2 Providing excellent and equitable schooling

Introduction

Schools are the fundamental institution of education systems. Access to high-quality schooling can equip students with the knowledge and skills they need to participate in the labour market and engage in a lifetime of learning. Quality schooling also contributes to achieving broader societal goals, such as economic development, civic participation and social cohesion. In the past decade, Eastern European and Central Asian (EECA) countries have enacted important policies to improve school practices and outcomes. These efforts include the development of modern school evaluation systems and a strong emphasis on improving the technology and connectivity of schools.

Nevertheless, data from the OECD Programme for International Student Assessment (PISA) and United Nations Children's Fund (UNICEF)-OECD country reviews show that significant challenges remain. An important overarching issue is that school quality in the region is unequal and inequitable. Especially at the upper secondary level, students in some EECA countries are segregated according to their performance, which is closely associated with their socio-economic backgrounds. Disadvantaged students, therefore, tend to be concentrated in certain schools, often according to geography or programme type. School resourcing policies risk exacerbating, rather than mitigating, these disparities. Overall spending in the education sector is low compared to international benchmarks, and available resources are not always allocated to where they are needed most. At the same time, students in the region, particularly the most vulnerable, generally receive less in-class learning time and are more likely to be truant, which can further worsen inequalities.

This chapter uses PISA data to analyse school policies in EECA countries, with a focus on school sorting and segregation, school resourcing, learning time and truancy. This analysis can inform the efforts of EECA countries to develop better school policies that supports the learning of all students.

Student sorting and segregation

Similar to many OECD countries, most EECA countries sort students into different pathways and programmes at the upper secondary level. However, what distinguishes student grouping in the EECA region is the high levels of academic selectivity of schools, and the resulting segregation between high- and low-achieving students in some countries, which frequently occurs along socio-economic lines. These practices contribute to an achievement gap between students who attend elite schools that often act as gateways to the best universities and jobs, and students who attend less prestigious schools that might offer more limited opportunities. PISA data highlight the need for more deliberate policy efforts to improve school quality for disadvantaged students, not just once they reach upper secondary school but above all in the formative early years.

Data from PISA

Student grouping in upper secondary schools is largely based upon academic criteria

As mentioned in Chapter 1, student grouping in upper secondary school in EECA countries is often more complicated than simply tracking into general and vocational pathways. In many countries, upper secondary schools have a certain academic profile, meaning they focus more intently on a certain discipline. In Turkey, students can attend up to seven different types of upper secondary schools. Students are often selected into their programmes on the basis of their academic credentials, which include results on high-stakes examinations.

PISA 2018 data show that EECA countries, compared to OECD countries, are generally more academically selective when allocating students to upper secondary schools. On average 61% of students in EECA countries attend an upper secondary school where a student's record of academic performance is always considered for school admission, compared to 45% across the OECD (Table 2.1). However, this average conceals wide disparities within the region. In Bulgaria, Croatia, Romania and Turkey, over 80% of students in upper secondary school are selected based upon their academic performance, which are some of the highest rates across all PISA-participating countries. At the same time, in Georgia and Ukraine less than 40% of students attend schools where academic performance is considered for school admission.

Table 2.1. Criteria for admission into upper secondary education

Percentage of students whose principals indicated that students are selected into their schools based on:

	Student's record of academic performance	Residence in a particular area
Baku (Azerbaijan)	59	65
Belarus	41	45
Bulgaria	81	16
Croatia	90	5
Georgia	28	22
Kazakhstan	54	52
Romania	82	8
Turkey	80	13
Ukraine	37	48
EECA average - 9	61	31
OECD average	45	32

Notes: Moldova is not included in the table since most students in the country are in lower secondary education, where selection based on performance is generally less prevalent.
Darker tones indicate greater academic selectivity and less selectivity based upon place of residence.
The data for this table were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 Database*, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

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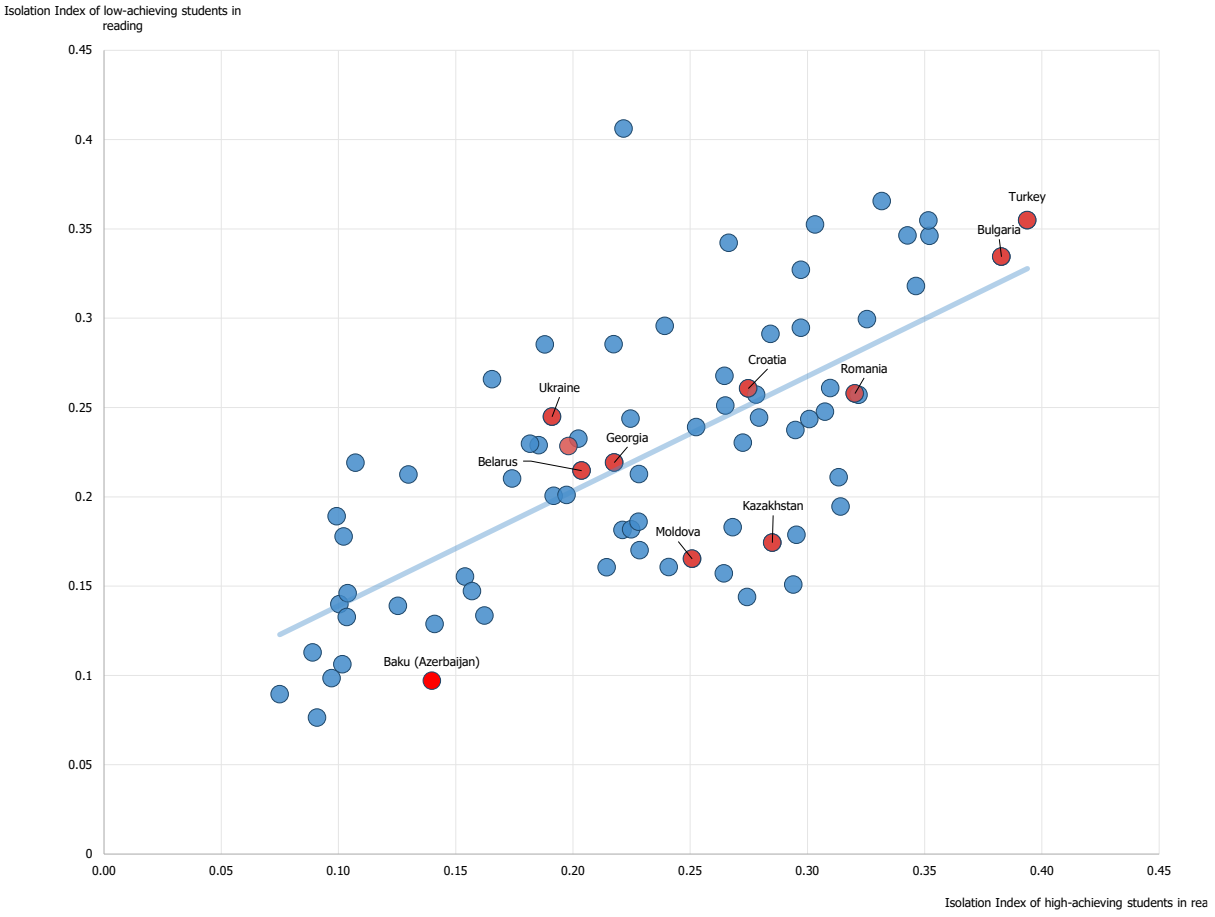
Students can be highly segregated in terms of performance and background

