

# 1 Western Balkan participation and outcomes in PISA 2018

## Education in the Western Balkans

The turn of the new millennium marked a period of stability and economic progress in Eastern Europe, with many countries from the area experiencing record growth and joining the European Union (EU). However, the six economies of the Western Balkans<sup>1</sup> (Albania, Bosnia and Herzegovina, North Macedonia, Montenegro, Kosovo and Serbia) have struggled to achieve the same level of social and economic development as many neighbouring countries. Notably, the region's average per-capita gross domestic product (GDP) remains much lower than that of Central and Eastern European Countries (CEEC)<sup>2</sup> and unemployment rates, especially among youth, are very high in many parts of the Western Balkans (Table 1.2). Economies in the region have introduced reforms to improve their competitiveness and strengthen governance, motivated in part by the eventual goal of EU membership.

Education is a central pillar of regional reform efforts as knowledge and skilled populations are considered crucial for building dynamic economies and inclusive, cohesive societies. The Western Balkans have achieved near universal access to primary and lower secondary schooling, but participation rates of upper-secondary completion are below EU standards and the quality and relevance of learning is an increasing concern. In response, economies in the region have introduced competence-based curricula, adopted professional standards for teachers and established school evaluation frameworks in attempts to modernise the instructional system and better equip young people with the skills they need to succeed. However, these reforms, while sometimes contributing to overall improvement, are not benefitting all population groups equitably and large shares of students continue to leave school without mastering important basic competences. Addressing these challenges will be crucial to the region's economic development, social prosperity and integration into Europe.

## Purpose of this paper and sources of evidence

The pivot of Western Balkan economies towards the EU and their focus on improving education have contributed to their increased engagement in international educational activities. A key part of this engagement is participation in the OECD's Programme for International Student Assessment (PISA), which benchmarks the performance of education systems around the world. Western Balkan economies have participated in PISA since 2000 and all six economies participated together for the first time in 2018. Moreover, over the past two years, four Western Balkan economies have completed or are participating in OECD policy reviews of their educational evaluation and assessment systems, conducted in collaboration with the United Nations Children's Fund (UNICEF). These activities have generated a rich knowledge base about education in the Western Balkans (OECD, 2019<sup>[1]</sup>; Maghnouj et al., 2019<sup>[2]</sup>; Maghnouj et al., 2020<sup>[3]</sup>).

This paper uses PISA data, policy findings from OECD-UNICEF country reviews and international research to identify strengths and challenges that are common to Western Balkan education systems (some issues

are only relevant to some systems, which is further explained in Box 1.1). Such a multi-country analysis can help determine regionally relevant practices that can lead to improved student outcomes, particularly in secondary school (PISA primarily collects data at the secondary level).

### Box 1.1. Areas for further analysis

This paper focuses on insights from PISA that can help inform the most salient and common educational challenges facing the Western Balkans. In developing this paper, several areas were identified that might benefit from further analysis, but are not addressed here because they do not concern all education systems in the region. For instance, PISA results typically highlight differences between public and private schools. However, the region's private school sectors are small. Only Albania's share of private school students who participated in PISA was greater than 3%. Similarly, PISA focuses on the differences in outcomes between non-immigrant and immigrant students<sup>3</sup>, who represent 13% of PISA-participating students across the OECD and 12% across the EU. However, only 4% of students in the Western Balkans have an immigrant background and only in Serbia do immigrants comprise a share of the student population greater than 6%. Therefore, while these issues may be important in some systems, they are not significant factors to the overall performance of the region. However, it is nevertheless important to understand these issues systemically, such as the capacity of schools to support diverse students where they are concentrated. Many Western Balkan economies have prepared national reports of their PISA 2018 results, which address these and other issues that are pertinent to their specific contexts.

Other issues might be important in the region, but are not captured by PISA data. Students with disabilities, for example, are excluded from the PISA sample. Identifying different ethnic groups, in particular the Roma, is not available in PISA and therefore results cannot be directly disaggregated according to this dimension. However, in the section about Performance and equity, ethnicity is explored through the language of testing.

### ***Participation in PISA***

PISA is a triennial survey (due to the COVID-19 epidemic, PISA will be offered next in 2022) of 15-year old students around the world that assesses the extent to which they have acquired the knowledge and skills in reading, mathematics and science that are essential for full participation in social and economic life. PISA assessments do not just ascertain whether students can reproduce what they have been taught; they examine how well students can extrapolate from what they have learned and apply their knowledge in real life settings. Through questionnaires, PISA also collects information about the educational contexts of countries, which, when analysed alongside student performance, provides useful insights about what impacts student learning around the world.

Albania and North Macedonia took part in the very first administration of PISA in 2000; Serbia in 2003; Montenegro in 2006; Kosovo in PISA 2015, and Bosnia and Herzegovina in PISA 2018 (Table 1.1). All economies in the region, except North Macedonia, have also transitioned to the computer-based assessment, which allows them to assess students using technologically enhanced items (e.g. conducting experiments) that were specifically developed for PISA 2018. The computer-based version also enabled access to many of the new questionnaire items (e.g. some questions about teacher practices). It will be important that Western Balkan economies continue to participate in PISA; as Table 1.1 indicates, the region's engagement so far has been inconsistent over cycles, which has limited the monitoring of trends and comparisons both within and across economies.

All countries and economies in PISA 2018 distributed the student and school questionnaires. Some participants also administered optional background questionnaires. These included up to four additional

questionnaires for students (about their educational careers, information and communication technology (ICT) familiarity, well-being and financial literacy); an optional questionnaire for parents; and an optional questionnaire for teachers. Table 1.1 also shows the optional questionnaires taken by Western Balkan economies in PISA 2018.

**Table 1.1. Participation in PISA of Western Balkan education systems**

Participation in PISA cycles	Albania	Bosnia and Herzegovina	Kosovo	Montenegro	North Macedonia	Serbia
PISA 2000	X				X	
PISA 2003						X
PISA 2006				X		X
PISA 2009	X			X		X
PISA 2012	X			X		X
PISA 2015	X		X	X	X	
PISA 2018	X	X	X	X	X	X

Features of participation in PISA 2018	Albania	Bosnia and Herzegovina	Kosovo	Montenegro	North Macedonia	Serbia
Computer format of the assessment	X	X	X	X		X
Global Competence assessment	X					X
Financial Literacy assessment and questionnaire						X
Optional questionnaires	Educational Career	X				X
	ICT	X				X
	Parent					
	Teacher	X				
Well-being						X
Languages of the assessment	Albanian	Bosnian, Croatian, Serbian	Albanian	Albanian, Montenegrin	Macedonian, Albanian	Hungarian, Serbian

StatLink  <https://doi.org/10.1787/888934199539>

## Country reviews

The OECD has conducted policy reviews of most OECD and EU countries, as well as an increasing number of partner economies. These reviews draw on evidence, including PISA data, to examine key education policy issues with a strong focus on improving the quality and equity of student learning outcomes. In the Western Balkans, the OECD has recently completed education policy reviews in partnership with UNICEF for North Macedonia (2019), Serbia (2020) and Albania (2020), with an ongoing review of Bosnia and Herzegovina, which is expected to be completed in 2021. These studies focus on policies related to evaluation and assessment, recognising that policies in the areas of student assessment, teacher appraisal, and school and system evaluation provide powerful levers for transforming school quality. This paper draws on the knowledge base built from these reviews to situate PISA findings from the Western Balkans within the educational context of the region.

