its students: a lack of cognitive skills makes it difficult for them to build socio-emotional skills or be ready to learn in vocational education and training (VET) as well as higher education. Skills deficits also make it harder to benefit from LLL opportunities and to find and retain a productive job.

35. *Serbia has participated in two large-scale international student assessments, TIMSS in 2015 (grade 4) and in 2011 (grade 8) and PISA in 2012 and 2018.*⁸ For its income level, Serbia performs well on international student assessments, but it trails EU and OECD countries. Serbia's performance on the TIMSS 2015 4th grade exam showed very positive student outcomes (Figure 21), which suggests that education in its grades 1–4 is of relatively high quality. However, the results for students in the TIMSS 8th grade (2011) and PISA 2012 exams show that Serbian student performance declined between 4th and 8th grade.

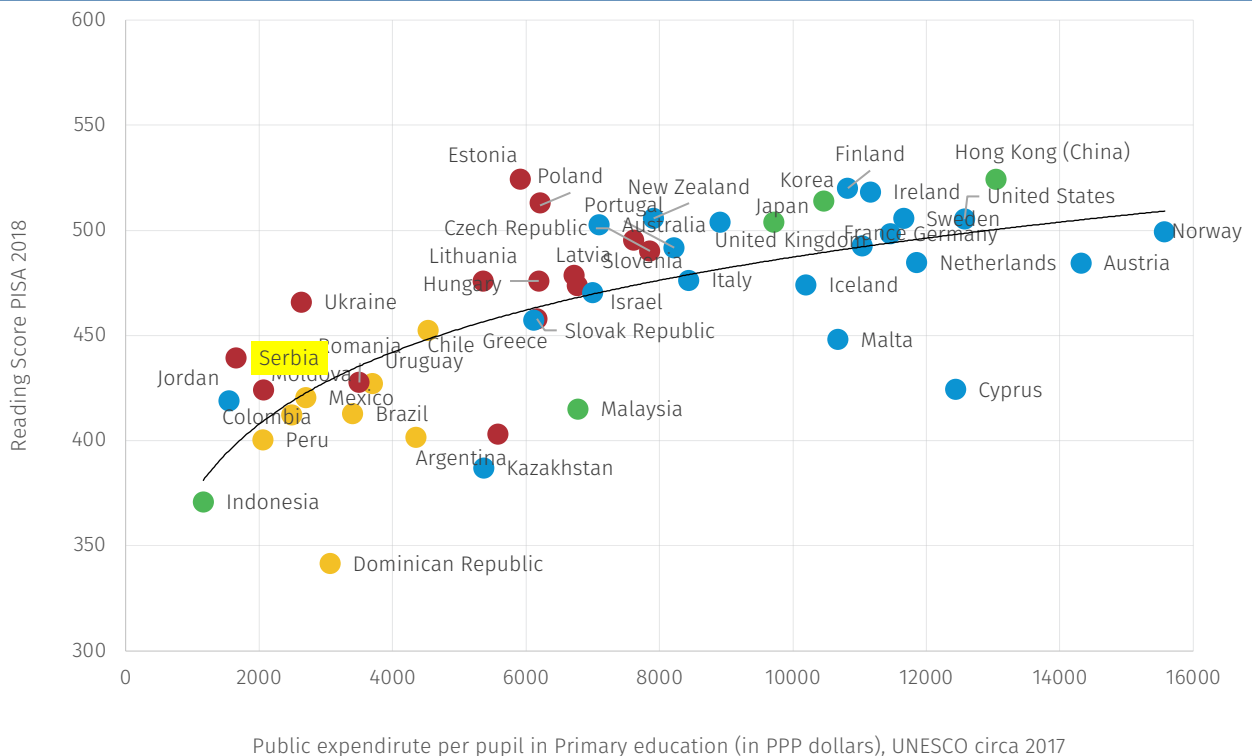
8 The TIMSS 2015 study measures performance in mathematics and science for Grade 4 students; PISA measures performance in reading, mathematics, and science for 15-year-old students, about Grade 9 in Serbia.

Figure 21. TIMSS Performance (4th Grade) and Income



Source: Mullis et. al. (2016); UNESCO Institute for Statistics.

Figure 22. PISA 2018 Reading Score and Public Per-pupil Spending on Education Compared



Source: PISA 2018; UNESCO Institute for Statistics.

36. *There are several differences between primary and lower secondary that may help to explain the differences between lower and upper primary education.* Among them are finding the instructional and pedagogical approach appropriate to the age group, teacher quality, issues with curriculum content and sequencing it well, and striking the right balance for hours per subject for each grade. This performance gap between early and later grades is a critical pressure point in the education system and its root causes need to be identified and addressed urgently. Among potential factors are:

- Class time and number of subjects:** Differences between lower and upper primary grades include the time spent in class, and the greater number of subjects in the later grades, which may point to a fragmentation of curricula starting in grade 5 and in turn to a lack of adequate teaching staff for key subjects. Pupils in grades 1–4 have about 20 45-minute classes in a week and eight different subjects during a school year. The number of classes and subjects jumps in grades 5–8. For instance, in 5th grade pupils have 28 45-minute classes in a week and 13 different subjects in a year (Figure 23), and these numbers rise even further in the higher grades. The large number of subjects required to complete the program and the relatively large number of electives allowed in each program affect the efficiency of the teaching force. These factors help explain the increase in the number of teachers, despite a decrease in the student population (Figure 24).

Figure 23. Average Minimum Instruction Time Per Grade, Primary and Lower Secondary Compulsory Curriculum, 2017/18

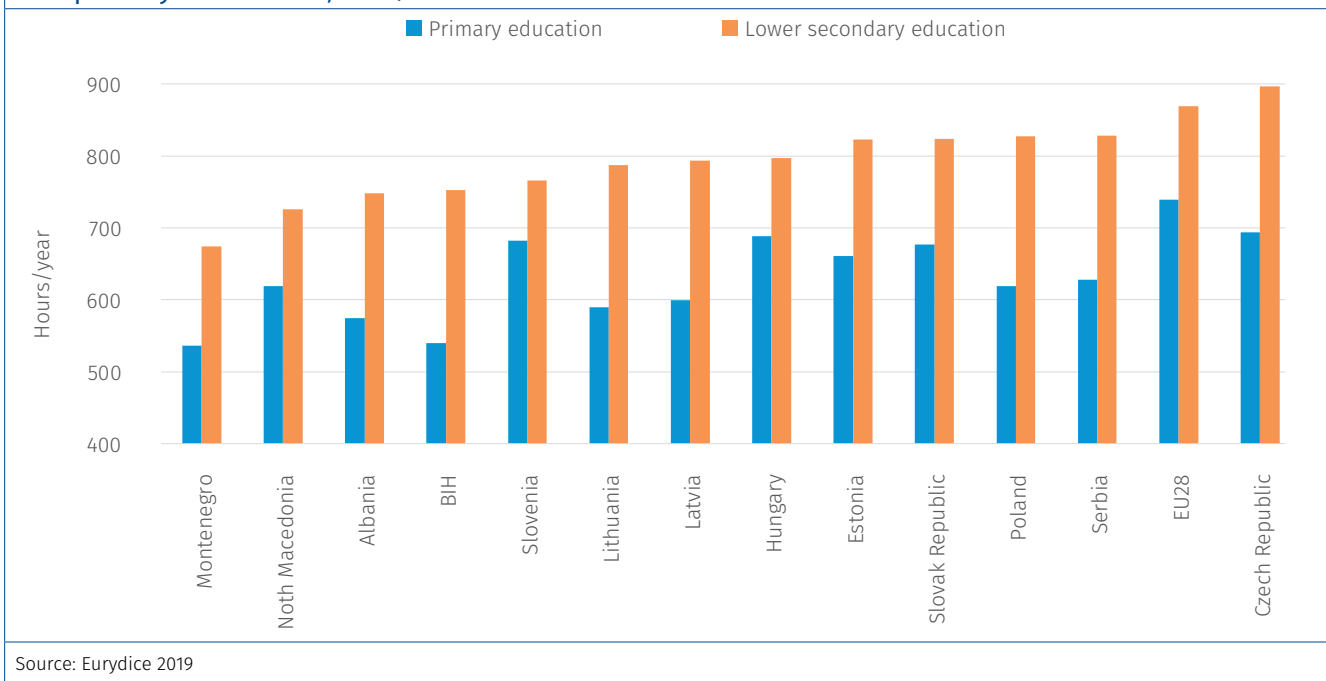
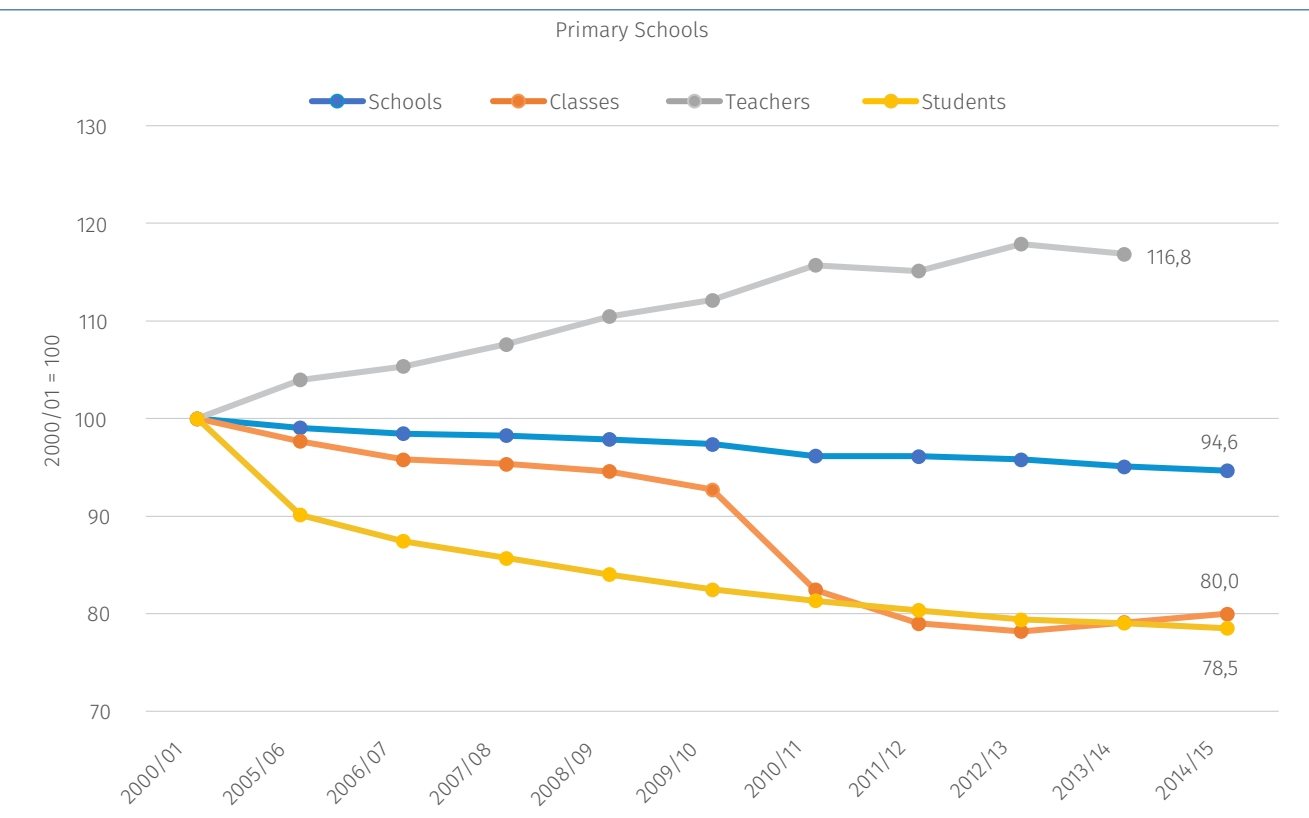


Figure 24. Number of Teachers, Schools, and Students in Serbia, 2000–15



Source: Eurydice (2019).

- Organization and sequencing of subjects:** Curriculum revision will be required to improve the organization and sequence between lower-grade and upper-grade subjects and to align material in standards, textbooks, and ultimately the exit exam. Further, it would be useful to assess whether all subjects, compulsory and elective, promote the skills that the government considers necessary for Serbian students in the 21st century (Table 4). Curriculum revision could also consider the extent to which subjects incorporate the socio-emotional skills the economy requires.