Numerous OECD reviews have noted that a disproportionate share of students in some EECA countries apply to enter the upper secondary schools that are widely regarded as the most elite. In addition to having the highest achieving student intakes, these schools are often equipped with the latest technology and have the most qualified staff (Kitchen et al., 2019[2]; OECD, 2017[3]). Examples include Anatolian schools in Turkey and mathematics and foreign language schools in Bulgaria. While such grouping can help identify and nurture the top performing students, it can also isolate students from each other and reinforce inequalities based on factors such as socio-economic status.

PISA 2018 created "isolation indices", which measure the likelihood that students from the same group attend the same school. High isolation indices, on a scale of zero to one, indicate that students from the same group are likely to attend the same school (OECD, 2020[4]). According to this measure, students in some EECA countries are more clustered on the basis of their academic performance than students in other PISA-participating countries (Figure 2.1). This trend is particularly pronounced in Turkey and Bulgaria, where high-achieving students are the most isolated among all PISA-participating counties, and low-achieving students are among the most isolated. On the other hand, Baku (Azerbaijan) exhibits some of the lowest levels of isolation among PISA-participating countries.

In general, high-achieving and low-achieving students in EECA countries are equally isolated, which suggests that all students undergo similar academic selection procedures. The exceptions are students in Moldova and Kazakhstan. High-achieving students in these countries are more likely than low-achieving students to be grouped together, which suggests the presence of a small number of elite, selective schools, such as the Nazarbayev Intellectual Schools in Kazakhstan.

Figure 2.1. The likelihood that low- and high-achieving students attend the same school



Note: EECA economies are marked and labelled in red.
Source: (OECD, 2019[1]), *PISA 2018 Database*, Tables II.B1.4.2 and II.B1.4.3, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

StatLink https://stat.link/jgf73s

In countries where academic performance is strongly correlated with socio-economic status, student selection can be closely related with student background, which can negatively affect equity. The OECD created another isolation index to measure the likelihood that socio-economically disadvantaged students are enrolled in the same school as a high-achieving student. Six out of ten EECA countries have an isolation index in this area higher than the OECD average. Socio-economically disadvantaged students in Belarus, Bulgaria and Romania are some of the least likely among similar students in PISA-participating countries to be enrolled in the same school as high-achieving students (OECD, 2019[1]). These results suggest that students in these three countries might be grouped based partly on socio-economic background rather than strictly academic achievement. Meanwhile, Baku (Azerbaijan) and Kazakhstan demonstrate comparatively low levels of isolation between socio-economically disadvantaged students and high-achieving students.

Policy implications

Improve the quality of education in lower levels of schooling

Gaps in the educational achievement of 15-year-olds are reflective of the unequal learning opportunities they had in lower levels of schooling. The sources of these inequalities are diverse and require diverse responses to address. In the context of EECA countries, where there is a strong emphasis on academic competition and identifying elite students, an important issue is perceptions towards students who are not necessarily the highest performers. Schools and teachers need to develop attitudes and practices (and be supported in doing so) that help each student achieve their full potential (see Chapter 3).

A critical concern for education in the region is the unbalanced distribution of educational resources across schools. There are large disparities in terms of their materials, learning time and who students' peers are, which contribute to different levels of achievement and unfair sorting into upper secondary schools. Other sections of this report examine these issues and discuss policy measures that countries can consider in order to improve the outcomes and outlooks of all students.

Ensure that all academic programmes are authentic and valuable

The most important consideration when grouping students into different programmes is ensuring that all options are authentic and valuable (OECD, 2017[5]). Vocational pathways in particular, which tend to enrol a disproportionately high share of lower-achieving and disadvantaged students, can sometimes have more limited opportunities for further education and entry into the labour market. Students who are sorted into less attractive and/or suitable pathways are at greater risk of dropping out, not pursuing further education or training and being unemployed (OECD, 2020[6]; OECD, 2017[5]).

In many EECA countries there is considerable attention given to, and pressure to attend, the most elite schools. Nevertheless, most students do not enrol in prestigious schools, and it is critical that governments in the region make sure that all programmes support students to succeed. Several countries in the region have taken measures to improve the value of all upper secondary programmes, particularly in vocational pathways. In 2005, Romania implemented a comprehensive National Qualifications Framework (NQF) that recognises specific vocational qualifications, which helps vocational students find suitable employment (Musset, 2014[7]). Allowing greater flexibility can also help ensure the value of all pathways. For example, Croatia developed a national vocational curriculum in 2018 that also allows for 30% of student time to be spent flexibly on elective modules (CEDEFOP, 2020[8]), which enables students acquire additional skills and prevents from being trapped along their trajectories.

Reforming selection instruments and criteria can help make student sorting more equitable

A critical issue when sorting students is how to fairly select students into their respective groups. In many EECA countries, selection is strongly based on academic considerations. Since education in lower levels of education is inequitable, selection into upper secondary schools based on academic criteria can reflect those inequities.