## Key features of Western Balkan economies and their implications for student learning, as measured by PISA

In each participating economy, PISA 2018 assessed a representative sample of children between the ages of 15 years and 3 months and 16 years and 2 months who were enrolled in an educational institution at

grade 7 or above. A two-stage sampling procedure selected a representative sample of at least 150 schools and roughly 42 students within each of those schools. The majority of economies, including those in the Western Balkans, assessed between 5 000 and 7 000 students. The national context of each economy that participates in PISA affects greatly the students who are sampled to participate in the survey. This section discusses some of the key features of Western Balkan education systems, and how these contexts are represented in their PISA 2018 student samples (Table 1.5).

### **Socio-economic context**

*Western Balkan education systems have more socio-economically disadvantaged students compared to OECD countries*

An important concern for all countries is how students from disadvantaged backgrounds perform compared to their advantaged peers, which helps indicate the extent to which the school system helps students overcome socio-economic inequalities. Economies in the Western Balkans are, on average, lower income than those in the EU and OECD. For example, the Western Balkans had an average GDP per-capita of 15 749 (PPP, USD) in 2018, which was much lower than the OECD average of roughly 45 624.

While wealth is an important measure of socio-economic status, other factors also influence a student's level of advantage. To capture more of these factors, in PISA, a student's socio-economic background is represented through the index of economic, social and cultural status (ESCS), which is created based upon information about a student's home environment, parents' level of education and parents' employment. This index is calculated such that the OECD average is 0.0. The EU average is also 0.0 and the CEEC average is -0.1. The average ESCS across the Western Balkans is -0.4, which is consistent with economic data that suggests students in the region are generally more disadvantaged. There are disparities within the region, however. Serbia has an ESCS of -0.2, while Albania has an average ESCS of -0.9 (Table 1.2). Since socio-economic context and student performance are closely related, it is important to consider these data when interpreting and comparing the educational outcomes of the Western Balkans (see the section on Performance and equity).

**Table 1.2. Socio-economic indicators**

	Per-capita GDP in 2018 (PPP, USD)	PISA 2018 ESCS
Albania	13 364	-0,9
Bosnia and Herzegovina	14 624	-0,6
Kosovo	11 384	-0,5
Montenegro	20 690	-0,2
North Macedonia	16 359	-0,3
Serbia	17 435	-0,2
Western Balkans average	15 749	-0,4
CEEC average	32 132	-0,1
EU average	43 738	0,0
OECD average	45 624	0,0

Sources: The World Bank (n.d.<sup>[4]</sup>). GDP per-capita (current US\$). <https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD> (accessed 11 January 2020).

OECD (2019<sup>[5]</sup>). PISA 2018 Database. <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

*Schools in the Western Balkans are located in different settings, though the small geographic size of some economies limits analysis of schooling in rural areas*

Around the world, schools in urban areas tend to have more resources and provide higher quality education than schools in rural areas, though some systems are more effective in mitigating these disparities than others (Echazarra and Radinger, 2019<sup>[6]</sup>). It is, therefore, important to understand the differences in outcomes between students who attend urban schools compared to students who attend rural schools. As part of the school questionnaire completed by school principals, PISA asks principals to identify the size of the community in which their schools are located. Rural areas are communities of less than 3 000 people, towns 3 000 to 100 000 people and cities (urban areas) more than 100 000 people.

The share of students enrolled in schools located in rural areas, towns and cities is similar on average across Western Balkans economies, the EU and the OECD (less than 10% in rural areas; more than half in towns; and about a third in cities). However, there are wide variations across education systems in the Western Balkans. In Montenegro, North Macedonia and Serbia, no 15-year-old student in the PISA sample was enrolled in a rural school. By contrast, in Kosovo and Albania 13% and 26% of students attended a rural school, respectively. These differences do not necessarily mean that Montenegro, North Macedonia and Serbia do not have rural communities, but rather that their education systems might construct upper-secondary schools in larger communities and transport students from more rural areas to attend those schools. Care should be taken when making inferences about the results based on geographic factors.

*Western Balkan economies are ethnically diverse*

The presence of different ethnic groups in several Western Balkan economies has important policy implications. While PISA 2018 does not ask specifically about student ethnicity, it does identify students' linguistic backgrounds and this paper explores that dimension, whenever relevant and possible, to learn more about economies' education policies related to ethnic groups and multilingual schooling.

In all Western Balkan systems except Albania and Kosovo there is more than one language of instruction (see Table 1.3). The number of students who learn in different languages, however, and how their school systems accommodate their needs, varies across economies. In North Macedonia, where around 23% of the population is Albanian, the education system ensures that the same curriculum is delivered through mother tongue instruction at all levels (OECD, 2019<sup>[11]</sup>). In Bosnia and Herzegovina, distinct school systems within the country educate students in different languages and according to different policies and curricula.

**Table 1.3. Linguistic populations in Western Balkan education systems**

Share of PISA-participating students who attend school in various languages

Bosnia and Herzegovina	Bosnian (56%) Serbian (32%) Croatian (12%)
Montenegro	Montenegrin (96%) Albanian (4%)
North Macedonia	Macedonian (73%) Albanian (27%)

Note: In Serbia, less than 2% of the 15-year-old population attend school in Hungarian. These results are not shown because the sample size is too small to make meaningful inferences.

Source: OECD (2019<sup>[5]</sup>). PISA 2018 Database. <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

## Educational landscape

*Students in the Western Balkans typically take PISA in grades 9 and 10*

The modal grade (the most common grade) of students who participate in PISA varies depending on the structure of each education system. In Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia, almost all 15-year-old students are enrolled in the first year of upper-secondary education. In Albania and Kosovo comparatively more are still in lower-secondary education.