Table 4. National Curriculum for Primary Cycle 2

<i>National curriculum for Cycle 2 of Primary Education</i>								
#	5th grade		6th grade		7th grade		8th grade	
	hrs/week	hrs/year	hrs/week	hrs/year	hrs/week	hrs/year	hrs/week	hrs/year
A. COMPULSORY SUBJECTS								
1	5	180	4	144	4	144	4	136
2	3	108	3	108	3	108	2	68
3	2	72	2	72	2	72	2	68
4	2	72	1	36	1	36	1	34
5	2	72	1	36	1	36	1	34
6	1	36	2	72	2	72	2	68
7	1	36	2	72	2	72	2	68
8	-	-	2	72	2	72	2	68
9	4	144	4	144	4	144	4	136
10	2	72	2	72	2	72	2	68
11	-	-	-	-	2	72	2	68
12	2	72	-	-	-	-	-	-
13	1	36	-	-	-	-	-	-
13	-	-	2	72	2	72	2	68
14	2	72+54 ²	-	-	-	-	-	-
14	-	-	2	72	2	72	2	68
TOTAL: A		24-27*	918-1026*	24-27*	864-972*	26-29*	936-1044*	26-28* 884-952*

Table 4. National Curriculum for Primary Cycle 2

#	B. ELECTIVE SUBJECTS	hrs/week	hrs/year	hrs/week	hrs/year	hrs/week	hrs/year	hrs/week	hrs/year
1	Religion / Civic education ³	1	36	1	36	1	36	1	34
2	Foreign language ⁴	2	72	2	72	2	72	2	68
3	Native language / Language with national culture elements ⁵	2	72	-	-	-	-	-	-
3	Physical education-selected sport ⁶	-	-	1	36	1	36	1	34
	TOTAL: B	5-Mar	108-180	4	144	4	144	4	136
	TOTAL: A+B	27-30*	1026-1134*	28-31*	1008-1116*	30-33*	1080-1188	30-32*	1020-1088*
#	C. OPTIONAL SUBJECTS ⁷	hrs/week	hrs/year	hrs/week	hrs/year	hrs/week	hrs/year	hrs/week	hrs/year
1	Nature keepers	-	-	1	36	-	-	-	-
2	Everyday life in the past	-	-	1	36	1	36	1	34
3	Drawing, painting and sculpting	-	-	1	36	1	36	1	34
4	Choir and orchestra	-	-	1	36	1	36	1	34
5	ICT	-	-	1	36	1	36	1	34
6	Native language / Language with national culture elements	-	-	2	72	2	72	2	68
7	Chess	-	-	1	36	1	36	1	34
8	Crafts	-	-	-	-	1	36	1	34
9	Optional curricular activities ⁸	1	36	-	-	-	-	-	-
	TOTAL: C	1*	36*	1-2*	36-72*	1-2*	36-72*	1-2*	34-68*
	TOTAL: A+B+C	28-31*	1062-1152*	29-32*	1044-1152*	31-34*	1116-1224*	31-33*	1054-1122*

1 For schools where teaching language is minority language

2 Compulsory physical activities carried out within the subject of Physical and Health Education

3 Pupils have to choose one of these two subjects

4 Pupils have to choose one of foreign languages offered by school

5 Pupils belonging to a national minority who is attending classes in Serbian language may choose this program, but not in the obligation

6 Pupils choose a sports branch from the list offered by the school at the beginning of the school year

7 School is obliged to offer at least 4 optional subjects from the following list; pupils have to choose on of them

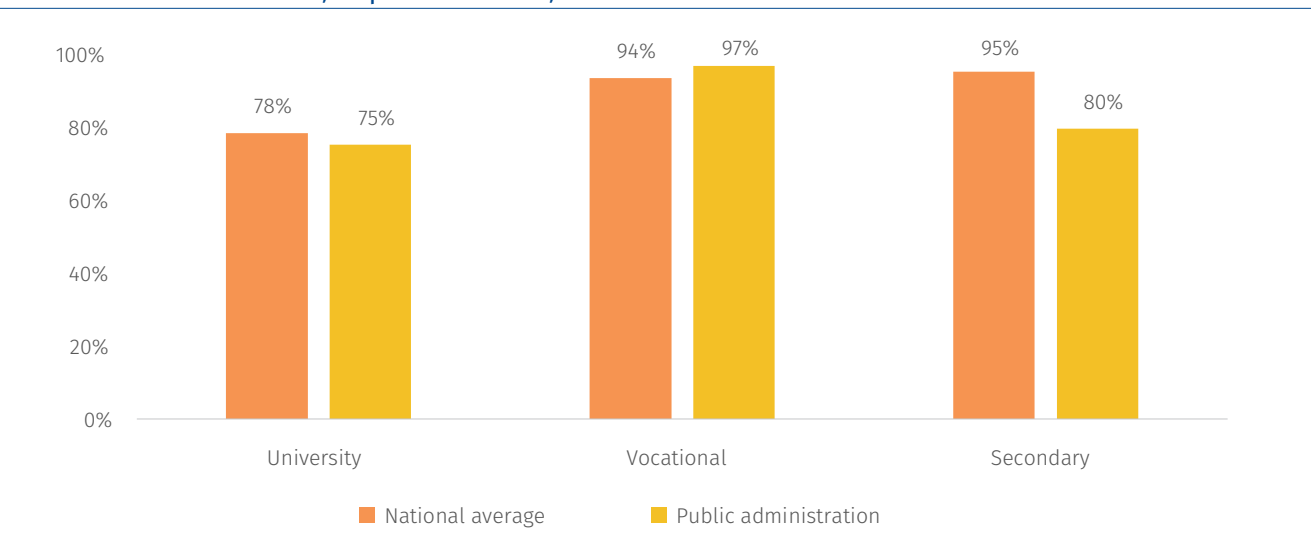
8 Pupils have to select one activity from the list of three optional curricular activities offered by the school

* Number of school hours for national minority pupils

- Large number of small schools:** The very large network of small schools in Serbia is not conducive to quality education. In early grades, one teacher teaches the whole class, but starting in 5th grade, different teachers are required for each subject. Teachers can receive their full salary as long as they fill their “teaching norm”—the number of hours they have to teach in a week. With a large network of small schools, teachers have to go to different schools to fill their norm because there are not enough classes in one school. This takes time away from other activities—such as preparation time—and, combined with low teacher salaries, contributes to the low status of the teaching profession. The most optimal school network is one in which all schools meet the requirements for quality, equity, and efficiency. In 2014, 64 percent of all school buildings in Serbia were used by only 7 percent of students. About 1,955 primary schools, 58 percent, have fewer than 50 students. There are 105 primary schools and 7 primary special schools that enroll only one student. The school network lacks efficiency.
- Uneven quality of teachers:** Teachers in lower primary education (grades 1–4) have studied in the teacher education faculty, which prepares them exclusively for teaching careers. Their university curriculum includes teacher training courses. However, teachers in upper primary schools have attended a variety of university study programs, such as language, mathematics, or geography, but take no courses that prepare them specifically for teaching. Thus, teachers in the lower grades have better initial teacher training. Moreover, lower primary grade teachers teach by choice; teachers in the upper primary grades did not necessarily choose to be teachers when entering university; some entered teaching because they had no other option.

In addition, in Serbia, salaries for teachers are below the national average salary, as well as below those elsewhere in the public administration. The gap is especially wide for those with a university degree; it is less pronounced for those with a vocational education. Since teachers are highly qualified—primary and secondary teachers must have a master’s degree—but salaries are not competitive enough to attract the most talented. In general, salaries for employees in education who have earned a university degree (most likely teachers) are 22 percent below the national average and 25 percent below standard salaries in public administration (Figure 25).

Figure 25. Salaries in Education and Average National and Public Administration Salaries and Educational Attainment, September 2018, Percent

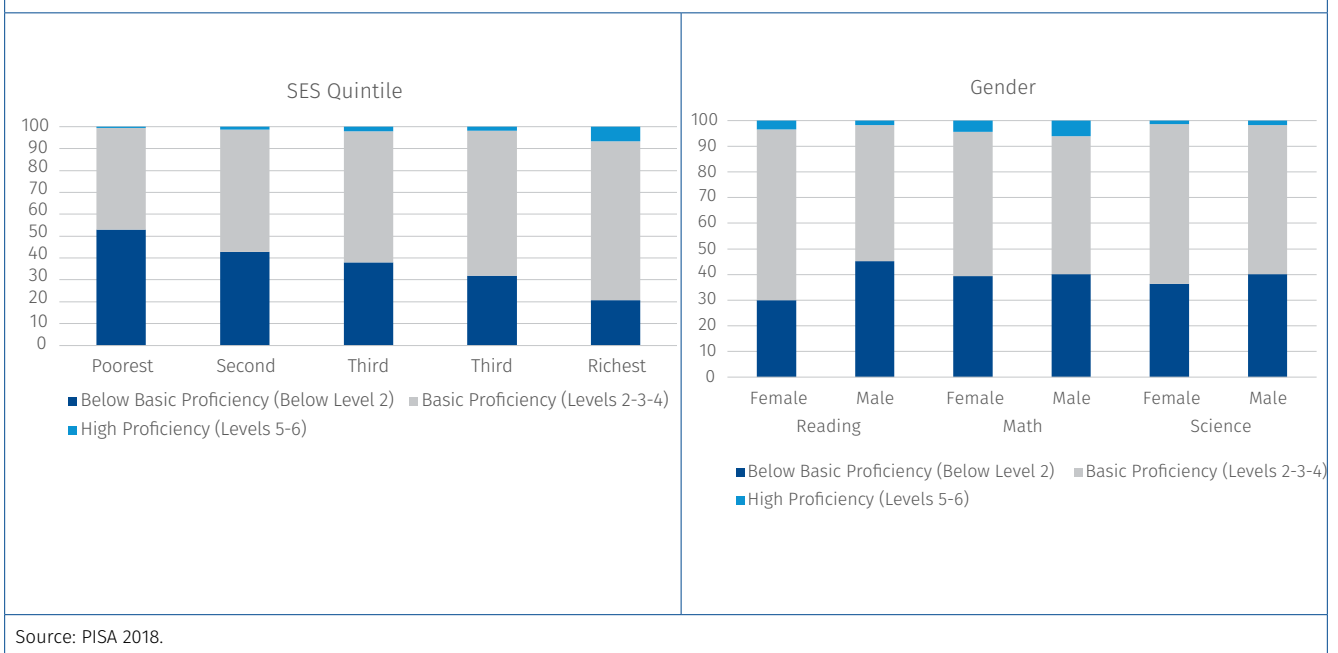


Source: Statistical Office of the Republic of Serbia.

- Lack of a quality assurance system, assessments, and monitoring:** Serbia has an examination at the end of primary education that is used to rank students for entry into secondary education. However, there is little information on the extent of formative assessments in the upper grades. Given the training that early grade teachers have, it is possible that use of formative assessments is higher in grades 1–4 than in grades 5–8. Serbia has no early warning system, so it is hard to prevent disadvantaged children from dropping out or to provide programs to help them stay in. The country does evaluate schools, though, which is a step in the right direction.

37. *From the PISA results, about 40 percent of 15-year-old students in Serbia do not have basic proficiency in reading or mathematics and score on average one year of schooling behind the OECD average (PISA 2018).* At the current pace, it would take Serbia 23 years to reach the OECD math average. The PISA figures are alarming: they reveal that students currently in the education system have a poor foundation of academic skills, though they are Serbia’s future labor force.

38. *PISA scores also reveal massive untapped resources in the form of large disparities between population subgroups.* Throughout the world SES has proved to be a major predictor of academic performance, and Serbia is no exception. PISA 2018 results reveal that 53 percent of students in Serbia from the lowest socioeconomic quintile have less than basic proficiency in mathematics, compared to only 21 percent of students from the highest quintile (Figure 26). Urban versus rural residence is also a strong predictor of performance; nearly half of rural students are below basic proficiency in all subjects. And 45 percent of boys are below basic reading proficiency, compared with 30 percent of girls, a result consistent with worldwide PISA gender trends.