Countries in the region are enacting several measures to improve the fairness and equity of student selection. One set of measures is related to the selection tools. Many EECA countries rely heavily on examinations to select students, which has the potential of creating a fairer process (OECD, 2013[9]). However, UNICEF-OECD reviews have found that these examinations typically assess large amounts of detailed knowledge, which, when considering the relatively lower levels of in-class learning time, can contribute to students seeking out inequitable, private educational opportunities (see section on Learning time). Bulgaria and Turkey are in the process of improving the alignment of their examinations with newly introduced curricula so they assess a wider variety of skills instead of a narrower set of facts (Kitchen et al.,

2019[2]). These measures can help discourage students from participating in commercial tutoring, as they are better able to prepare for the examinations through regular classroom instruction.

Another set of measures is related to reducing the emphasis on academic criteria, which can help create a fairer process for students who did not receive equal educational opportunities in lower levels of schooling. For example, Turkey has recently added students' rates of attendance and the enrolment of family members as selection criteria for upper secondary school (Kitchen et al., 2019[2]).

School resourcing

On average across EECA countries, education spending as a percentage of national gross domestic product (GDP) is less than that of OECD countries (Table 2.2). As a result, education systems in the region face a range of resource concerns from facilities in need of major repairs to inadequate technological infrastructure (Li et al., 2019[10]; OECD, 2020[11]). Within this context, it is even more important for education systems to allocate resources in ways that best support high-quality teaching and learning for all students.

Table 2.2. Education system funding

Country	Education funding (all levels) as percentage of GDP (year)
Azerbaijan	2.5 (2018)
Belarus	4.8 (2017)
Bulgaria	4.1 (2017)
Croatia	3.9 (2017)
Georgia	3.5 (2018)
Kazakhstan	2.6 (2018)
Moldova	5.4 (2018)
Romania	3.1 (2017)
Turkey	4.7 (2017)
Ukraine	5.4 (2017)
EECA average	3.9%
OECD average	5.4%

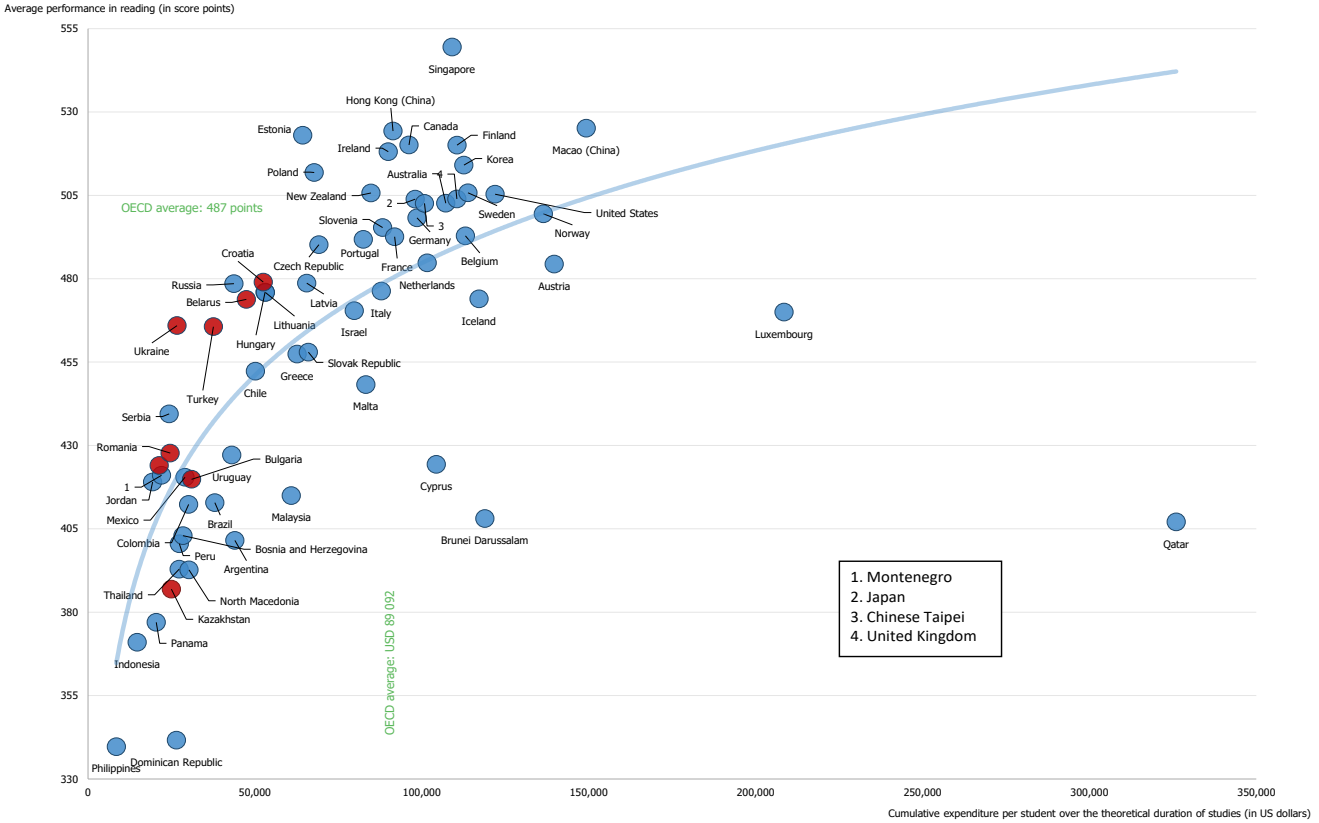
Notes: Reference year for Canada is 2011 and for Korea 2016 (in OECD average).
The data for this table were collected before Costa Rica became an OECD member.
Sources: (UNESCO-UIS, 2018[12])*Government expenditure on education as a percentage of GDP*, http://data.uis.unesco.org/ (accessed 7 December 2020); except for Greece and Turkey, International Monetary Fund, *Government Finance Statistics, Expenditure by Functions of Government*, https://data.imf.org/ (accessed 7 December 2020): and Canada, World Bank, *World Bank Open Data, Government expenditure on education*, (https://data.worldbank.org/ (accessed 7 December 2020).