The modal grade also affects the population sampled in PISA. By definition, only 15-year-olds who are enrolled in schools can participate. In countries where the modal grade is after the last grade of compulsory education, the population that is eligible to be in the PISA sample can be considerably lower than the overall population of 15-year-olds (a ratio referred to as the coverage index). In Azerbaijan (Baku), where compulsory education ends at age 15, the PISA-eligible sample of 15-year-olds only represented 46% of all 15-year-olds, compared to almost 100% in Germany, where compulsory education extends to age 18. In the Western Balkans, education is generally compulsory to the end of lower-secondary school (Table 1.4). Depending on when students begin school, the coverage index ranges from 76% of 15 year olds in Albania to 95% of 15-year-olds in Montenegro. Readers of this paper should interpret PISA results in light of these differences in coverage.

**Table 1.4. Duration of compulsory education/training and student age groups, 2018/19**

	Starting age in ISCED 1 (2011)	General leaving age	Grade that corresponds to end of compulsory education
Albania	6	15	Grade 9
Bosnia and Herzegovina	6	15	Grade 9
Kosovo	Data not available	Data not available	Data not available
Montenegro	6	15	Grade 9
North Macedonia	6	15	Grade 9
Serbia	6.5	14.5	Grade 8

Notes: Grade that corresponds to end of compulsory education is from OECD-UNICEF country reviews.

Starting age refers to the official age at which students start compulsory education/training.

The possibility of early entry to primary education is not taken into account nor are the specific admission conditions of pupils officially recognised with special educational needs.

Leaving age refers to the statutory age at which students are expected to complete compulsory education/training.

Sources: European Commission/EACEA/Eurydice (2018<sup>[7]</sup>). Compulsory Education in Europe – 2018/19.

*Western Balkan education systems track students into general and vocational programmes in upper-secondary school*

Many countries divide students into different types of educational programmes, or tracks. Among these programmes, the two most common are general education, which typically prepares students for academic tertiary studies, and vocational education, which equips students with practical skills to enter the workforce while also keeping the door open to tertiary education. Countries vary in terms of when students are selected into different tracks. While some systems, such as Germany, start sorting students after primary education, the majority start offering distinct tracks to students at the end of lower-secondary school.

The permeability of education tracks also varies across education systems. In the United States, for example, vocational and general education students might attend the same school, be eligible to take each other's courses and even switch their tracks. In the Netherlands, vocational and general education students generally attend separate schools, study separate curricula and cannot easily switch tracks. Finally, the

extent to which students in different educational tracks are eligible for future opportunities also varies. In Georgia, for example, vocational upper-secondary graduates are ineligible to enrol in academic tertiary programmes. Across the OECD, countries have moved to introduce more flexible policies, which keep a range of tertiary options available to graduates of vocational education and training (VET) tracks as a means of avoiding dead ends and encouraging higher levels of foundational skills development (OECD, 2010<sup>[8]</sup>).

In the Western Balkans, students are tracked into general education and vocational programmes at the upper-secondary level. Several features about tracking in the Western Balkans are distinctive. First, the vocational sectors in Western Balkans education systems are much larger than international benchmarks. On average across the region, 59% of PISA-participating students were enrolled in vocational schools, compared to much lower shares in CEEC (23%), EU (17%) and OECD (12%) countries. Within the region, the share of PISA-participating students from vocational schools ranges from 72% in Serbia, to 7% in Albania. It should be noted, however, that these figures are influenced by the grade when students enter upper-secondary school vis-à-vis the grades represented in the PISA sample. In Kosovo, upper-secondary education begins in grade 10, which is the first year students can enrol in a vocational education programme. If only considering 15-year-old students in grade 10, the share of PISA participants attending vocational schools in Kosovo rises by 12 percentage points (Table 1.5). For this reason, many analyses in this paper that focus on educational tracks focus only on students from upper-secondary schools.

Furthermore, education tracks in the Western Balkans are not permeable. Vocational and general education programmes are typically located in separate school buildings and students cannot change their programme of study or take select courses from one while being enrolled in the other. However, after completing upper-secondary education, students from either programme are eligible to enrol in four-year bachelor's programmes. It is important to consider these features when drawing conclusions about the motivations and outcomes of students in the Western Balkans.

Table 1.5. Characteristics of the students in the PISA 2018 sample

	Albania	Bosnia and Herzegovina	Kosovo	Montenegro	North Macedonia	Serbia	Western Balkans average	CEEC average	EU average	OECD average	
Number of students	6 359	6 480	5 058	6 666	5 569	6 609	-	-	-	-	
Percentage of the 15-year-old population covered by the PISA sample (Coverage Index 3)	76	82	84	95	95	89	87	88	90	88	
Modal grade	Grade 10	Grade 10	Grade 10	Grade 10	Grade 10	Grade 9	-	-	-	-	
Percentage in upper-secondary school	62	84	76	97	100	99	86	-	-	-	
ESCS	-0.9	-0.6	-0.5	-0.2	-0.3	-0.2	-0.4	-0.1	0.0	0.0	
Percentage of girls	49	49	50	48	48	49	49	50	49	50	
Percentage of students with an immigrant background	1	3	1	6	2	9	4	4	12	13	
Percentage of students who speak the test language at home	96	94	97	96	93	95	95	93	84	88	
Percentage of students in private schools	11	1	1	0	1	3	3	6	18	1	
Percentage of students enrolled in the following programmes:	General or modular programmes (overall/upper-secondary school)	93/89	34/21	60/48	35/33	41/41	28/28	41/43	77	83	88
	Vocational programmes (overall/upper-secondary school)	7/11	66/79	40/52	65/67	59/59	72/72	59/57	23 (overall)	17 (overall)	12 (overall)
Percentage of students enrolled in schools located in:	A village or rural areas (fewer than 3 000 people)	26	7	13	0	0	0	8	13	9	9
	Towns (from 3 000 to about 100 000 people)	38	72	62	67	54	51	57	56	62	53
	Cities (over 100 000 people)	36	22	25	32	46	49	35	31	29	38

Source: OECD (2019<sup>[5]</sup>). PISA 2018 Database. <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

StatLink  <https://doi.org/10.1787/888934199558>



## Learning outcomes in the Western Balkans

### Overall performance

PISA results<sup>4</sup> show that student outcomes in Western Balkan economies have generally improved in the last two decades. Most education systems in the region have also increased their coverage indices at the same time, showing that gains in educational access and learning are not mutually exclusive (Table 1.6).