Figure 26. PISA Proficiency Levels by Socioeconomic Quintile and Gender, 2012, Percent

39. *What is promising is that Serbia has the same proportions of disadvantaged students achieving at the top and at high levels of proficiency as the EU average.* A different way to look at education inequality is by exploring the proportion of students who succeed in the education system by reaching the top levels in PISA, Levels 5 and 6. In the EU students from the lowest socioeconomic backgrounds do not have much opportunity to become top performers; only 1 percent of them reach Levels 5 and 6, and only 7 percent of them reach a moderately high Level 4 (World Bank, 2018). In Serbia, around 0.7 percent of students who are poor reach Levels 5 and 6 proficiency and about 4.8 percent reach Level 4 and above, which is similar to the EU average. While these proportions are still low, given Serbia's level of development it is still an important achievement, suggesting that some students with low ESCS will be able to "escape" their present condition and prove to be resilient. Unfortunately, the proportion of poor students who achieve high levels of proficiency has reduced since 2012.

Box 4. Administration and Governance of Education in Serbia

The Ministry of Education, Science and Technological Development (MoESTD) is the main maker of decisions about education in Serbia and is responsible for research, planning, coordination, supervision, and management of the education system and all of its components.¹ The MoESTD has 18 regional offices that conduct monitoring and supervision, organize external evaluations of schools, and support schools working to improve their quality.

MoESTD coordinates the work of two institutes: The Institute for Improvement of Education and the Institute of Educational Quality and Evaluation. The first is responsible for designing curricula for primary, secondary, and adult education; setting quality standards for textbooks; and drafting other technical documents. The second is responsible for quality assurance of primary and secondary education and for external school evaluations. It is also active in research and development and national and international assessments.

The Ministry also receives expert advice and support from three autonomous councils¹: the National Education Council (NEC), the Council of VET and Adult Education (CVETAE), and the Higher Education Council (HEC). Members of all three are appointed by the government and represent stakeholders in their fields.

NEC is responsible for preschool, primary, and general secondary education and CVETAE is responsible for VET and adult education. The NEC has 35 members and the CVETAE 17. All members of both serve 4-year terms. Both have an exclusively advisory role; they make recommendations on, e.g., development and improvement of the education system, appropriate laws, and standards of achievement. They also support the Ministry in drafting strategic documents¹. Neither has any veto power.

HEC has 17 members whose 4-year terms can be renewed once. HEC's role is also mostly advisory; it supports the Ministry by providing suggestions and recommendations related to higher education. However, the HEC has some decision-making power: it sets the standards and determines the process for accrediting higher education institutions and study programs. It is also responsible for setting the minimum requirements for university instructors.

¹ Pursuant to Article 14 of the Law on Ministries (2014), "the Ministry of Education, Science and Technological Development performs activities of the state administration relating to: research, planning and development of the preschool, primary, secondary and higher education as well as student standard; supplementary education for children of Serbian nationals abroad; administrative supervision in pre-school, primary, secondary and higher education and student standard; participation in the construction, equipping and maintenance of facilities for preschool, elementary, secondary and higher education and student standard of the interest for the Republic of Serbia; expert-pedagogic supervision in pre-school, primary and secondary education and student standard; organization, evaluation of work and supervision of the training of employees in education; validation and equivalence of public documents obtained abroad; improvement of social care for gifted students; improvement of social care for students with special needs, creating the conditions for access to and implementation of projects within the competence of the Ministry funded by the EU IPA funds, donations and other forms of development assistance, as well as other duties specified by law."

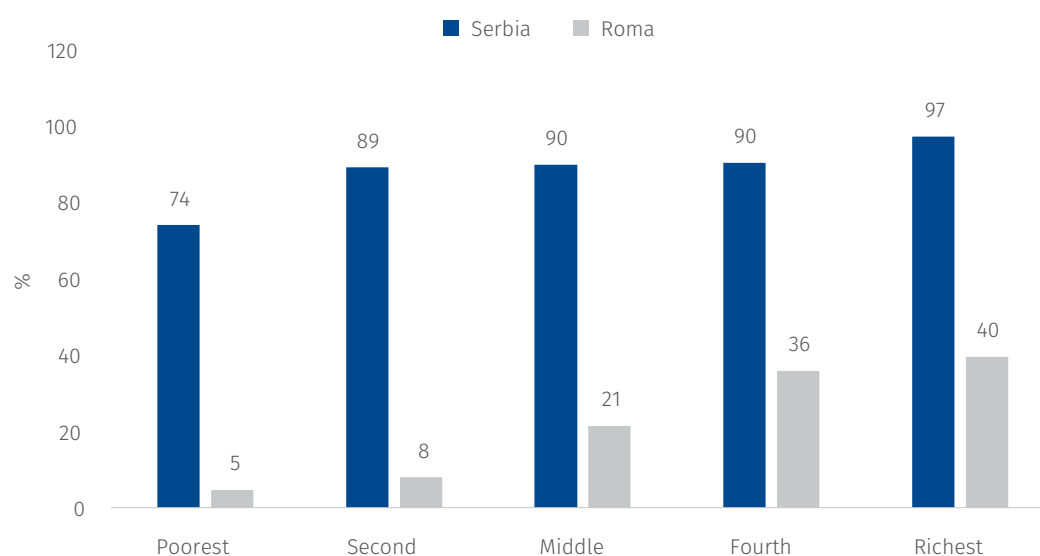
¹ In addition to the three councils, there is also the National Council for Scientific and Technological Development, which is not covered by this note.

¹ Until 2017, the NEC was responsible for adopting the curricula for elementary, general secondary, and artistic education, as well as the general subjects for VET education. Similarly, until recently the CVETAE was responsible for proposing the curricula for technical subjects for VET education. Recent changes in the Law on the Fundamentals of the Education System have taken away this responsibility so that the role of the two councils is now only to provide advice; the Minister is now responsible for adopting curricula.

Access, Quality, and Equity in Secondary Education

40. *Serbia has relatively high enrollment in secondary education*, except for Roma children (only 40 percent of the richest Roma children and 5 percent of the poorest enroll in secondary education. The fact that secondary education is not compulsory and their need to work contributes to the substantial drop of Roma students in this level of education.

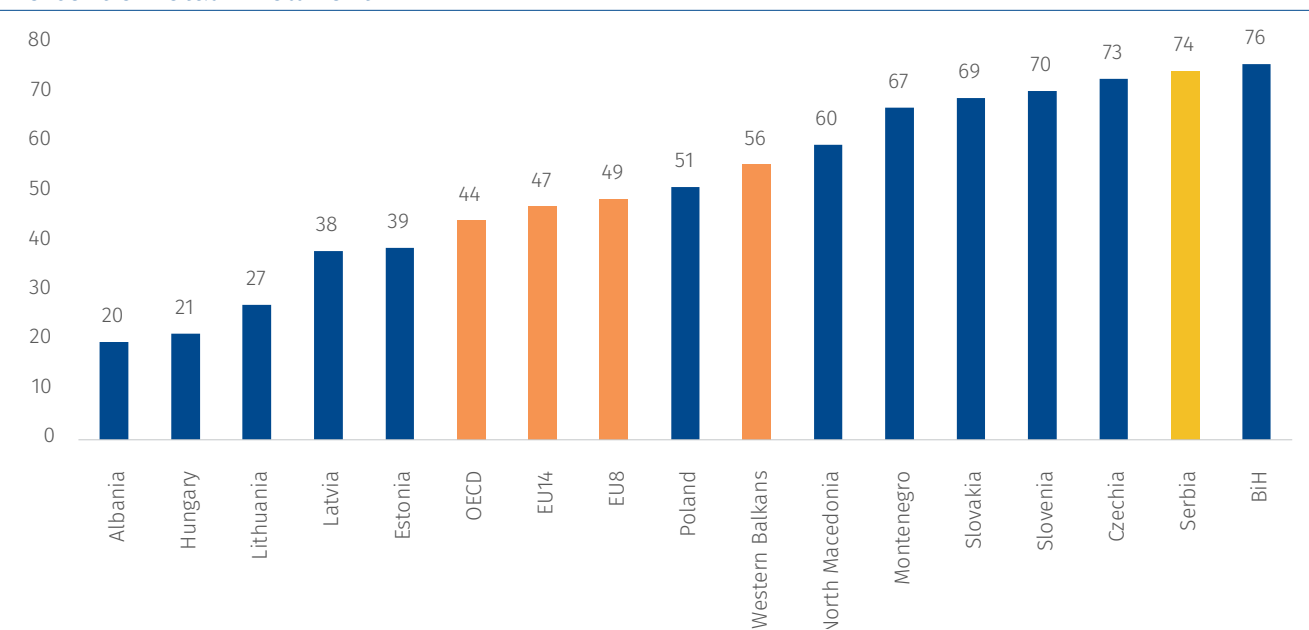
Figure 27. Age-Qualified Children Attending Secondary School or Higher, Adjusted Net Attendance Ratio, Percent



Source: Serbia Multiple Indicator Cluster survey and Serbia Roma Settlements Multiple Indicator cluster survey (2014).

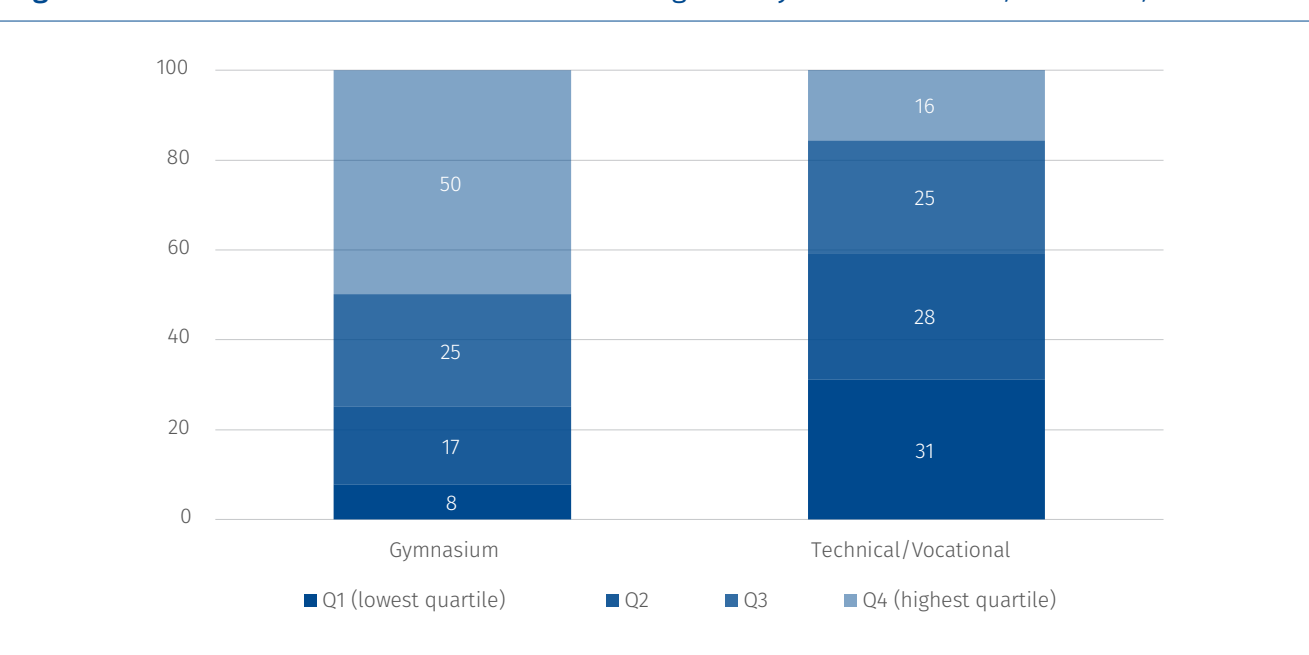
41. *In upper secondary, about 74 percent of Serbian students enter vocational rather than general education.* Secondary starts at 15 and all students who attended primary education (8 years of education) may enroll in (upper) secondary, either the general (gymnasium or academic) or vocational track. In VET they may choose a specialized three-year program whose graduates enter the labor market directly, or a four-year program, after which students can either enroll in further studies or go into the labor market. Serbia has one of the highest proportions in the region of students who stream into upper secondary VET, surpassing the average of similar countries by 18 pp (Figure 28). Only 26 percent of age-qualified students enter general upper secondary, the gymnasium level. Socioeconomic background of families is often a deciding factor in whether students choose general or vocational programs: Wealthier children enroll in general secondary at higher rates and children in the lowest quartile make up significant proportions of vocational students, especially in 3-year programs.