Data from PISA

Overall educational resourcing is lower in the EECA region

PISA 2018 data show that overall educational spending in EECA countries is considerably below the OECD average, and that there is a relationship between spending and student achievement. Nevertheless, some countries perform higher than would be expected from their expenditure levels, such as Belarus, Croatia, Turkey and Ukraine (Figure 2.2.). These results suggest that how resources are allocated and used, in addition to how much is provided, can significantly shape how well students learn.

Figure 2.2. Spending on education and average reading performance



Notes: Data for Baku (Azerbaijan) and Georgia are not available. The data for this table were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 Database,* Tables I.B1.4 and B3.1.1, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

StatLink https://stat.link/vuowm7

To better understand school resourcing, PISA 2018 asked school principals to indicate whether a shortage or inadequacy of key educational resources hindered instruction at their schools. These key resources are defined here as:

- physical infrastructure (e.g. school buildings, heating and cooling systems, and instructional space)
- educational materials (e.g. textbooks, laboratory equipment, instructional material and computers)
- human resources (i.e. teachers and teaching assistants).

Table 2.3 shows how principals in EECA countries responded to questions about these resources compared to principals from other countries. On average, principals in EECA countries are about as likely as principals across the OECD to report that a shortage of material resources (defined by PISA as both physical infrastructure and educational materials) hinders instruction. There is, however, considerable variation across countries. Principals in Baku (Azerbaijan), Croatia, Georgia and Kazakhstan were more likely to report that shortages in or inadequacy of physical infrastructure hinder instruction. In Ukraine principals were more likely to report that a lack of educational materials hinders instruction.

In terms of human resources, there is little variation across EECA countries and overall levels of concern are similar to the OECD average. This finding is consistent with other PISA data showing relatively high levels of certified teachers and those with Master's degrees (proxies for teacher quality, see Chapter 3). Nevertheless, other evidence suggests that teachers' qualifications might not signal that they use modern practices that can help all students learn. There are also noticeable disparities in instructional practices among different types of schools, highlighting a need for policies to go beyond focusing on teacher certification and qualification levels to more closely examine differences in teaching practices. Chapter 3 reviews these issues in greater detail.

Table 2.3. Principal's perception of key educational resources

Percentage of students in schools whose principal reported that the school's capacity to provide instruction was hindered a lot by the following:

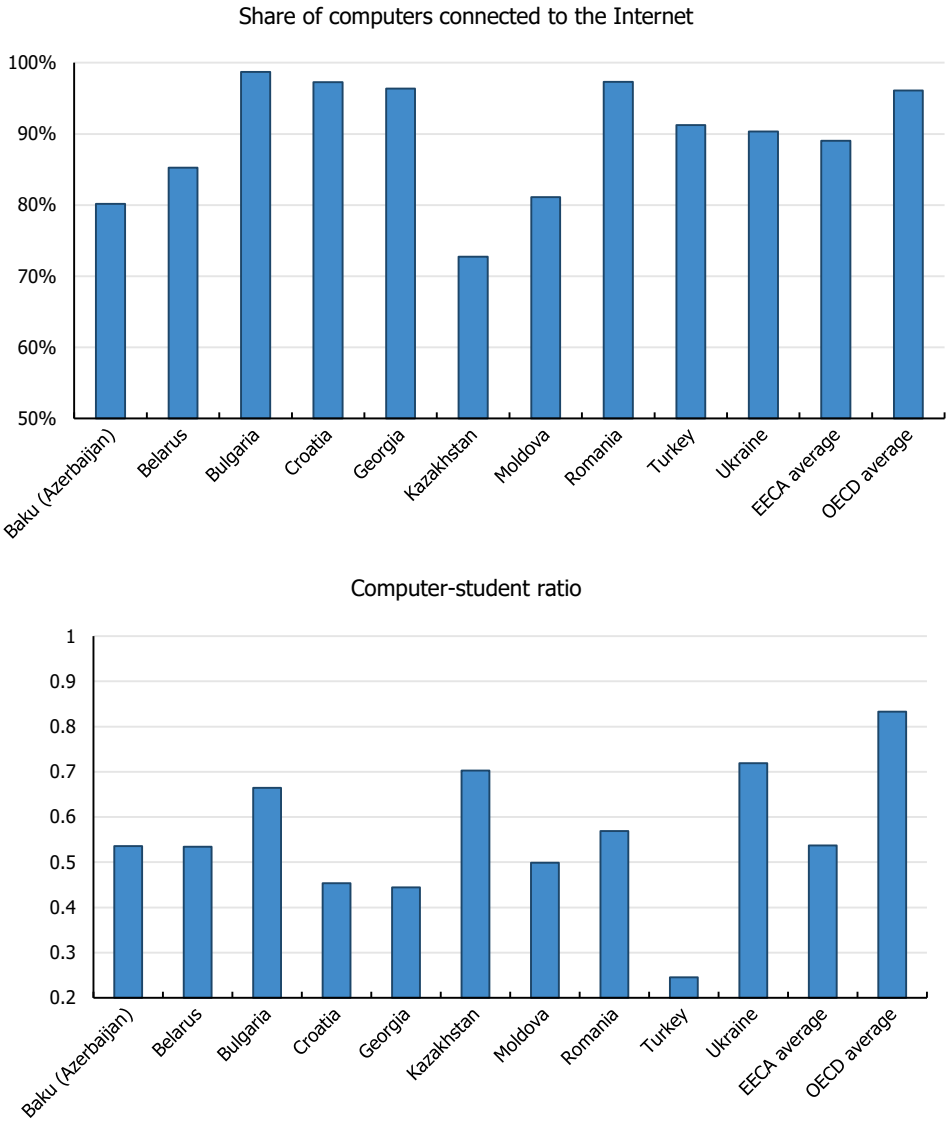
	Material resources				Human resources			
	A lack of educational material	Inadequate or poor quality educational material	A lack of physical infrastructure	Inadequate or poor quality physical infrastructure	A lack of teaching staff	Inadequate or poorly qualified teaching staff	A lack of assisting staff	Inadequate or poorly qualified assisting staff
Baku (Azerbaijan)	2	5	19	15	8	2	5	0
Belarus	3	1	4	6	1	1	0	1
Bulgaria	2	1	9	5	1	1	1	0
Croatia	10	11	29	28	1	1	14	1
Georgia	7	5	14	14	1	1	5	1
Kazakhstan	7	6	8	15	3	2	2	3
Moldova	5	5	5	4	3	2	3	1
Romania	8	7	6	6	0	0	3	4
Turkey	1	2	5	4	3	0	11	4
Ukraine	18	11	10	6	3	2	8	3
EECA average	6	5	11	10	2	1	5	2
OECD average	5	4	9	9	4	1	8	3