**Table 1.6. Western Balkans PISA performance in reading over time**

	Score points in first year of participation	Score points in 2018	Coverage index in earliest year of availability	Coverage index in 2018
Albania	<b>349 (2000)</b>	<b>405</b>	61% (2009)	76%
Bosnia and Herzegovina	-	403	-	82%
Kosovo	347 (2015)	353	71% (2015)	84%
Montenegro	<b>392 (2006)</b>	<b>421</b>	84% (2006)	95%
North Macedonia	<b>373 (2000)</b>	<b>393</b>	95% (2015)	95%
Serbia	<b>401 (2006)</b>	<b>439</b>	83% (2006)	88%

Notes: Statistically significant performance differences are represented in bold.

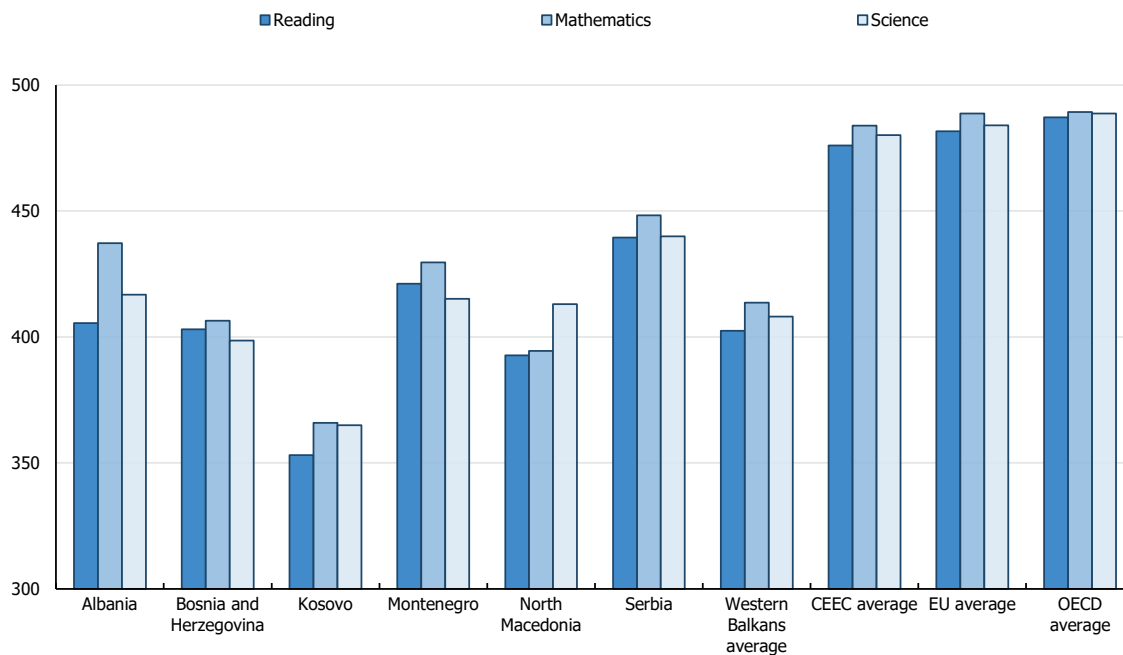
Coverage index refers to the percentage of 15 year olds that are represented in a country's PISA sample.

Data for the coverage index is not available before 2003.

Source: OECD (2019<sup>[5]</sup>). PISA 2018 Database. <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

However, while the performance of Western Balkan education systems has improved, outcomes in the region are still lower than international benchmarks. In PISA 2018, students from the Western Balkans scored, on average, 402 points in reading, 414 points in mathematics and 408 in science, meaning that about 80% of students across OECD countries scored higher than the average student in the region (Figure 1.1). However, there are large differences between education systems within the Western Balkans. Serbia's average scores in reading, mathematics and science, for instance, are close to those of some countries in the European Union, such as Bulgaria, Greece and Romania. On the other hand, Kosovo's average performance is closer to that of lower-middle income countries like Indonesia and Morocco.

**Figure 1.1. Performance in reading, mathematics and science in Western Balkan education systems, 2018**



Source: OECD (2019<sup>[5]</sup>). PISA 2018 Database. <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020), Tables I.B1.4, I.B1.5 and I.B1.6.

StatLink  <https://doi.org/10.1787/888934199577>

As mentioned, it is important to interpret PISA results in light of participants' economic development, as 44% of performance differences in mean reading scores between countries in PISA 2018 can be accounted for by national income (OECD, 2019<sup>[9]</sup>). Figure 1.2 shows the performance of education systems relative to their per-capita GDP. In general, education systems in the Western Balkans perform around what would be predicted by their levels of economic development. However, the higher outcomes among some countries and economies relative to others with similar income levels signals the potential for policy to help overcome resource constraints.

Figure 1.2. Mean reading performance and per-capita GDP



Source: OECD (2019<sub>[5]</sub>). PISA 2018 Database. <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020). Tables I.B1.4 and B3.1.4.

StatLink  <https://doi.org/10.1787/888934028387>

To help understand differences in student knowledge and skills, PISA categorises student performance into a range of eight proficiency levels. These levels range from the highest (Level 6) to the lowest (Level 1c) proficiency (Table 1.7). In 2018, Level 1c was added to the PISA proficiency scale to provide more information on the capabilities of low-achieving students, which are defined as having scored below the baseline level of proficiency (i.e. below Level 2) needed to fully participate in modern societies.

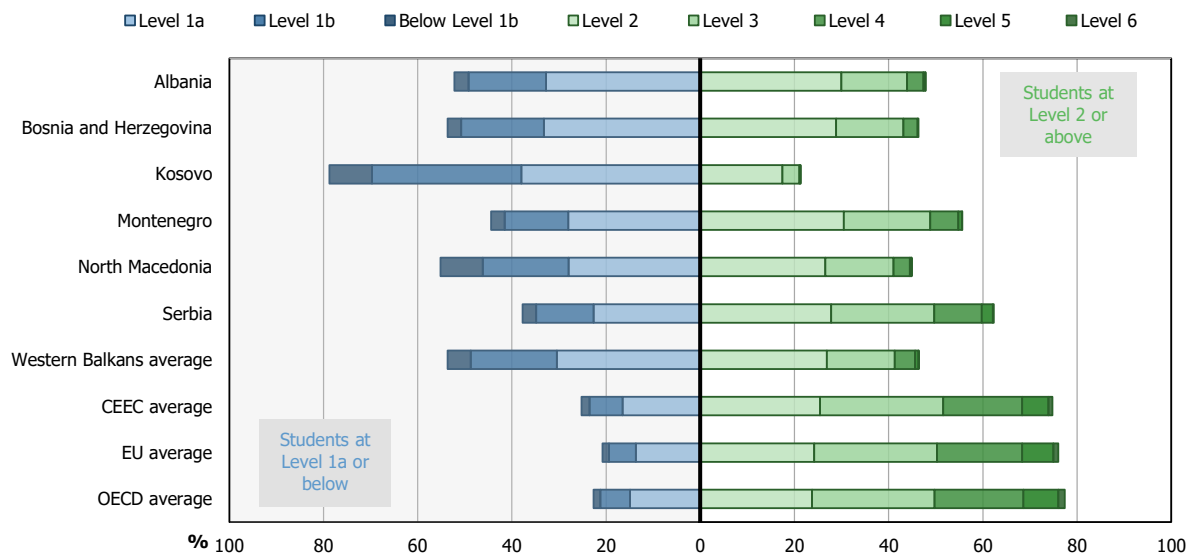
**Table 1.7. Summary description of the eight levels of reading proficiency in PISA 2018**