Figure 28. VET Enrollment in Upper Secondary, Serbia and Neighboring Countries, 2016 or Latest, Percent of Total Enrollment



Source: UNESCO Institute for Statistics (2019).

Figure 29. Enrollment in Vocational or General Programs by Wealth Quintile, PISA 2012, Percent



Source: PISA, 2018.

42. *In 2018/2019 26 percent of all upper secondary students were attending general education (gymnasium), 61 percent were in four-year VET programs, and 13 percent were in three-year VET programs.* Table 6 shows the distribution; girls are more likely to be enrolled in gymnasium (32 percent) than boys (21 percent) and less likely to be enrolled in a three-year VET program (only a third of three-year VET students are girls).

Table 5. 3- and 4-year VET Programs Compared

3-year VET programs	4-year VET programs
<ul style="list-style-type: none"> • 17.5% of VET students in 2018/2019 = 32,394 students • Lack of attractiveness • Most numerous programs: <ul style="list-style-type: none"> — Chef (11%; 3465 students) — Motor vehicle driver (10%; 3,135) — Auto mechanic (7%; 2,121) • Least numerous programs: <ul style="list-style-type: none"> — Lab worker in construction: 6 students — Mechanic medical and laboratory equipment: 9 students — Cellulose and paper maker: 9 students 	<ul style="list-style-type: none"> • Subjects: <ul style="list-style-type: none"> — Economics, law and administration (20%) — Electrical engineering (16%) — Health and social protection (15%) — Machinery and metal processing (10%) — Trade, catering and tourism (7%) • Many programs for some subjects, few for others: <ul style="list-style-type: none"> — 30 in Culture, arts and public information (5,925 students); — 2 in Hydrometeorology (211 students) or in Personal services (111 students) • Many are more technical programs than VET: <ul style="list-style-type: none"> — Little practical training — Not employer-based • Few students in: <ul style="list-style-type: none"> — Hydrometeorology (0.1%) — Geology, mining and metallurgy (0.4%) — Forestry and wood processing (1%) • 89% of students continue to university

Table 6. Enrollment in Gymnasium and VET Programs by Gender, 2018–19

Program	Girls		Boys		Total	
	N	%	N	%	N	%
Gymnasium	39,754	32	26,607	21	66,361	26
4-year VET	76,141	60	77,688	61	153,829	61
3-year VET	10,111	8	23,960	19	34,071	13
Total	126,006	100	128,255	100	254,261	100

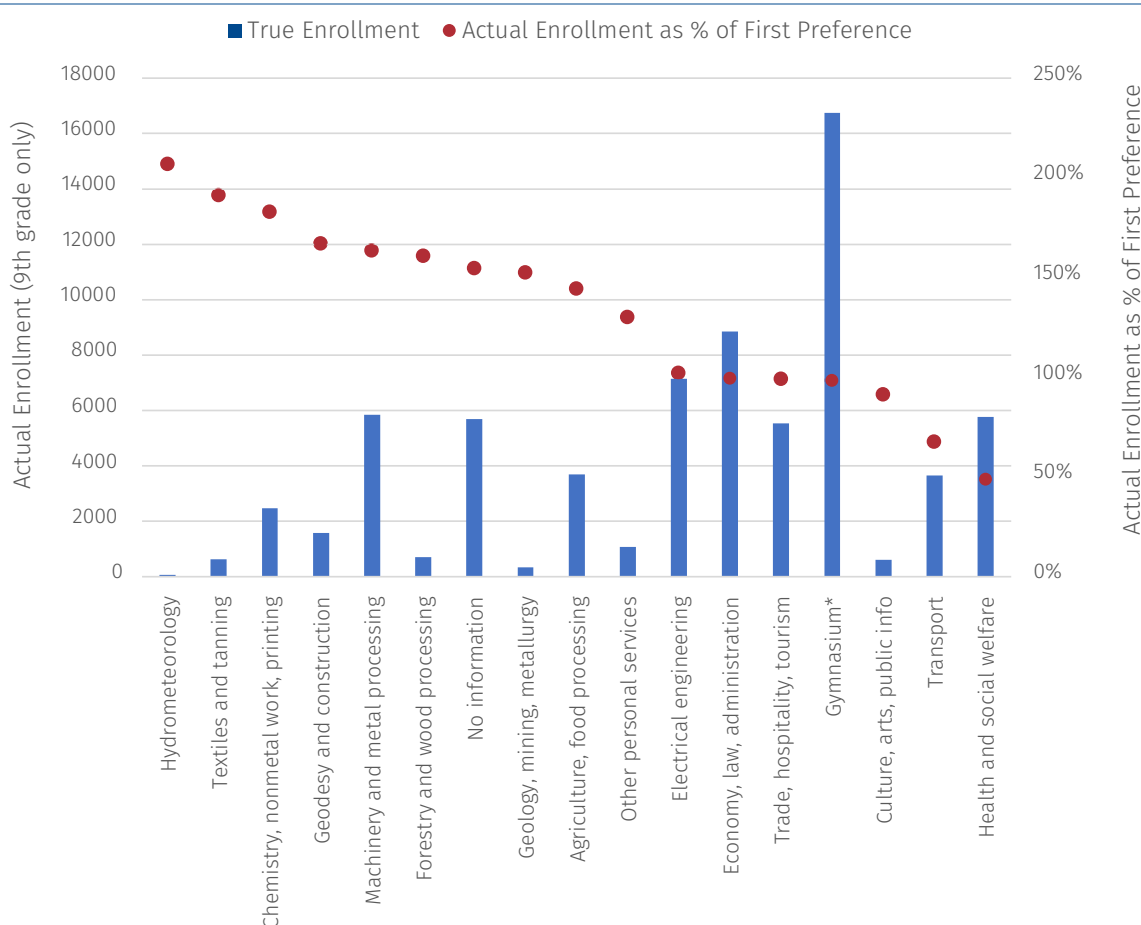
Source: MoESTD, school year 2018/2019.

43. *The distinction between VET and gymnasium in Serbia is derived from the legal definition, which is not necessarily in line with the traditional definition.*⁹ While the definition characterizes 3-year VET profiles, it does not always apply to 4-year VET profiles. Many 4-year VET programs relate to occupations in (1) economics, law and administration, (2) electrical engineering, (3) health and social welfare, (4) trade, hospitality, and tourism, and (5) transport—most of which would not be considered VET but rather be part of more technical streams of education that require more advanced academic and technical studies. There are relatively few students in the programs more commonly known as VET, such as (1) geodesy and construction, (2) mechanics and metallurgy, and (3) agriculture and food processing—except for machinery and metal processing, which has higher enrollment.

44. *The curriculum for vocational schools is different for every field of study, but a certain percentage of each vocational school curriculum coincides with the general education curriculum: 30 percent of the curriculum in 3-year schools and 40 percent in 4-year schools is general.* The rest is based on the type of institution. In addition, “occupational profiles” structure the curricula for VET programs: there are 166 profiles for 4-year programs and 121 for 3-year programs (Vasic, 2019).

45. *Although gymnasium is the first preference for many students, many good-quality vocational profiles are in high demand and manage to enroll some top-performing students.* In the VET stream, most students study economics, law and administration (13.3%), electrical engineering (10.9%), health and social welfare (9.6%), machinery and metal processing (8.7%), and trade, catering and tourism (8.1%) (SORS, 2018). There is a significant mismatch between student preferences for upper secondary VET and the supply of spaces (Figure 30). Students rank their school choices when submitting applications. There is excess demand for gymnasium and VET in services, especially health, social welfare, and transport (marked “True enrollment” in Figure 30). In these areas, VET demand exceeds supply by nearly 8,000 spaces—more than 10 percent of upper secondary students. Instead, VET schools specializing in hydrometeorology, textiles, tanning, non-metal work, and related fields ultimately admit many more students than those who made them their first preference. It would be useful to see where these students end up working: the education system may be forcing students into areas for which there are no jobs as well as no student demand.

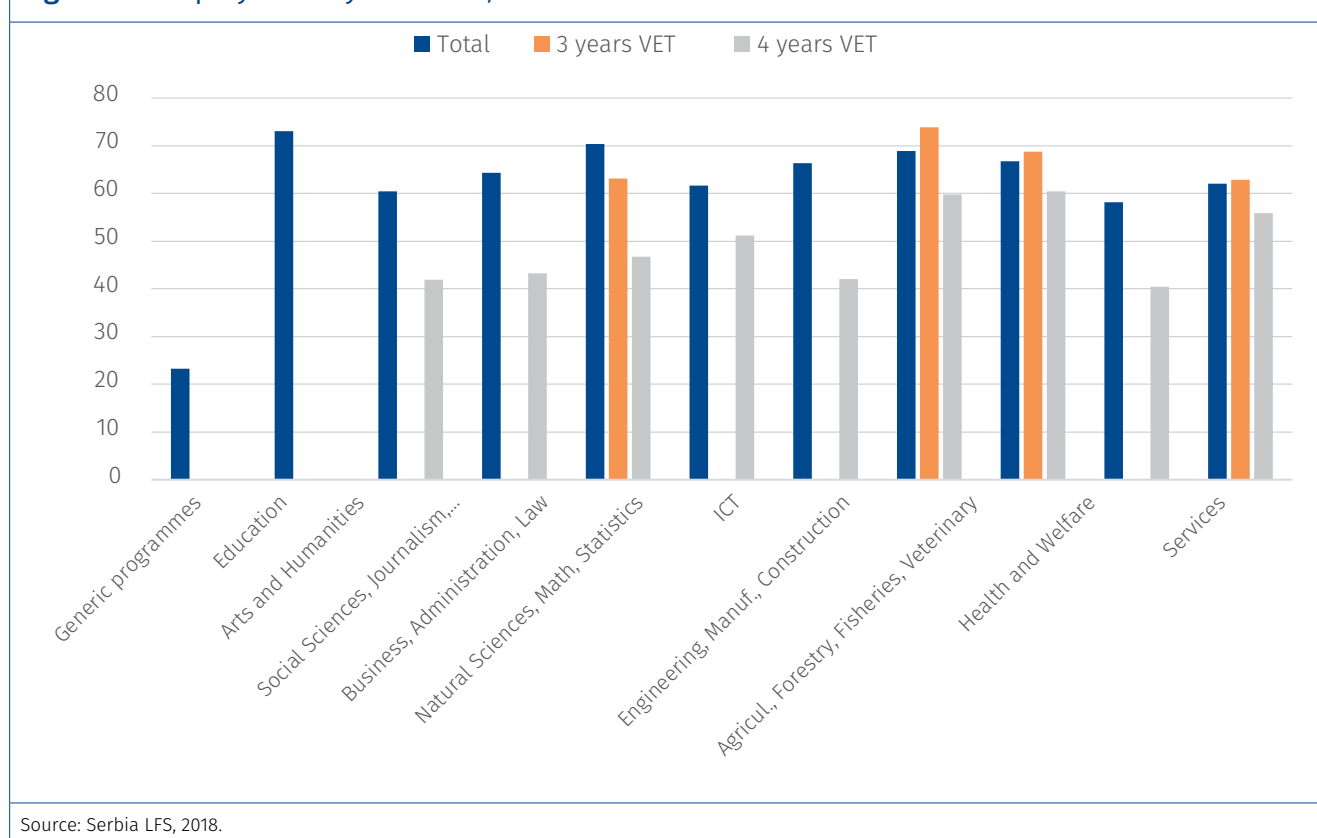
Figure 30. Enrollment vs. Preference, 2015–16)



Source: MoESTD Matura examination database.