Notes: Darker shades of colour indicate greater reported lack of resources.
Less than 5
5 to 10
10 to 15
15 to 20
Greater than 20
The data for this table were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 Database*, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

StatLink https://stat.link/mcjikr

An increasingly important material resource for schools is their technological infrastructure. In all EECA countries, and especially in Turkey, the computer-to-student ratio in schools is below the OECD average (Figure 2.3). In terms of the share of computers connected to the Internet, schools in the EECA region are slightly less connected than those across the OECD. Nevertheless, EECA countries have made considerable progress in providing technological infrastructure. Since 2009, Kazakhstan has increased its share of computers connected to the Internet. In 2009, roughly half of computers were connected to the Internet in Georgia and Moldova (OECD, 2010[13]). In 2018, about 96% and 81% were, respectively.

Figure 2.3. School technological infrastructure



Note: The data for this figure were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 Database*, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

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Principals in some EECA countries perceive their levels of technological resourcing as inadequate (Table 2.4). In Ukraine, only 25% of principals agreed that the number of digital devices for instruction is sufficient, compared to the OECD average of 59%. Roughly 22% of principals in Moldova believe that the availability of adequate software is sufficient, compared to 71% across the OECD. A larger share of principals consider teachers to have the technical and pedagogical skills to integrate digital devices in instruction.

Table 2.4. Principals' perceptions of technological infrastructure

Percentage of students in schools whose principal agreed or strongly agreed with the following statements:

	An effective online learning support platform is available	The number of digital devices for instruction is sufficient	The availability of adequate software is sufficient	Teachers have the necessary technical and pedagogical skills to integrate digital devices in instruction
Baku (Azerbaijan)	41	39	71	65
Belarus	27	58	65	86
Bulgaria	40	42	70	80
Croatia	49	65	58	62
Georgia	60	50	90	73
Kazakhstan	70	57	73	90
Moldova	41	42	22	73
Romania	31	47	44	79
Turkey	66	78	68	75
Ukraine	64	25	28	81
EECA average	49	50	59	76
OECD average	54	59	71	65

Notes: Darker tones indicate greater agreement.
Less than 25
25 to 50
50 to 60
60 to 70
Greater than 70
The data for this table were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 Database*, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