Level	Lower score limit	Percentage of students able to perform tasks at each level or above (OECD average)	Characteristics of tasks
6	698	1.3%	Readers at Level 6 can comprehend lengthy and abstract texts in which the information of interest is deeply embedded and only indirectly related to the task. They can compare, contrast and integrate information representing multiple and potentially conflicting perspectives, using multiple criteria and generating inferences across distant pieces of information to determine how the information may be used.
5	626	8.7%	Readers at Level 5 can comprehend lengthy texts, inferring which information in the text is relevant even though the information of interest may be easily overlooked. They can perform causal or other forms of reasoning based on a deep understanding of extended pieces of text. They can also answer indirect questions by inferring the relationship between the question and one or several pieces of information distributed within or across multiple texts and sources, and can establish distinctions between content and purpose, and between fact and opinion.
4	553	27.6%	At Level 4, readers can comprehend extended passages in single or multiple-text settings. They interpret the meaning of nuances of language in a section of text by taking into account the text as a whole. In other interpretative tasks, students demonstrate understanding and application of ad hoc categories. They can compare perspectives and draw inferences based on multiple sources.
3	480	53.6%	Readers at Level 3 can represent the literal meaning of single or multiple texts in the absence of explicit content or organisational clues. Readers can integrate content and generate both basic and more advanced inferences. They can also integrate several parts of a piece of text in order to identify the main idea, understand a relationship or construe the meaning of a word or phrase when the required information is featured on a single page.
2	407	77.4%	Readers at Level 2 can identify the main idea in a piece of text of moderate length. They can understand relationships or construe meaning within a limited part of the text when the information is not prominent by producing basic inferences, and/or when the text(s) include some distracting information.
1a	335	92.3%	Readers at Level 1a can understand the literal meaning of sentences or short passages. Readers at this level can also recognise the main theme or the author's purpose in a piece of text about a familiar topic, and make a simple connection between several adjacent pieces of information, or between the given information and their own prior knowledge.
1b	262	98.6%	Readers at Level 1b can evaluate the literal meaning of simple sentences. They can also interpret the literal meaning of texts by making simple connections between adjacent pieces of information in the question and/or the text.
1c	189	99.9%	Readers at Level 1c can understand and affirm the meaning of short, syntactically simple sentences on a literal level, and read for a clear and simple purpose within a limited amount of time.

Source: OECD (2019<sup>[5]</sup>). PISA 2018 Database. <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

Approximately 46% of students on average across Western Balkan school systems scored above the baseline level of proficiency in reading (Figure 1.3). In comparison, 77% of students on average across OECD countries, and 76% across EU countries, scored above the baseline level. Worryingly, there are very few students in the region who have mastered the most sophisticated higher order skills and are well positioned to drive economic growth in the future (Box 1.2). Economies will struggle to develop without the type of human capital that these students represent.

Figure 1.3. Proficiency levels in reading of students from Western Balkan education systems



Note: Since North Macedonia took the paper-based version of PISA, Level 1c of reading proficiency cannot be reliably calculated. In order to make results comparable, results for all systems are presented starting from Level 1b.

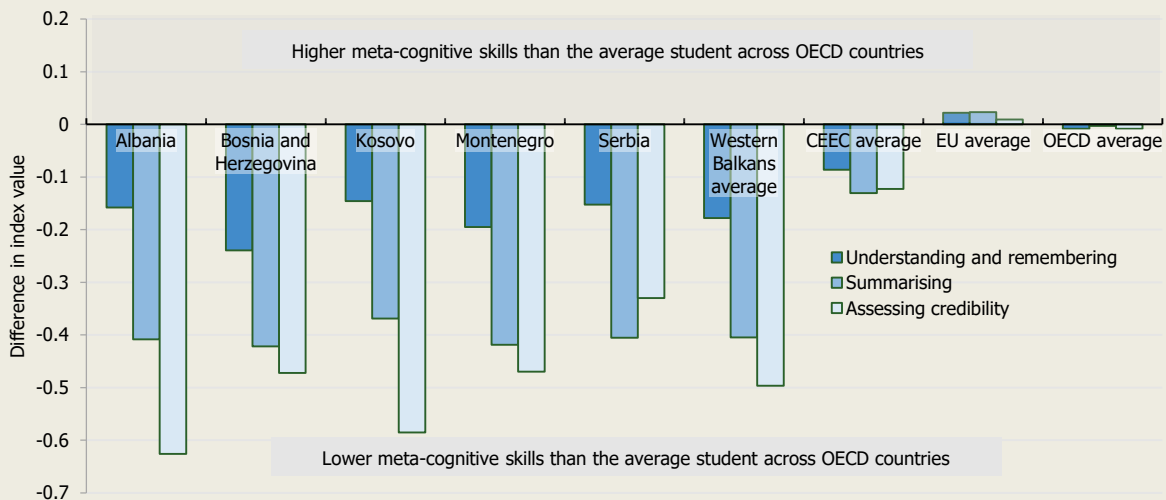
Source: OECD (2019<sup>[5]</sup>). PISA 2018 Database. <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020). Tables I.B1.1.

StatLink  <https://doi.org/10.1787/888934199596>

### Box 1.2. Meta-cognitive skills

In addition to measuring students' reading literacy in general, PISA 2018 measured a specific set of reading skills, called meta-cognitive skills. PISA 2018 defines meta-cognitive skills as knowing how to guide one's own understanding and learn in different contexts (OECD, 2019<sup>[10]</sup>). Having meta-cognitive skills is crucial in modern societies because they help individuals navigate, interpret and solve unanticipated problems. To measure meta-cognitive skills, PISA asked students about the usefulness of various strategies (understanding and remembering; summarising; assessing credibility) for accomplishing different types of reading tasks and compared their responses to those given by a group of experts. All education systems in the Western Balkans are below the OECD, EU and CEEC averages in terms of students' meta-cognitive skills (Figure 1.4). Students in the region struggle most when asked to choose the best strategies for assessing the credibility of a source. For example, PISA asked students what is an appropriate response to receiving an email from a mobile phone operator informing them that they have won a smartphone. Western Balkan students were more likely to say that clicking on the associated link and filling out an online form was appropriate. Students from OECD countries were more likely to be sceptical of such an offer, saying that they would check the website of the mobile phone operator to see if the offer is mentioned or delete the email without clicking on the link. This finding has economic and social implications, as it suggests that students from the region might be less discerning and critical of the information that they access.