46. *Student demand for 4-year VET profiles has been increasing and enrollment in the 3-year programs has declined.* General and 4-year VET programs lead to a certificate that allows continuation of studies in tertiary/university programs. The 3-year VET programs do not allow upward movement and are therefore less attractive (ETF 2015). One reason for rising demand for some vocational schools may be that vocational programs have multiplied and been updated, with some becoming very reputable, but the gymnasium curricula were not updated for two decades, until 2018.¹⁰ The curriculum update in 2018 consisted of introducing elective subjects.¹¹ VET graduates are perceived as less competitive than gymnasium graduates, though some might be even better prepared after attending VET and studying, e.g., economics or medicine. The high demand for 4-year VET profiles also indicates growing student interest in the possibility of continuing on to higher education while retaining the option of going into the labor market better prepared.¹² Figure 30 shows total employment and employment rates for 3- and 4-year VET graduates by secondary school field. This again highlights the need to ensure that resources dedicated to upper secondary are producing the skills that students want, in order to prepare them for either higher education or the workplace. Table 7 shows that more 3-year VET program graduates are unemployed for longer than a year after graduation.

Figure 31. Employment by VET Field, 2018



¹⁰ Students received 2 additional classes each week as part of this update, but the curricula of the compulsory subjects remained unchanged. This was not a significant reform.

¹¹ There were no elective subjects before except religion and civic education and students chose between the two. Now in the first two years there are nine elective programs: language, media and communication; individual, group, and society; health and sports; education for sustainable development; applied sciences; and art and design. Each program is one class per week. Depending on student interest and the availability of teachers, schools choose four programs to offer. Students then select 2 programs in first grade and two in second grade [shouldn't this be fifth and sixth if you're talking about secondary school?]. They can choose different programs in the second year. In the third and fourth year there are 9 elective programs: education for sustainable development; art and design; applied sciences for medical sciences orientation; applied sciences for technical sciences orientation; basics of geopolitics; economics and business; religion and civilization; methodology of research; and contemporary technologies. Each school has to offer at least five programs and students select two. They attend the same programs in third and fourth year of gymnasium, so they cannot switch as in the first two years.

¹² ETF 2013.

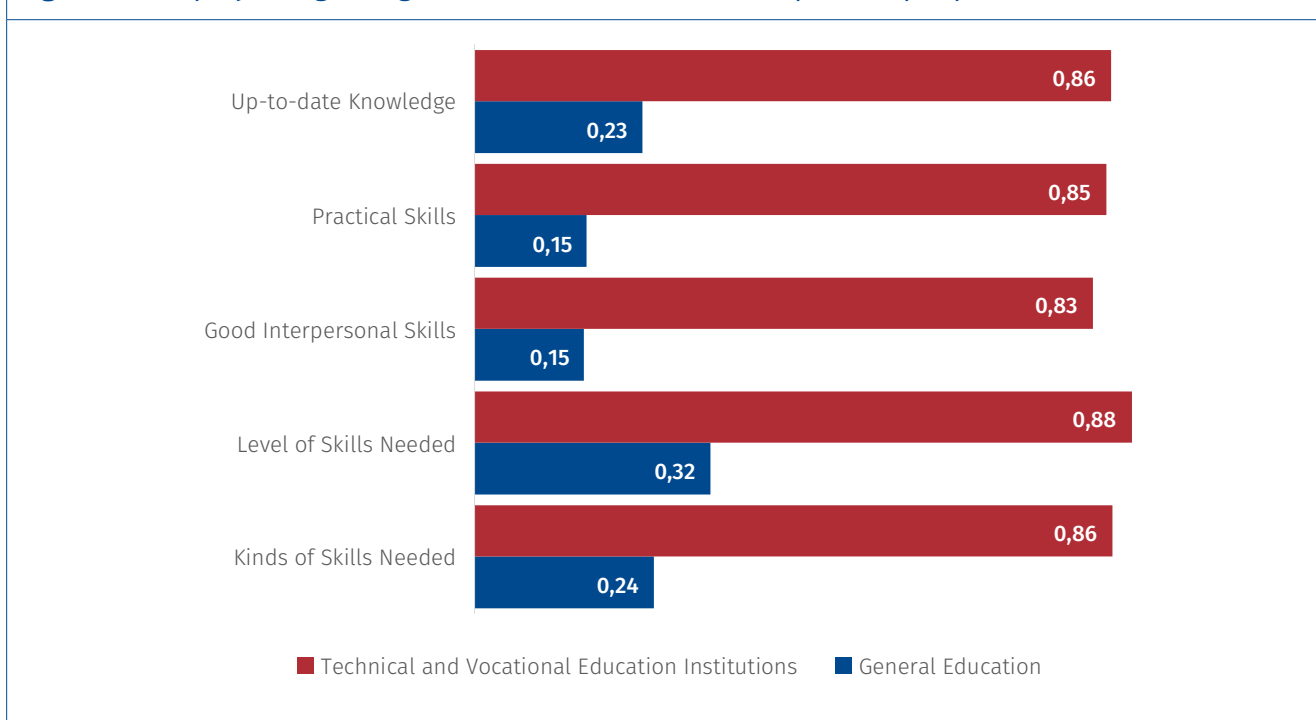
Table 7. Duration of Unemployment by Level of Education

Duration	% 6 mo	%>1year
Primary education (or less)	16	73
3-year secondary VET	20	67
4-year secondary VET + General	23	64
Higher education	25	57
Total	21	67

Source: National Employment Service, 9/30/2019

47. *The success of some VET programs is confirmed by employers' views about skills development and technical education institutions.* In general, employers report that the skills of VET graduates are more relevant than graduates of general education.

Figure 32. Employers agreeing that “Education institutions provide people with...”



Source: STEP data.

48. *Until recently, the state provided all VET in Serbia and it was conducted in a traditional way, with pupils mainly studying theory and the practical training being simulated.* In 2014, as part of a German Development Cooperation project, with the help of outside experts several 3-year VET profiles—locksmith-welder, electrician, industrial mechanic, tailor, car mechanic, and electro-fitter for networks and installations—were modernized. The project not only renewed the content of the programs but also introduced close cooperation with companies. Students in the revised programs had their practical training in school only in the first year; in the second and third years they were trained at a company. To ensure high-quality instructors at the companies, capacity development measures were identified. Preliminary findings of a rigorous impact evaluation of the project show that, six months after finishing secondary school, the students attending the updated programs had

better jobs than comparable peers, and students evaluated the upgraded profiles more highly than other profiles.

49. *Employers' perceptions and research studies reveal that VET studies are only marginally relevant to labor market demand in Serbia, where practical skills are the main requirement.*

Various policy initiatives are working to make VET (and the whole skills development process) more relevant to Serbia's labor market and societal needs, such as promotion of dual education, development of national qualifications, and sustainable establishment of sectoral skills councils. In 2016, the MoESTD and the Chamber of Commerce began to work together to institutionalize dual education in Serbia. As a result, several VET profiles were terminated and others are being modernized. The Chamber of Commerce, representing companies, supports MoESTD and the Institute for the Improvement of Education in designing VET curricula to meet current labor market needs for the professions. In the 2018/2019 school year, 4,500 students attended dual education, a little more than 2 percent of the student population; 80 schools, about 23 percent of all schools, offer at least one dual profile, and 600 companies are participating.

50. *Establishing a national model of dual and entrepreneurship education is a priority for the government and was incorporated into the Action Plan for implementing the government program in 2017 (Government of the Republic of Serbia, 2017).*

The purpose of the Law on Dual Education, which is being applied in the 2019/20 school year, is to regulate the relationship between schools, companies, and students (and their parents as legal guardians) and establish the responsibilities of the three parties. The law requires companies to obtain a certificate from the Chamber of Commerce confirming that they meet the requirements for conducting work-based training. In addition, the company staff providing the instruction need to attend a Chamber training and be issued a license. Companies cover the costs of transport, food, and insurance and provide equipment to keep the students safe. Students receive, as compensation, at least 70 percent of the minimum wage for the time they spend on work-based learning in the company. The MoESTD and the Chamber together will monitor compliance with the law.

51. *Work-based learning will comprise 20–80 percent of dual curricula.* Students can be placed in a company during the entire school year, between the hours of 8:00 am and 8:00 pm, working a maximum of six hours a day. No more than 25 percent of work-based learning can take place in school. After dual education is completed, progression to higher education is possible. In addition to the dual education push, national qualifications were adopted at the end of 2018 to link [[higher? or all?]]education and labor market needs, thus ensuring the relevance of the qualifications and skills acquired through education, improving the quality of and trust in the education system, and enhancing the employability of the workforce.

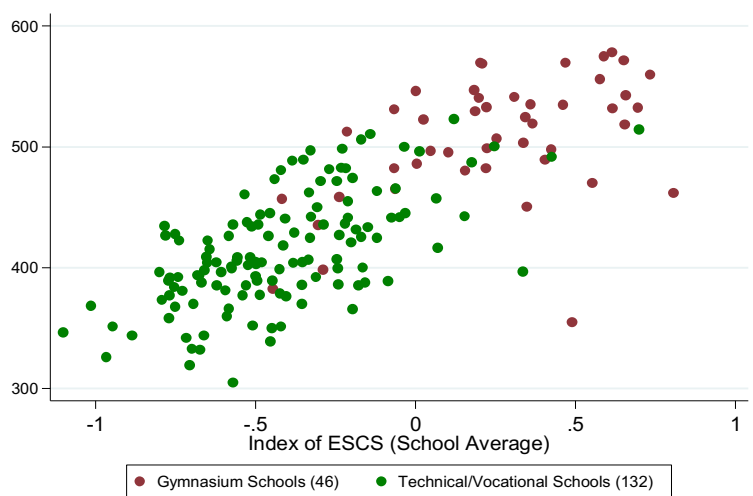
52. *It is hard to measure the quality of secondary education in Serbia because there are no assessments.*

However, from PISA results, it is clear that students from the most affluent backgrounds enroll in gymnasiums and poorer students in vocational schools, which worsens national disparities in skills acquisition and socioeconomic segregation (Figure 33). Students in gymnasium have significantly higher reading skills than students in VET schools, sometimes with differences of 200 points or more.¹³ Students from gymnasiums tend to come from households with much higher ESCS¹⁴ than the average for VET students. This means that gymnasium and VET students are segregated by both socioeconomic status and cognitive skills.

¹³ This is only at the beginning of secondary education and so does not reflect the quality of this level of education.

¹⁴ ESCS, PISA's index of economic, social, and cultural status, serves an index of the average socioeconomic status of students attending a given school.

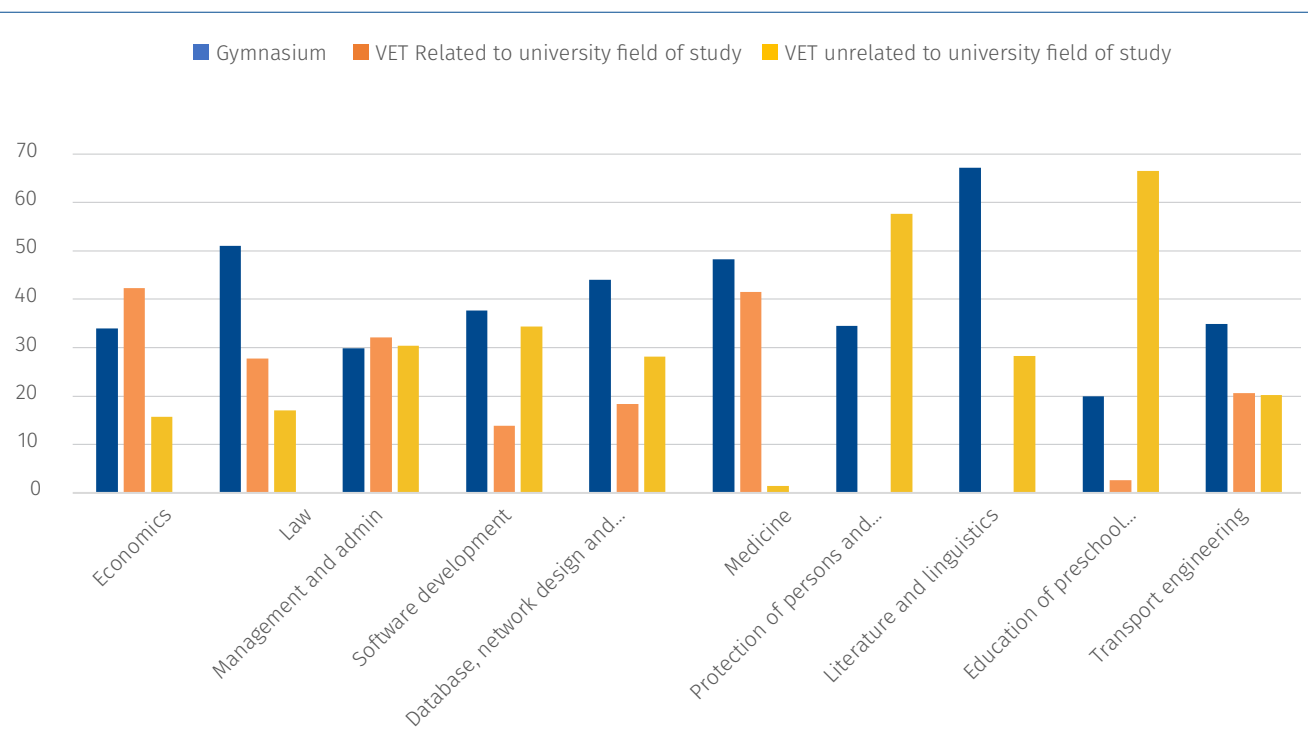
Figure 33. PISA Reading Scores and Student Socioeconomic Status, by School Type



Source: PISA 2018 data.
 Note: Technical/vocational schools represents about 73% of the students tested in PISA 2018. 15 students in 9 Primary schools are omitted in this graph.