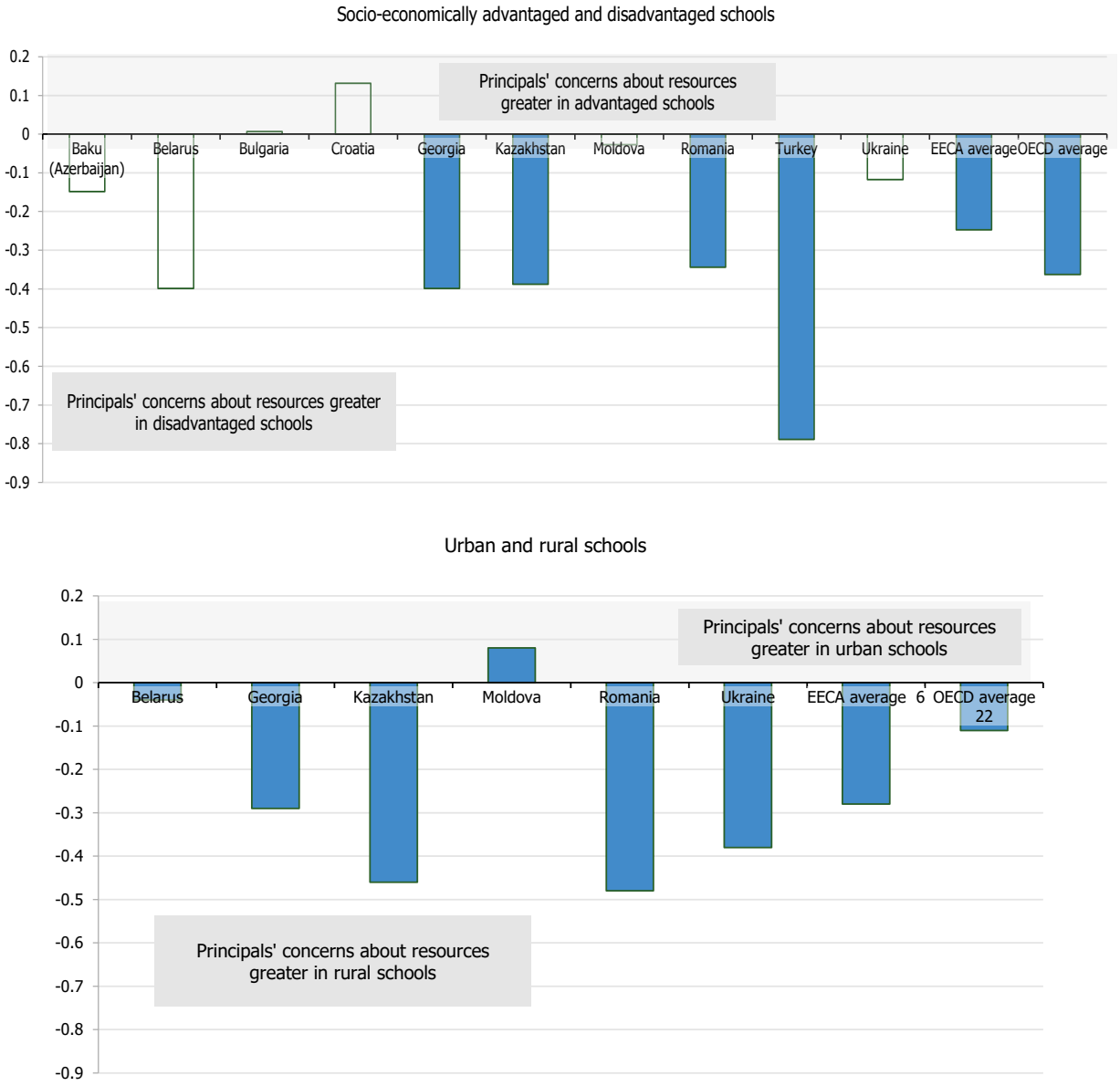
StatLink https://stat.link/jymavu

Educational resourcing in EECA countries is inequitable

In addition to the overall level of resource provision, it is important to consider whether resources are going to where they are most needed, as there is considerable evidence that students from more disadvantaged backgrounds might require comparatively greater levels of support in order to reach their potential (OECD, 2017[14]). In EECA countries, equity around school resourcing is a particularly important issue because of lower overall levels of funding and the region's tendency to isolate the top performing students into well-resourced, elite schools, which can worsen inequity.

Across OECD countries, socio-economically advantaged schools tend to be better resourced than disadvantaged schools[1] (Figure 2.4). This same trend is found in the EECA region, though there are differences across countries. Principals from socio-economically disadvantaged schools in Georgia, Kazakhstan and especially Turkey are more likely to report that shortages in material resources hinder instruction than principals who work in similar schools in other EECA countries. Similarly, principals from rural schools in EECA countries, particularly in Romania, Kazakhstan and Ukraine, are more likely than their OECD counterparts to report concerns about material resources.

Figure 2.4. Principals' perceptions of material resources, by school socio-economic status and location

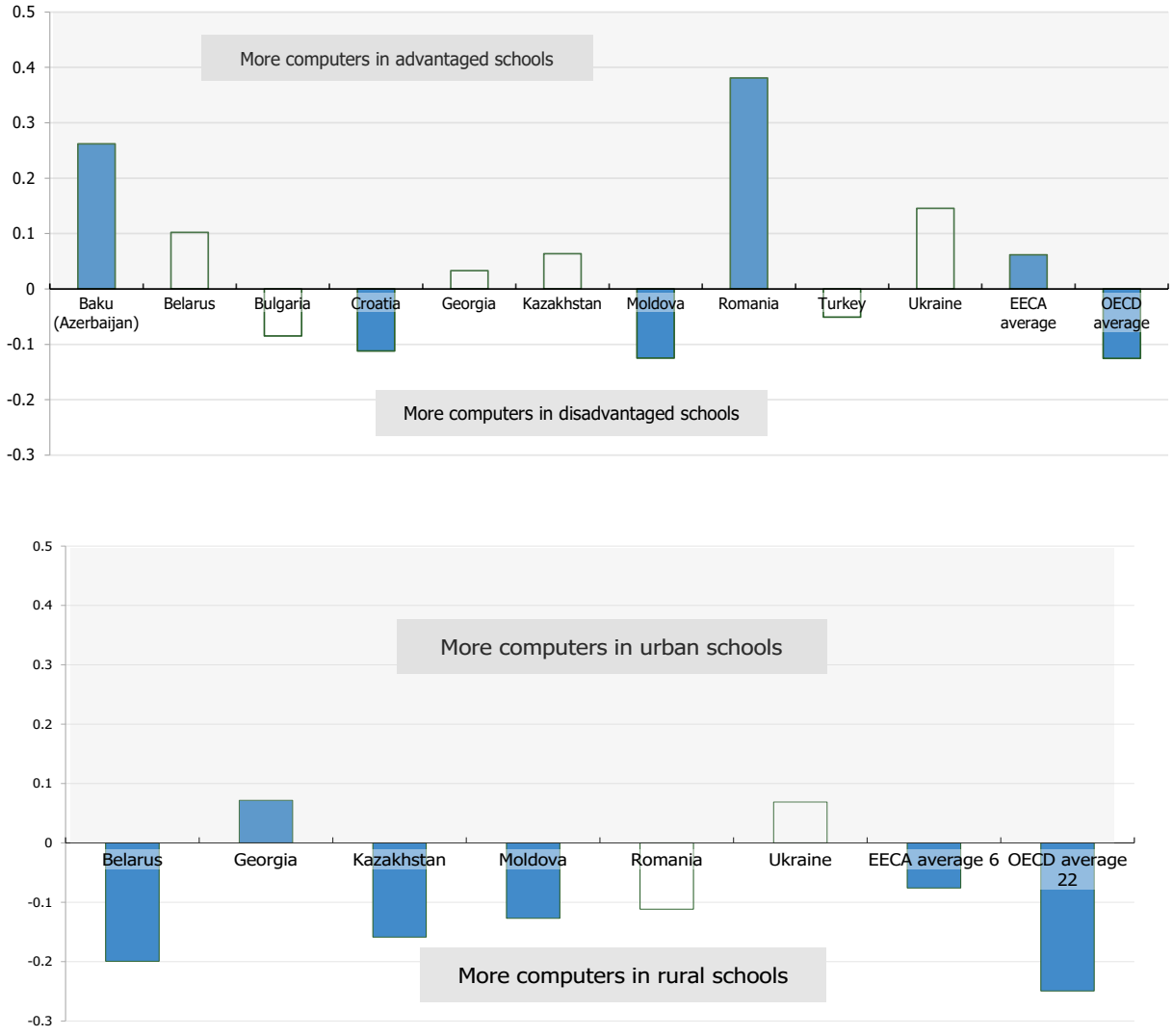


Notes: The index of material resources is calibrated such that the OECD average is zero, and a value of one represents one standard deviation away from the OECD average. The analysis is based on schools with the modal International Standard Classification of Education (ISCED) level for 15-year-old students.
Values that are statistically significant are shaded.
Missing countries on the bottom part of the figure had 3% or less of 15-year-old students enrolled in rural schools (hence "EECA average 6" and "OECD average 22").
The data for this figure were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 Database*, Table V.B1.4.1,Table V.B1.5.2, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

StatLink https://stat.link/e6wui8

Regarding technological resources, In Baku (Azerbaijan) and Romania, socio-economically advantaged schools have a higher number of computers per student than disadvantaged schools, while in Croatia and Moldova the opposite is true (Figure 2.5). In Georgia, urban schools have a higher number of computers per student than rural schools, while in Belarus, Kazakhstan and Moldova rural schools have more computers per student. Principals' perceptions of the adequacy of technological resources mirror these trends. Principals in socio-economically advantaged schools tend to think their technological resources are more adequate than principals from disadvantaged schools (Table 2.5).