Figure 1.4. Meta-cognitive skills in reading



Source: OECD (2019<sup>[5]</sup>). PISA 2018 Database. <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

StatLink  <https://doi.org/10.1787/888934199615>

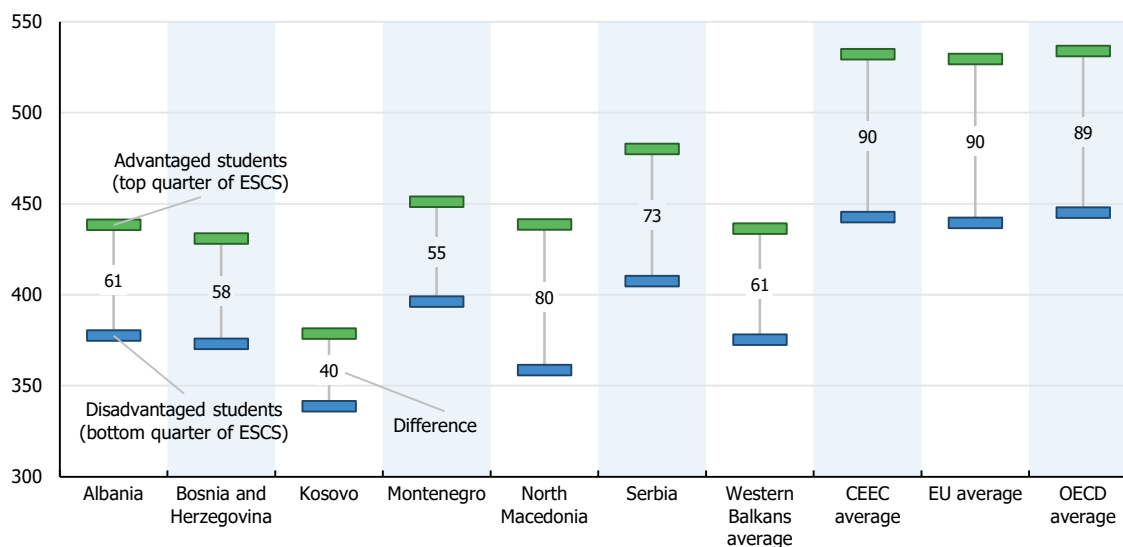
## Performance and equity

In addition to overall performance, PISA measures the outcomes of different student groups within an education system. This type of disaggregation helps policy makers understand if all students are achieving similar outcomes, or if some students are performing very well while others are falling behind. This paper concentrates primarily on equity according to students' socio-economic status and their educational track and, when relevant, language and gender, which are important educational issues in the region.

### *Socio-economic status*

Internationally, socio-economically advantaged students tend to perform better than disadvantaged students in all PISA-participating countries and economies, and education systems in the Western Balkans are no exception (Figure 1.5). Gaps between socio-economically advantaged and disadvantaged students range from 40 score points in Kosovo to 80 score points in North Macedonia. These gaps are, in general, narrower than those of countries with similar overall performance<sup>5</sup>. Such results suggest that students' socio-economic status may not be as strong a determinant of their outcomes compared to international benchmarks. However, it is still an important factor, and other chapters of this paper will discuss the extent to which education policy is helping to address such inequalities.

Figure 1.5. Socio-economic status and student performance



Note: All differences are statistically significant.

Source: OECD (2019<sup>[5]</sup>). PISA 2018 Database. <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020), Tables I.B1.2.3.

StatLink  <https://doi.org/10.1787/888934199634>

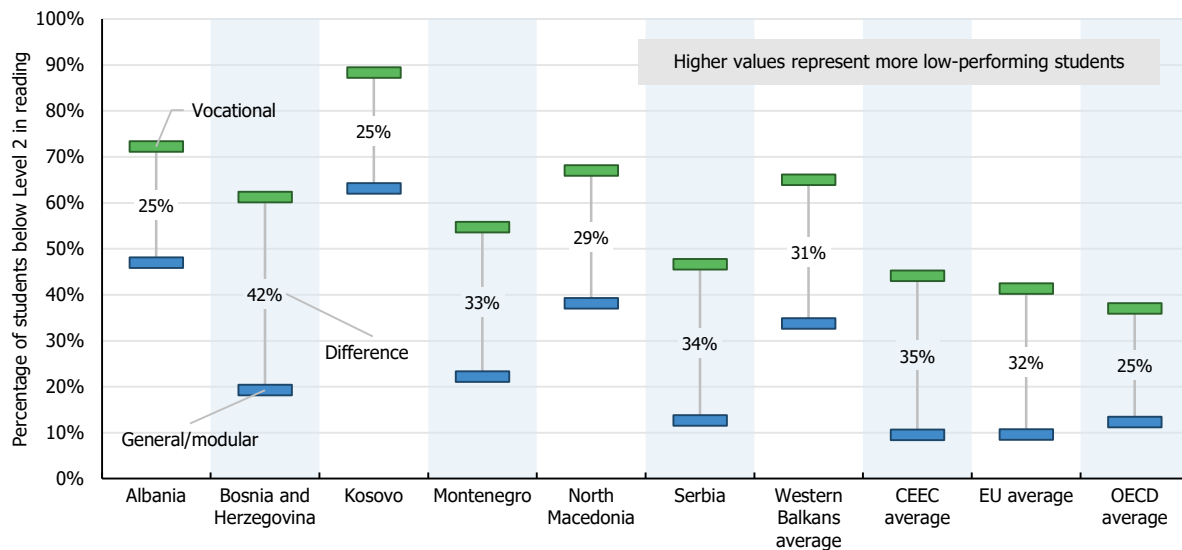
### Geographic location

PISA 2018 results showed that students enrolled in schools in urban areas generally outperform those enrolled in rural schools, though the gap disappeared once the socio-economic status of students and schools was accounted for (OECD, 2019<sup>[11]</sup>). The only education systems in the Western Balkans with enough 15-year-old students enrolled in rural schools to be analysed — Albania, Bosnia and Herzegovina<sup>6</sup> and Kosovo — show considerable rural-urban gaps in reading performance (OECD, 2019<sup>[12]</sup>). In these three education systems, students in urban schools outperformed those in rural schools by about 50 score points, similar to the gap observed across OECD countries. After controlling for students' socio-economic status, gaps ranged from 34 to 36 and were all statistically significant.