53. *Because a large proportion of students get to higher education through vocational schools (Figure 34), making VET schools more relevant to skills the labor market demands (and making gymnasiums more competitive and relevant) may yield efficiency gains as well as improving student skills.* Evidence from other countries has shown that VET can cost up to five times as much as general education, partly because of non-teaching costs for, e.g., machinery and equipment, but also because VET student-teacher ratios and classes are much smaller. In Serbia, for some fields of study with few hands-on classes, the cost is similar to the per-student cost of gymnasium (e.g., economy, law and administration). For others with many apprenticeship and hands-on classes (e.g., health and social work), the per-student cost can be much greater.

Figure 34. University Programs by Secondary School New Students Attended, 2018



Source: Serbia Statistical Office, 2019

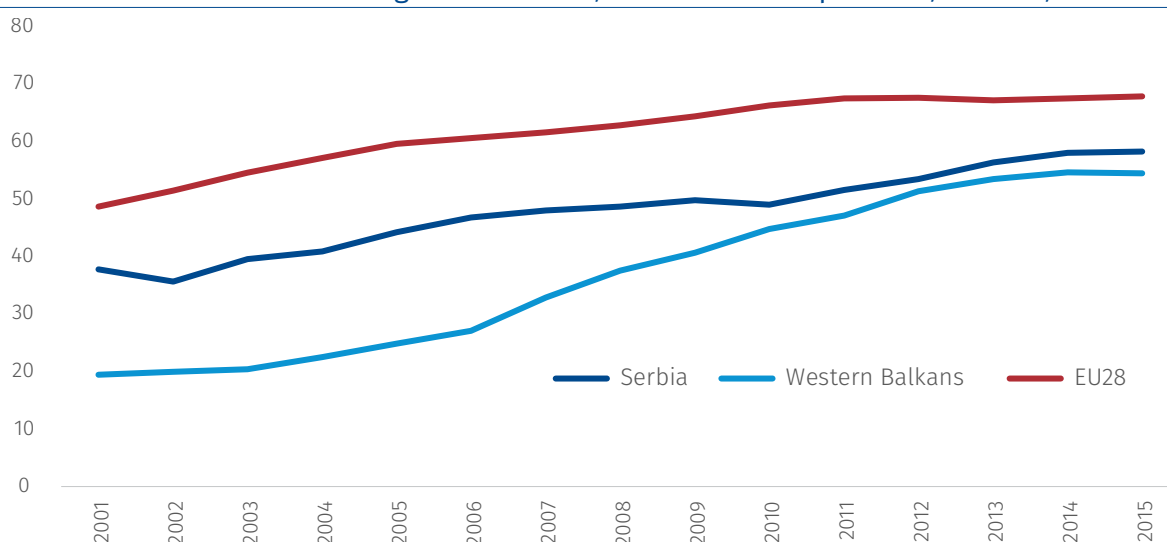
54. *The high concentration of upper secondary VET could further contribute to basic skills shortages and disparities arising in basic education* and may at least partly explain why Serbia has a lower gross enrollment in tertiary education than many neighboring countries and the EU average.

Access, Quality, and Equity in Higher Education

55. *Access to higher education is open to every person who finishes a four-year secondary school.* In Serbia it is organized in three cycles: (1) Basic academic studies take three to four study years and currently enroll over 75 percent of students. (2) Master's-degree studies attract about 18 percent, and (3) PhD studies account for up to 5 percent of tertiary students in Serbia (SORS, 2018). Serbia also has four types of higher education institutions (HEIs): universities, colleges of applied studies, colleges of academic studies, and academies of applied studies. A university is an independent HEI that can offer academic and vocational or applied programs at each of the three levels of study. Universities integrate the functions of their constituent institutions and units, notably faculties, through unified policies to promote the quality of courses and improve scientific research and artistic creativity. A college of academic studies is an independent HEI that can organize and conduct only first and second-cycle study programs (bachelor's and master's academic studies). A college of applied studies is an independent HEI that can organize first- and second-cycle study programs (vocational studies at bachelor, master, and specialized levels). An academy of applied studies is an institution that integrates several vocational study colleges. While the higher education system currently does not include any such institutions, their formation is being considered.

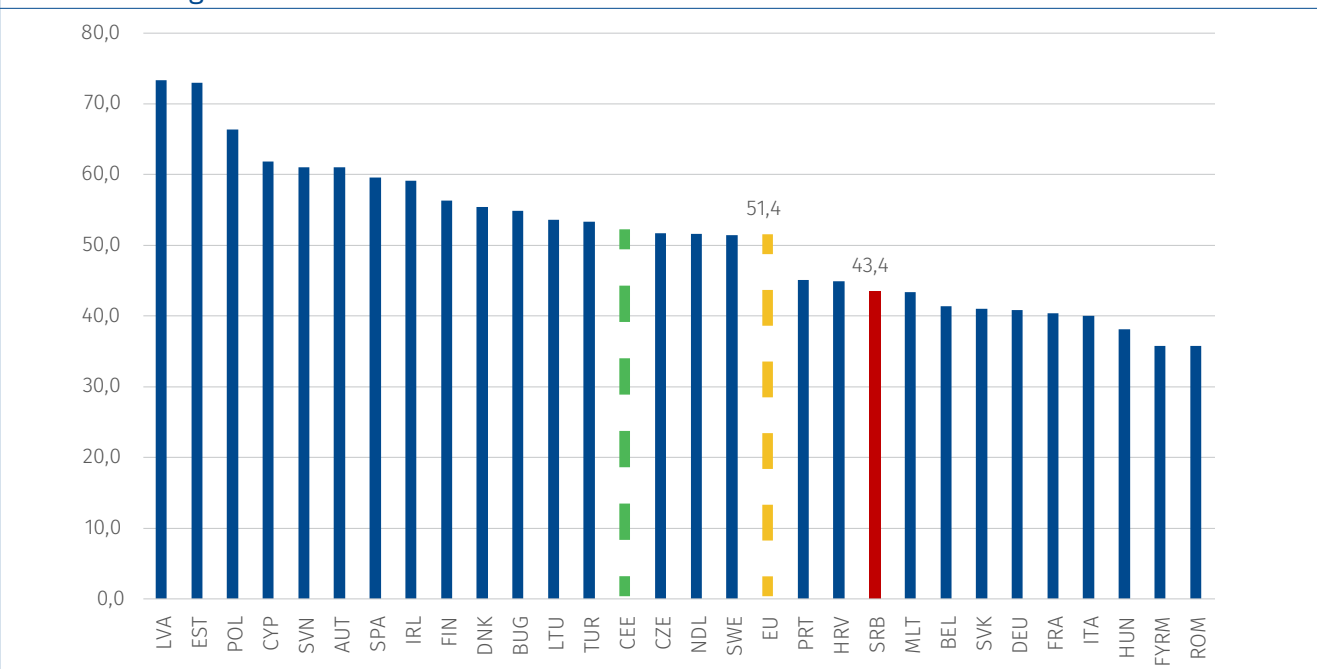
56. *Access to higher education in Serbia has steadily increased over the last decade; however, it still does not meet the EU-28 70 percent average.* In the 2018/19 school year, the number of higher education students totaled 256,172, a rise of about 30 percent since the early 2000s. Overall, gross enrollment went up from 40 percent in 2001 to 58 percent in 2017 (Figure 35). Because of the relatively low enrollment, only 24 percent of Serbia's workers aged 25–64 has any higher education, compared to 32 percent in the EU28. This is partly because the transition from secondary to tertiary education is still not as smooth in Serbia as in many other European countries (Figure 36) even though Serbia's net enrollment of 86 percent in secondary education is above the 82 percent EU28 average.

Figure 35. Gross Enrollment in Higher Education, Serbia and Comparators, 2001–15, Percent



Source: UNESCO Institute for Statistics (2019).
Note: Western Balkans average includes Albania, Montenegro, and North Macedonia.

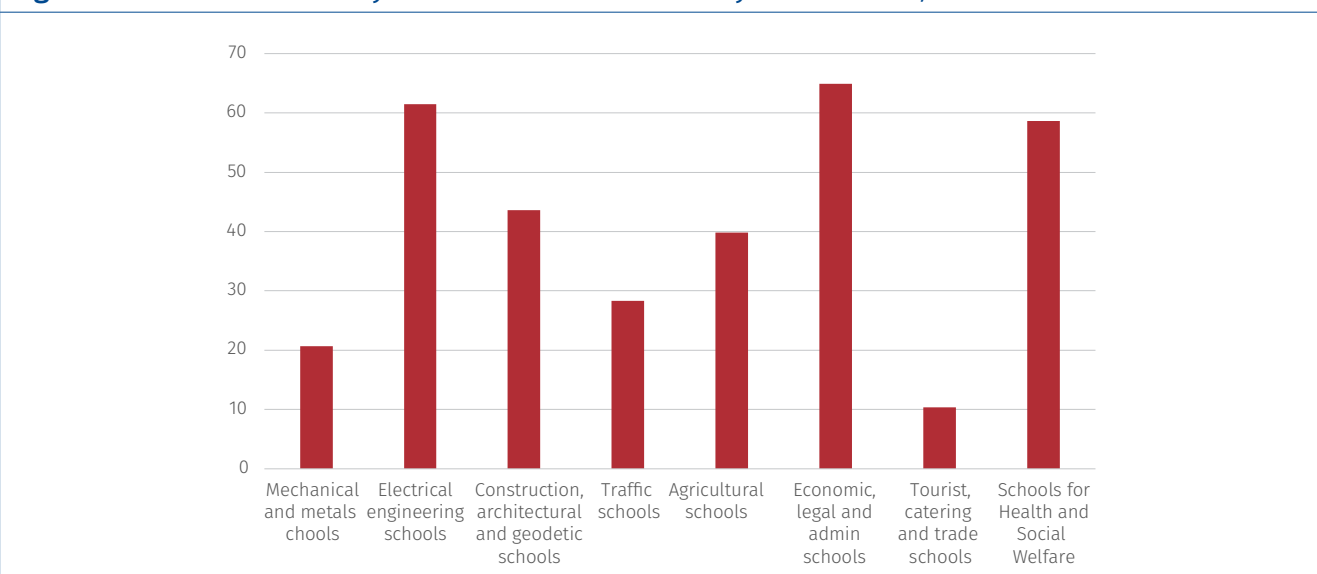
Figure 36. Higher Education Enrollment, European Countries, Percentage of Secondary Graduation, 2012–15 Average



Source: Eurostat, *ia*, Montenegro, and North Macedonia.