Figure 2.5. Difference in computer-student ratio by type of school



Notes: Values that are statistically significant are shaded.
Ratio of school computers available to 15-year-olds for educational purposes is to the total number of students in the modal grade for 15-year-olds, based on principals' reports.
Missing countries on the bottom part of the figure had 3% or less of 15-year-old students enrolled in rural schools (hence "EECA average 6" and "OECD average 22").
The data for this figure were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 Database*, Table V.B1.5.6, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

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Table 2.5. Principals' perceptions of technological infrastructure in advantaged and disadvantaged schools

Difference in the percentage of students in schools (advantaged minus disadvantaged) whose principal agreed or strongly agreed with the following statements:

	An effective online learning support platform is available	The number of digital devices for instruction is sufficient	The availability of adequate software is sufficient	Teachers have the necessary technical and pedagogical skills to integrate digital devices in instruction
Baku (Azerbaijan)	23	18	9	-2
Belarus	4	23	18	-4
Bulgaria	24	4	-2	4
Croatia	-8	-1	-3	-8
Georgia	12	25	-8	1
Kazakhstan	12	7	1	1
Moldova	-1	8	13	15
Romania	19	26	28	14
Turkey	21	28	40	14
Ukraine	5	12	0	-13
EECA average	11	15	10	2
OECD average	10	11	11	7

Higher capacity in socio-economically advantaged schools
Higher capacity in socio-economically disadvantaged schools
Note: The data for this table were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 Database*, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

StatLink https://stat.link/pryhk8

Resource shortages, both real and perceived, are not necessarily related to student performance

While a minimum level of resources is undoubtedly necessary for instruction, providing adequate resources is not enough to ensure that students learn. Those resources also need to be relevant to schools' needs and school staff need to have the capacity to use those resources. If these conditions are not met, then more resources will not necessarily lead to better outcomes and countries risk inefficiently investing limited educational funds.

PISA 2018 shows that the relationship between resourcing and educational outcomes is not conclusive (OECD, 2020[15]). In some countries, greater resourcing (whether real or perceived) is associated with higher performance, while in others there is no relationship, or even a negative one. This trend is also found among EECA countries. With respect to computer-to-student ratios, there is a positive association with reading performance in Belarus, Kazakhstan and Ukraine, after accounting for students' and schools' socio-economic profile, but a negative one in Turkey. Kazakhstan is the only EECA country where there is a positive association between the percentage of computers connected to the Internet and reading performance. Aside from for the availability of software in Ukraine, there is no association in any country between principals' perception of technological infrastructure and student performance (Table 2.6).

Table 2.6. School resources and reading performance

Association between reading performance and the following variables

				Percentage of students in schools whose principal agreed or strongly agreed that:			
	Shortage of material resources	Number of available computers per student for educational purposes	Percentage of computers connected to the Internet	The number of digital devices for instruction is sufficient	The availability of adequate software is sufficient	Teachers have the necessary technical and pedagogical skills to integrate digital devices in instruction	An effective online learning support platform is available
Baku (Azerbaijan)							
Belarus		+					
Bulgaria							
Croatia							
Georgia							
Kazakhstan		+	+				
Moldova							
Romania							
Turkey		-					
Ukraine		+			+		
EECA average							
OECD average	-	-					

Positive association
Negative association

Notes: Results based on linear regression models, after accounting for the students' and schools' socio-economic status.
The data for this table were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 Database*, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

Policy implications

Adequate funding policies can enable more equitable allocations of educational resources

To direct resources to where they are most needed (and demonstrate the need for greater overall resourcing), many OECD countries use mechanisms that consider schools' student intakes. These mechanisms often include providing additional funding to specific schools (e.g. by including weights based upon student characteristics in a funding formula) or through targeted programmes (e.g. grants), which are provided for specific purposes but are separate from main allocations (OECD, 2017[14]).

Countries in the region have taken several steps to more equitably distribute resources to schools. In Romania, school funding was historically based upon the number of staff in the school. In 2010, the government switched to a per-student model with adjustments for, among several other criteria, the location of the school (i.e. rural and urban environments) (Kitchen et al., 2017[16]). Bulgaria has created a school funding formula that includes a "regional coefficient" to account for the different demographic characteristics of the country. Schools also receive additional, targeted grants from municipalities (forthcoming review). In Georgia, schools whose costs are not fully covered by other funding (the main source is student vouchers) can apply for grants from the government (Li et al., 2019[10]). While further progress can still be made, such as considering the share of highly vulnerable, ethnic minority students in funding formulae, these types of policies can nevertheless help EECA countries distribute their limited resources more efficiently.

Developing school leadership can help schools use their resources more effectively

Equally important to providing adequate resources is developing the school-level capacity needed to use those resources to help students learn. Central in this effort are school leaders, who are responsible for directing teaching and learning at their schools and deciding how resources are used (Pont, Nusche and Moorman, 2008[17]). In the EECA region, school leadership can be diverse in composition and responsibilities. In addition to the school principal, many countries have lead teachers and pedagogical councils to help manage schools (see Chapter 3 for a discussion on the autonomy that school leaders have in hiring teachers). In Kazakhstan and Romania, school leaders in larger, better resourced schools work with (or sometimes manage directly) smaller, satellite schools (OECD/The World Bank, 2015[18]; Kitchen et al., 2017[16]). Despite the importance of these roles, however, UNICEF-OECD country reviews indicate that school leaders in the region sometimes view their positions as administrative rather than instructive, and that teaching staff with leadership roles are not always certain of what their extra responsibilities are or how to perform them well (OECD, 2020[19]; Kitchen et al., 2017[16]; Li et al., 2019[10]).