### Educational tracks

Internationally and in the Western Balkans, reading performance also varies according to education tracks. On average across the region, students enrolled in general education programmes scored 435 points in reading, whereas those enrolled in vocational programmes scored 382 points. The largest gap was in Serbia (85 score points) and the narrowest was in Albania (25 score points). Similar results are observed when considering the share of low-achieving students, or those who score at or below Level 2. Across the Western Balkans, about 65% of students enrolled in a vocational programme were classified as low achieving, compared to only 34% of students attending a general education programme (Figure 1.6).

Figure 1.6. Low-achieving students and educational programmes



Note: All differences are statistically significant.

Source: OECD (2019<sup>[5]</sup>). PISA 2018 Database. <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

StatLink  <https://doi.org/10.1787/888934199653>

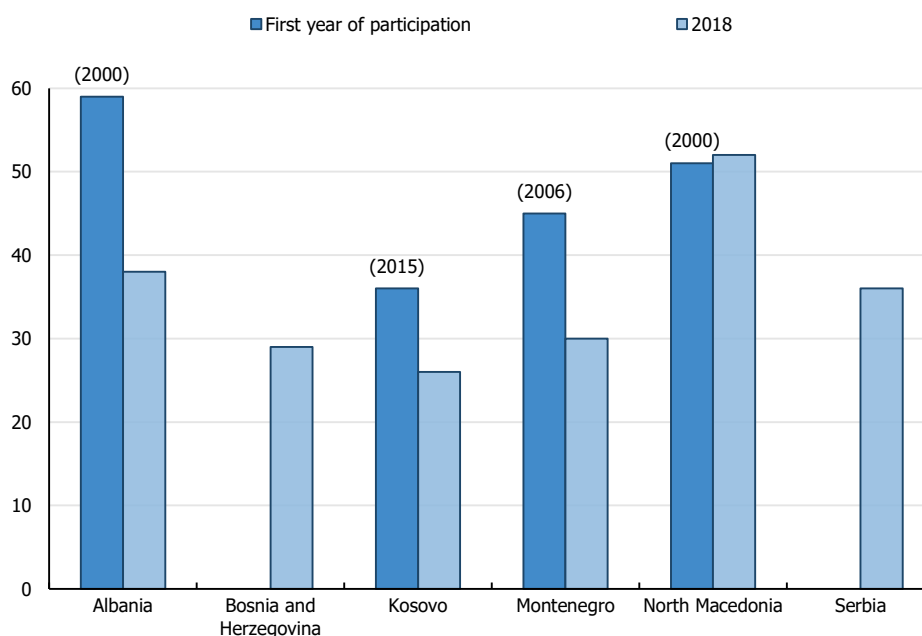
### Gender

PISA results consistently show that girls tend to outperform boys by about 30 points in reading. In mathematics, boys outperform girls by roughly five points, and differences in science are inconclusive. In the Western Balkans, girls outperform boys in reading and science (differences in mathematics are inconclusive), but the gaps are decreasing over time (in general, both genders are showing performance increases) (OECD, 2019<sup>[11]</sup>). However, there is considerable variation between systems. North Macedonia, for instance, had a gender gap in reading of 51 score points, which was one of the largest in PISA. In North Macedonia, gender alone explains roughly 7% of the variation in student performance, compared to only 2% across OECD countries. This gap has persisted since North Macedonia joined PISA in 2000 (Figure 1.7).



**Figure 1.7. Differences in reading performance by gender over time**

Results are shown as the difference between girls and boys (girls minus boys)



Note: Serbia participated in 2006 and 2009 but did not meet reporting standards that allowed for disaggregation by gender. Bosnia and Herzegovina participated for the first time in 2018.

Source: OECD (2019<sup>[5]</sup>). PISA 2018 Database. <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020). Tables II.B1.7.29, Table II.B1.7.30.

StatLink  <https://doi.org/10.1787/888934038704>

The relatively lower overall performance of the region and persistent gender performance gap means that boys in the Western Balkans are at significant risk of not mastering the basic skills that are important for individual and societal development. In PISA 2018, over 61% of boys in the region scored below Level 2 in reading, compared to 45% of girls. These results point to the need for more attention to how boys are taught and assessed, as well as to elements in school and wider society that undermine boys' engagement in education and could lead to poor behaviour, truancy and absenteeism.

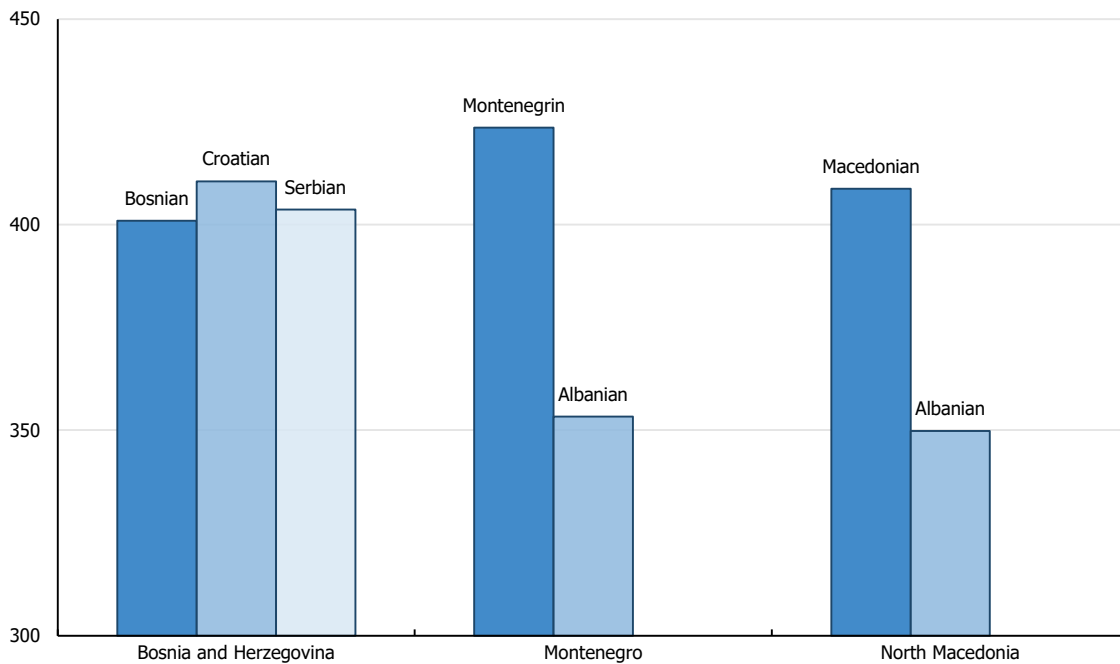
It should also be noted that in Kosovo and Montenegro, boys are more socio-economically advantaged to statistically significant degrees. These discrepancies could suggest a participation bias with respect to student populations that enrol in (or drop out from) secondary education. Furthermore, since socio-economically advantaged students tend to score higher in PISA, in these systems the gap between girls and boys are greater after socio-economic status is taken into consideration.