57. *Most new tertiary students in 2018/2019 had completed 4-year VET programs, although general secondary students also have a high rate of transition to tertiary education.*¹⁵ In the 2017/18 school year, about 34,000 students entered higher education, of whom 62 percent had completed four-year VET programs and 38 percent had completed general secondary education (SORS 2018).¹⁶ Figure 37 shows the share of pupils who are enrolled in universities in a field related to the secondary VET school they attended. Enrollment in higher education among the wealthier population is about 80 percent, much higher than the national average of 58 percent; it appears that socioeconomic status is still a factor that determine educational opportunities in Serbia.

Figure 37. Student University Fields and their Secondary School Field, 2018



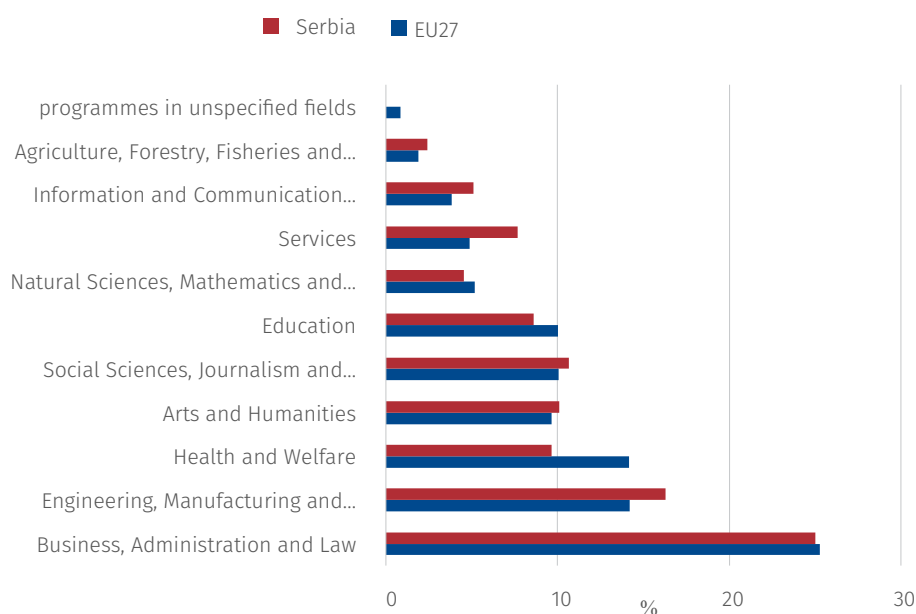
Source: Serbia Statistical Office, 2019
 Note: The data excludes schools with fewer than 300 graduates.

15 General education students tend to come from the richest households.
 16 Statistical office of the Republic of Serbia, Higher Education in 2017/2018.

58. *A system where a large share of VET graduates then pursue tertiary education can be considered inefficient.* The problems are that (1) Many VET graduates enter university programs for which they are poorly trained—such as philosophy, political science, or pedagogy—rendering their previous training obsolete. And (2) VET students whose university programs are indeed related to their formal training must now attend courses geared to gymnasium students who are beginners in the subjects.

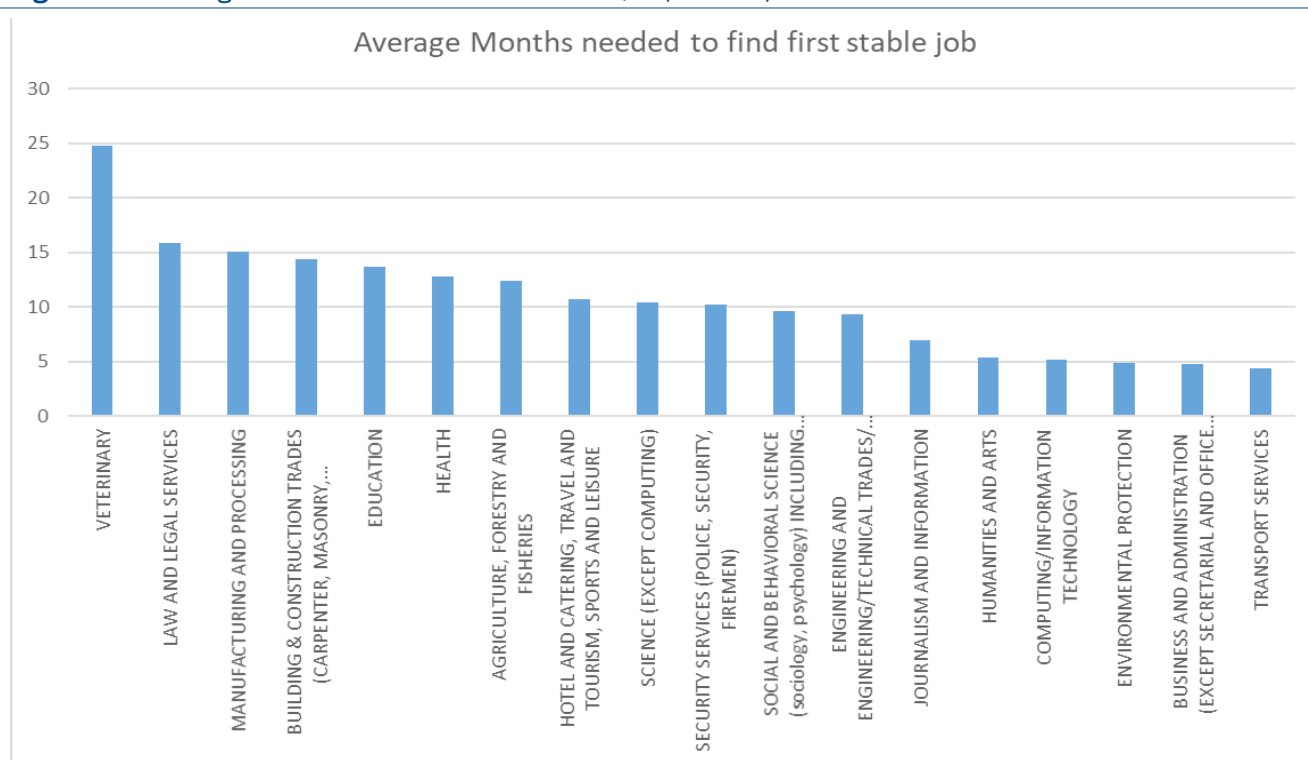
59. *Most students in higher education graduate with degrees in business, administration, and law, followed by degrees in engineering, manufacturing, and construction (Figure 38).* Finding a job in business, administration, the computer field, or IT can take only a couple of months; however, for graduates in veterinary medicine, law, and manufacturing it can take more than a year (Figure 39). Similarly, 19 percent of new entrants to higher education graduated from secondary school business, law, and administration programs. As a result of the skew toward these programs in VET and tertiary education, graduates may be unable to acquire the skills demanded by the labor market despite being on par with the EU as a trend.

Figure 38 Students Graduating in 2017/2018, by Field of Education, Serbia and EU27 [[28?]]



Source: Statistical Office of the Republic of Serbia 2018.

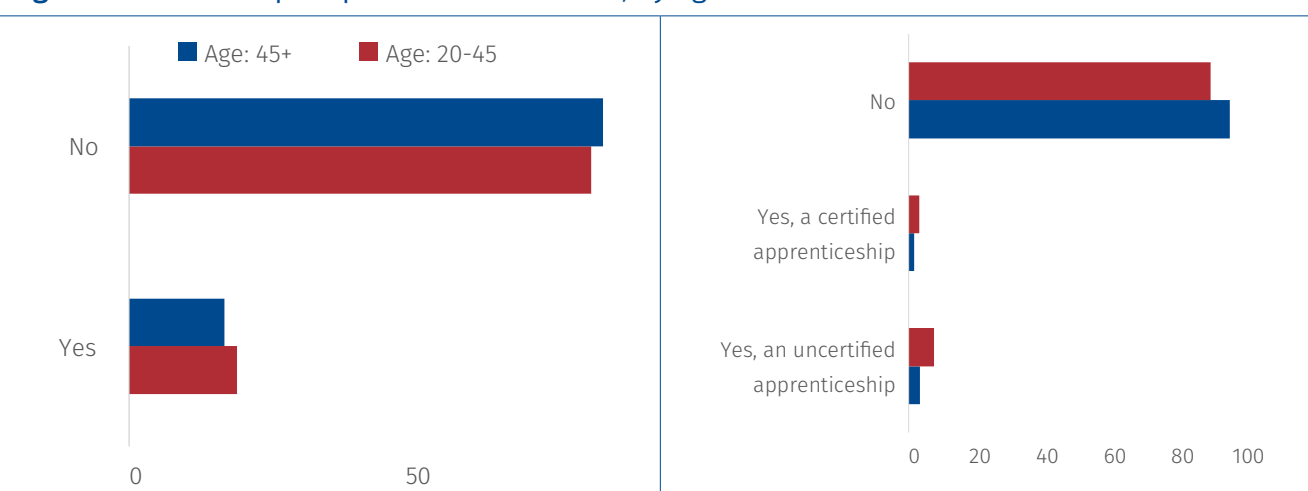
Figure 39. Average Time in Months to Get First Job, Serbia, 2015–16



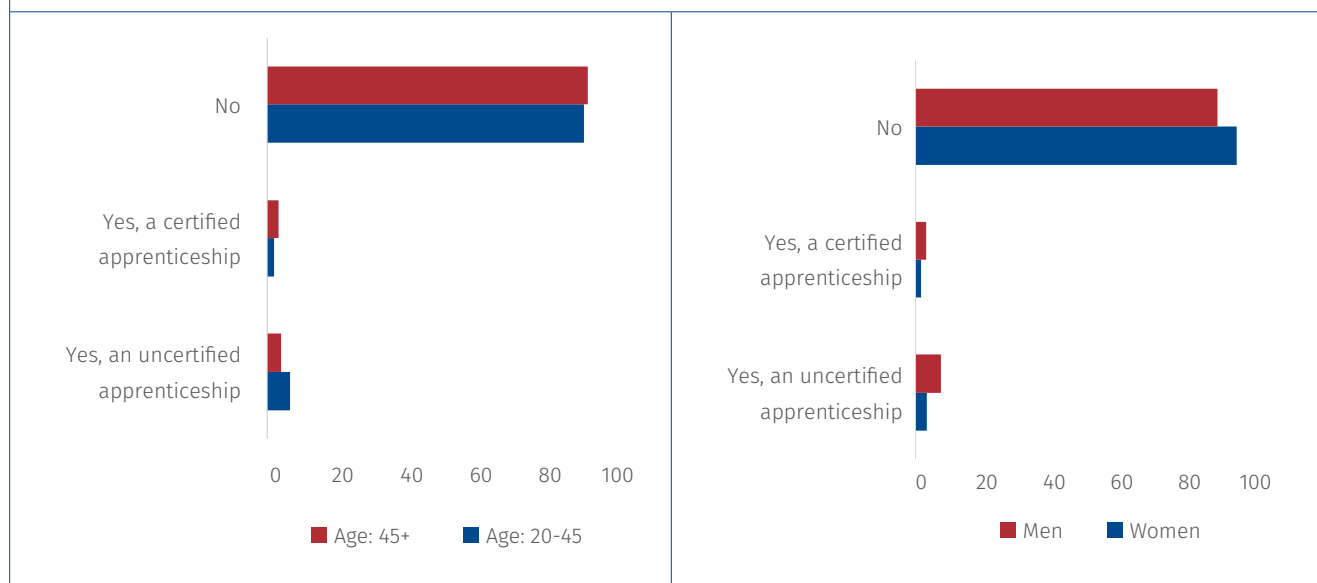
Source: Serbia's STEP Employer Survey (2015–16).

60. *Higher education has only a tenuous connection to labor demand, research and innovation, or other fields that would attract university graduates.* Young people who finished primary education or left earlier, secondary general education, or higher education experienced more problems with the transition from school to work than those who completed secondary vocational education. This implies that the labor market demands technical rather than general skills and knowledge. The main problems related to the transition seem to be traditional teaching methods, obsolete curricula, limited opportunities to gain practical skills and insufficient integration of university research and innovation (ETF 2019). Practical training may counteract some of these shortcomings. In Serbia fewer than 20 percent of tertiary students must complete internships (Figure 40), and only 10 percent of working-age Serbians has ever served an apprenticeship (Figure 41).

Figure 40. Internship Required for Graduation, by Age and Gender



Source: STEP Household Survey 2016, representative of urban areas.

Figure 41. Ever Participated in an Apprenticeship, by Age and Gender

Source: STEP Household Survey 2016, representative of urban areas.

61. *Universities have considerable autonomy in Serbia, but the public ones are funded by the MoESTD.* Universities are often collections of faculties, so the central administration has little scope for steering the institution, including enrollment of students in degree programs. University funding is not based on performance but on historical input budgets. Nor can MoESTD evaluate university outcomes because there is no data management system to do so. In sum, the quality of higher education institutions is difficult to assess because there is little information on accredited programs or assessment of teaching quality.

62. *However, international rankings of higher education in Serbia are significantly lower than the EU and CEE averages.* Only one of the country's 18 universities, the University of Belgrade, scores highly in global rankings, which exposes the relatively poor international competitiveness of Serbian higher education (Colic and Randjelovic, 2018).

63. *Nonetheless, higher education graduates earn 8 percent more than their peers for every year spent in higher education.* The returns to tertiary education are high, which suggests there is a demand for graduates (Table e 8). The returns are slightly higher for women (8.30 percent) than for men (7.61 percent), which is consistent with estimates found in the literature (Psacharopoulos & Patrinos 2018).¹⁷ It appears that the labor market rewards the higher-order skills achieved through the attainment of higher-level quality education. However, today more university graduates are inactive or underemployed than in the past.

17 The main results are drawn from Serbia's 2016 Survey on Income and Living Conditions (SILC 2016) and are consistent with estimates using data from earlier years and the economic literature (Montenegro & Patrinos, 2014). These returns are estimated using Mincer earnings functions—models where wages are a linear function of years of schooling, and a quadratic function of years of experience: $\ln(w_i) = \alpha + \beta_1 S_i + \beta_2 S_i^2 + \beta_3 X_i + \beta_4 E_i + \beta_5 E_i^2 + \beta_6 C_i + \beta_7 C_i^2 + \beta_8 C_i^3 + \beta_9 C_i^4 + \beta_{10} C_i^5 + \beta_{11} C_i^6 + \beta_{12} C_i^7 + \beta_{13} C_i^8 + \beta_{14} C_i^9 + \beta_{15} C_i^{10} + \beta_{16} C_i^{11} + \beta_{17} C_i^{12} + \beta_{18} C_i^{13} + \beta_{19} C_i^{14} + \beta_{20} C_i^{15} + \beta_{21} C_i^{16} + \beta_{22} C_i^{17} + \beta_{23} C_i^{18} + \beta_{24} C_i^{19} + \beta_{25} C_i^{20} + \beta_{26} C_i^{21} + \beta_{27} C_i^{22} + \beta_{28} C_i^{23} + \beta_{29} C_i^{24} + \beta_{30} C_i^{25} + \beta_{31} C_i^{26} + \beta_{32} C_i^{27} + \beta_{33} C_i^{28} + \beta_{34} C_i^{29} + \beta_{35} C_i^{30} + \beta_{36} C_i^{31} + \beta_{37} C_i^{32} + \beta_{38} C_i^{33} + \beta_{39} C_i^{34} + \beta_{40} C_i^{35} + \beta_{41} C_i^{36} + \beta_{42} C_i^{37} + \beta_{43} C_i^{38} + \beta_{44} C_i^{39} + \beta_{45} C_i^{40} + \beta_{46} C_i^{41} + \beta_{47} C_i^{42} + \beta_{48} C_i^{43} + \beta_{49} C_i^{44} + \beta_{50} C_i^{45} + \beta_{51} C_i^{46} + \beta_{52} C_i^{47} + \beta_{53} C_i^{48} + \beta_{54} C_i^{49} + \beta_{55} C_i^{50} + \beta_{56} C_i^{51} + \beta_{57} C_i^{52} + \beta_{58} C_i^{53} + \beta_{59} C_i^{54} + \beta_{60} C_i^{55} + \beta_{61} C_i^{56} + \beta_{62} C_i^{57} + \beta_{63} C_i^{58} + \beta_{64} C_i^{59} + \beta_{65} C_i^{60} + \beta_{66} C_i^{61} + \beta_{67} C_i^{62} + \beta_{68} C_i^{63} + \beta_{69} C_i^{64} + \beta_{70} C_i^{65} + \beta_{71} C_i^{66} + \beta_{72} C_i^{67} + \beta_{73} C_i^{68} + \beta_{74} C_i^{69} + \beta_{75} C_i^{70} + \beta_{76} C_i^{71} + \beta_{77} C_i^{72} + \beta_{78} C_i^{73} + \beta_{79} C_i^{74} + \beta_{80} C_i^{75} + \beta_{81} C_i^{76} + \beta_{82} C_i^{77} + \beta_{83} C_i^{78} + \beta_{84} C_i^{79} + \beta_{85} C_i^{80} + \beta_{86} C_i^{81} + \beta_{87} C_i^{82} + \beta_{88} C_i^{83} + \beta_{89} C_i^{84} + \beta_{90} C_i^{85} + \beta_{91} C_i^{86} + \beta_{92} C_i^{87} + \beta_{93} C_i^{88} + \beta_{94} C_i^{89} + \beta_{95} C_i^{90} + \beta_{96} C_i^{91} + \beta_{97} C_i^{92} + \beta_{98} C_i^{93} + \beta_{99} C_i^{94} + \beta_{100} C_i^{95} + \beta_{101} C_i^{96} + \beta_{102} C_i^{97} + \beta_{103} C_i^{98} + \beta_{104} C_i^{99} + \beta_{105} C_i^{100}$ where w_i is the wage of individual i ; S_i are location fixed effects; E_i is the level of education (none, primary, secondary, and higher education); and X_i is a polynomial of individual controls including age and years of experience. The models used also take into account the wage premiums associated with working in bigger cities, which has been shown to be an important wage determinant (Combes et al. 2012; De la Roca & Puga 2017).

Table 8: Returns to Higher Education in Serbia: Linear Regression Model (Dependent variable log wages)

Model	HE vs Rest	HE vs SE	HE vs PE	HE vs SE	HE vs SE	
Returns to HE	8.273 *** (0.322)	7.947*** (0.328)	11.548*** (2.656)	7.611*** (0.566)	8.304*** (0.396)	
Male Sample	Yes	Yes	Yes	Yes	No	
Female Sample	Yes	Yes	Yes	No	Yes	
Observations		3930,0	3569,0	1127,0	1885,0	1684,0
Adjusted R-squared		0,199	0,201	0,090	0,138	0,247

Robust standard errors in parenthesis

*10%, **5%, ***1%

Notes: HE vs Rest: Returns to Higher Education compared to the rest of the population.

HE vs SE: Returns to Higher Education compared to Secondary Education. HE vs PE:

Returns to Higher Education compared to Primary Education. Controls: Gender, Age, Experience, Experience Squared.

Source: Serbia's SILC 2016

64. **Cognitive and socio-emotional skills increase with education and are highest among higher education graduates (Table 9).** However, there can be many reasons for the correlation between socio-emotional skills and education. For example, people with higher socio-emotional skills might be sorting themselves into higher levels of education. It may also be that people who have achieved more education might have learned and developed their socio-emotional skills more than their peers with less education. Finally, as income is associated with higher socio-emotional skills, people from higher-income families, who also tend to achieve more education, may have more opportunities to develop their skills.

Table 9: Profile by Education level

Characteristic	No Formal Education	Primary Education	Secondary Education	Specialization after SE	Higher Education
Literacy	123,8	228,4	263,1	271,1	280,9
Extraversion	3,6	3,7	3,8	3,8	3,9
Conscientiousness	3,7	3,7	3,8	3,8	3,9
Openness	3,3	3,7	3,9	4,0	4,1
Emotional Stability	2,8	3,3	3,4	3,5	3,5
Agreeableness	3,8	3,9	4,0	4,1	4,1
Grit	3,9	4,0	4,2	4,3	4,4
Decision Making	3,9	4,0	4,2	4,3	4,3
Observations	124	446	1.747	246	574

Source: STEP 2016 Data

65. **Serbia's public spending on higher education equals about 1.12 percent of GDP, close to the EU median of 1.18 percent, but at 0.9 percent of GDP its spending on research and development (R&D) is substantially lower than the EU average of 2.03 percent.** There is minimal public-private collaboration on research, so there is little commercialization of research results to support economic growth. The financing model for higher education and R&D is inefficient because it is largely noncompetitive. Higher education does not have an overarching and agreed-upon strategy that could provide the basis for defining performance throughout the system.

66. *The Strategy for the Development of Education in Serbia until 2020 has two important goals for higher education: (1) At least 40 percent of students who finish 4-year vocational secondary education and 95 percent of those who finish general secondary education should enter the 3rd cycle of studies.* And (2) at least 50 percent of students who earn a bachelor's degree should enroll in a master's program and at least 10 percent of master's students should move into a PhD program. In accordance with this strategy the national action plan aims to increase the number of students from underrepresented groups in higher education by establishing a system for monitoring the availability of higher education programs and the mechanisms of support for students from underrepresented groups.

IV Policy Recommendations

Reform	Action	Responsible Entity	Timing: ST (<1 year), MT (>1 year)	Required Change in the Law	Fiscal Cost (ST): none, small, large	Priority (highest = 1)
A. Increase coverage of high-quality preschool education especially for vulnerable groups.	1. Increase coverage of preschool education, using primary school facilities, where available.	LSGs	MT	None	Large	1
	2. Stimulate demand for preschool through communication campaigns to change parents' attitudes.	MoESTD	MT	None	Small	1
	3. Remove the 20 percent copayment for preschool for the poorest families and consider other financing models (such as copayment dependent on income) which could lower the cost of preschool for disadvantaged families not covered by the Law of Financial Support to Families with Children.	MoESTD	MT	Yes	Depends, could be none	2
	4. Increase funding to municipalities, from national to local levels, for preschool education through a per-student formula.	MoF & MoESTD	MT	Yes	?	2
B. Improve the relevance and quality of inclusive general education (compulsory education).	5. Streamline and modernize the curriculum in upper primary education--reduce fragmentation of curricula, assess number of subjects and relevance of electives; and emphasize socioemotional skills.	MoESTD	MT	None	Medium	2
	6. Improve educational outcomes by introducing formative assessments and develop an integrated information system to monitor education/	MoESTD	MT	Yes	Large	2
	7. Improve teaching practices (upper primary and secondary education) through enhanced teacher professional development and realignment of teacher deployment policies.	MoESTD	MT	?	Large	2
	8. Optimize the school network, where feasible, to improve teacher conditions--particularly for grades 5 and above. A per-student financing formula that allocates funds based on number of students, rather than number of teachers, and other equity characteristics--could provide incentives to municipalities to better optimize their school network.	LSGs & MoESTD	MT	None	Small	2

<i>Reform</i>	<i>Action</i>	<i>Responsible Entity</i>	<i>Timing: ST (<1 year), MT (>1 year)</i>	<i>Required Change in the Law</i>	<i>Fiscal Cost (ST): none, small, large</i>	<i>Priority (highest = 1)</i>
C. Keep VET profiles updated and reduce the proportion of students in VET.	9. Regularly update both VET programs offered and their content and increase proportion of students in apprenticeships programs, working with the Chamber of Commerce and other labour market actors.	MoESTD	MT	None	Medium	2
	10. Reduce the proportion of students that choose VET to increase efficiency and reduce costs.	MoESTD	MT	None	Small	3
D. Improve access to and the relevance of higher education.	11. Introduce performance-based financing for universities to better steer higher education outcomes.	MoESTD	MT	Yes	Small	2
	12. Enhance accountability and the strategic relevance of higher education by developing diagnostics to help set the strategic direction and find opportunities to introduce quality assurance mechanisms.	MoESTD	MT	Yes	Small	

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This note is part of the Serbia Country Economic Memorandum (CEM) 2.0, "Serbia's New Growth Agenda."

The report and associated papers outline a strategy that could seize the opportunity provided by the country's successful macroeconomic stabilization to boost growth to 7 percent a year, nearly double its current rate of 3-4 percent. Serbia is well-positioned to turn itself into a fast-growing, sophisticated, modern economy, that, driven by its private sector, catches up rapidly with peers in Central and Eastern Europe and converges with the EU. With an ambitious new growth strategy, this vision of Serbia is entirely within reach.

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