### *Linguistic groups*

Within the Western Balkans, education systems with large populations of different ethnic groups demonstrate different levels of performance between the populations (represented by their languages of instruction). In Bosnia and Herzegovina, the performance of students in the three languages of instruction are not statistically significantly different from each other. In North Macedonia and Montenegro, however, students taught in Albanian perform significantly lower than students taught in Macedonian and Montenegrin, respectively. In fact, no student who took the test in Albanian was considered a high achiever (achieving Level 5 or above) in either system. After controlling for students' socio-economic status, the gap

in Macedonia was 48 and the gap in Montenegro was 66 and both were statistically significant. Gaps in Bosnia and Herzegovina were less than three (Croatian and Serbian relative to Bosnian) and not statistically significant. These results suggest that it is not enough to provide access to education in different languages of instruction, but that teachers who teach in different languages and their schools need to receive adequate support to ensure that their students are educated effectively (Figure 1.8).

**Figure 1.8. Performance in reading by language of instruction**



Source: OECD (2019<sup>[5]</sup>). PISA 2018 Database. <https://www.oecd.org/pisa/data/2018database/> (accessed 17 November 2020).

StatLink  <https://doi.org/10.1787/888934199672>

## References

- Echazarra, A. and T. Radinger (2019), “Learning in rural schools: Insights from PISA, TALIS and the literature”, *OECD Education Working Papers*, No. 196, OECD Publishing, Paris, <https://dx.doi.org/10.1787/8b1a5cb9-en>. [6]
- European Commission/EACEA/Eurydice (2018), *Compulsory Education in Europe – 2018/19*, Publications Office of the European Union, Luxembourg, <http://dx.doi.org/10.2797/20126>. [7]
- European Union (2019), *The Western Balkans*, <https://www.europarl.europa.eu/factsheets/en/sheet/168/the-western-balkans> (accessed on 9 September 2020). [13]
- Maghnoij, S. et al. (2020), *OECD Reviews of Evaluation and Assessment in Education: Albania*, OECD Reviews of Evaluation and Assessment in Education, OECD Publishing, Paris, <https://dx.doi.org/10.1787/d267dc93-en>. [3]
- Maghnoij, S. et al. (2019), *OECD Reviews of Evaluation and Assessment in Education: Serbia*, OECD Reviews of Evaluation and Assessment in Education, OECD Publishing, Paris, <https://dx.doi.org/10.1787/225350d9-en>. [2]
- OECD (2019), *OECD Reviews of Evaluation and Assessment in Education: North Macedonia*, OECD Reviews of Evaluation and Assessment in Education, OECD Publishing, Paris, <https://dx.doi.org/10.1787/079fe34c-en>. [1]
- OECD (2019), *PISA*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/b25efab8-en>. [10]
- OECD (2019), *PISA 2018 Database*, <https://www.oecd.org/pisa/data/2018database/> (accessed on 17 November 2020). [5]
- OECD (2019), *PISA 2018 Results (Volume I): What Students Know and Can Do*, OECD Publishing, Paris. [9]
- OECD (2019), *PISA 2018 Results (Volume II): Where All Students Can Succeed*, PISA, OECD Publishing, Paris, <https://dx.doi.org/10.1787/b5fd1b8f-en>. [11]
- OECD (2019), *PISA 2018 Results (Volume III): What School Life Means for Students’ Lives*, PISA, OECD Publishing, Paris, <https://dx.doi.org/10.1787/acd78851-en>. [12]
- OECD (2019), *PISA Assessment and Analytical Framework*. [14]
- OECD (2010), *Learning for Jobs*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264087460-en>. [8]
- OECD (n.d.), , <https://dx.doi.org/10.1787/b25efab8-en>. [15]
- The World Bank (n.d.), *GDP per capita (current US\$) | Data*, <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=XK-AL-ME-MK-RS&view=chart> (accessed on 1 February 2019). [4]

## Notes

<sup>1</sup> The European Union defines the Western Balkans as Albania, Bosnia and Herzegovina, Kosovo\*, Montenegro, the Republic of North Macedonia and Serbia (European Union, 2019<sup>[13]</sup>).

\*All references to Kosovo, whether the territory, institutions or population, in this text are without prejudice to positions on status and shall be understood in full compliance with the United Nations Security Council Resolution 1244/99 and the Advisory Opinion of the International Court of Justice on Kosovo's declaration of independence.

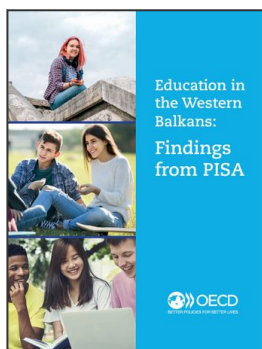
<sup>2</sup> The OECD considers CEEC to be composed of Albania, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic and Slovenia. For this paper, results that represent the CEEC average are calculated without data from Albania to avoid overlap with results that represent the Western Balkans average.

<sup>3</sup> According to the PISA student questionnaire, a student with an immigrant background is defined as having been born in a different country than where he/she currently resides, or having at least one parent who was born in a different country than where the student resides.

<sup>4</sup> Most of this paper will discuss PISA results in reading as reading was the domain that received the most focus in PISA 2018.

<sup>5</sup> Countries with similar overall performance are used as a comparison point because there is a relationship between the size of performance gaps and the overall range of performance of a country.

<sup>6</sup> Bosnia and Herzegovina's education system largely operates as 12 separate systems, but these were not oversampled representatively. Therefore, results for Bosnia and Herzegovina are presented as one system.



**From:**  
**Education in the Western Balkans**  
Findings from PISA

**Access the complete publication at:**  
<https://doi.org/10.1787/764847ff-en>

**Please cite this chapter as:**

OECD (2020), "Western Balkan participation and outcomes in PISA 2018", in *Education in the Western Balkans: Findings from PISA*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/1e4572ab-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. Extracts from publications may be subject to additional disclaimers, which are set out in the complete version of the publication, available at the link provided.

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <http://www.oecd.org/termsandconditions>.