Many EECA countries have taken measures to strengthen the capacity of school leaders. In 2013, Azerbaijan introduced principal standards, with a focus on shifting the role of principal away from administrator and towards an instructional leader (Kazimzade, 2017[20]). Additionally, Azerbaijan expanded the potential providers of principal training to include higher education and private institutions, which is helping improve the availability and relevance of principal professional development (ibid). Many countries in the region have introduced modern teacher standards (see Chapter 3), which spell out different levels of teachers (e.g. beginner and advanced) and their respective responsibilities, such as deciding what resources to use and helping other teachers use them. Furthermore, governments can use these standards and different levels of teachers to establish different remuneration structures, which can encourage teachers to develop their leadership capacities (OECD, 2019[21]).

Strengthening school evaluation can improve the allocation of school resources and help school leaders use their resources more effectively

Ensuring effective resourcing requires accurately identifying the needs of schools and providing adequate support so schools can use their resources to help students learn. In this regard, school evaluation frameworks are crucial because they produce data about schools that can help direct limited resources. Furthermore, the results generated by school evaluations can help school leaders understand how to use their resources to support student learning.

In EECA countries, school evaluation has historically been characterised as a compliance-oriented and somewhat high-stakes exercise (referred to in some contexts as "control"). Inspectors from a regional or central inspectorate would visit schools and evaluate them based upon how well they adhered to regulations and, if necessary, issue sanctions. The process was often disconnected from how well schools helped students learn, meaning resources were not allocated based on this consideration, and its punitive nature sometimes made schools hesitant to interact with the inspectorate and receive their support (OECD, 2020[11]; Kitchen et al., 2017[16]).

Several countries in the region have developed modern school evaluation frameworks to make school evaluation more focused on student learning and more formative. Kazakhstan, for example, is planning to reform the role of its central Committee for Control. It has proposed, but not implemented, a comprehensive framework called "school review" that bases evaluation on, among other factors, classroom observations and stakeholder interviews (OECD, 2020[11]). The results of these evaluations are intended to help the government give the tailored support that schools need to help their students learn. Bulgaria created a high-capacity National Inspectorate of Education to implement a national school inspection framework. The framework, created in 2016, evaluates schools along two broad dimensions – the educational process and management of the institution (forthcoming review). Importantly, the framework clearly sets out criteria for inclusion and equity. Based on the information generated from these evaluations, the government, often through local education bodies, can then provide necessary resources to schools and help those schools' leaders use those resources to improve the services they provide.

Learning time

The relationship between learning time and academic achievement is complex. While sufficient learning time is a key component to achieving good, and potentially more equitable, student learning outcomes, equally important is how that learning time is used (Gromada and Shewbridge, 2016[22]). Research shows that additional learning time can be more beneficial where classrooms are better managed, particularly for vulnerable student populations (Rivkin and Schiman, 2015[23]; Wu, 2020[24]). On the other hand, where learning time is insufficient or ineffectively spent, a shadow education sector can emerge to supplement formal schooling, which can exacerbate socio-economic inequities (Bray, 2020[25]). This section uses PISA data to analyse learning time in EECA countries according to three dimensions:

- Learning time in school during regular school hours
- Learning opportunities in school outside of regular school hours
- Learning time outside of school

Data from PISA

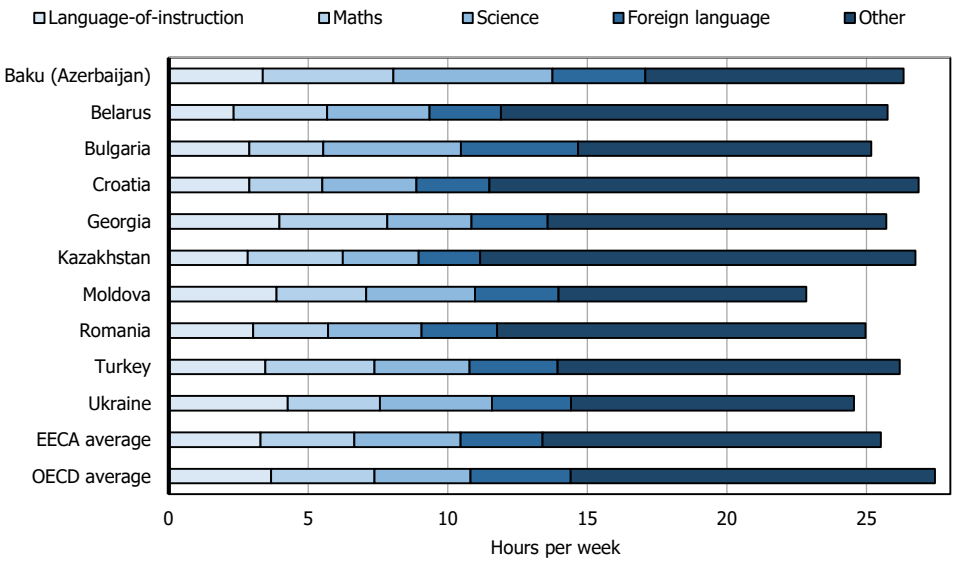
Learning time during regular school hours is significantly lower in EECA countries than the OECD average

Across EECA countries, the total average time devoted to learning in schools is roughly 2 hours below the OECD average of 27.5 hours of regular lessons per week (Figure 2.6. While there is variation across countries, all countries in EECA are below the OECD average, with Moldova having one of the lowest values among all PISA-participating countries (22.8 hours per week). At the subject-level, the largest disparity is in foreign language lessons (on average 0.7 fewer hours per week, or 24% shorter, compared to the OECD average). Regional variance was also largest in foreign language lessons, with Bulgaria devoting 4.2 hours per week on average, compared to 2.2 hours in Kazakhstan.

Learning time during regular school hours does not differ widely according to the socio-economic status of students. Only in Kazakhstan and Ukraine do socio-economically advantaged students have more total learning time than their disadvantaged peers (2.1 and 2.6 hours per week, respectively). At the subject-level, there are greater disparities, particularly for foreign language studies. In all EECA countries except in Baku (Azerbaijan) and Kazakhstan, socio-economically advantaged students studied foreign languages more than disadvantaged students. This gap is noteworthy as research shows that mastery of multiple languages is associated with better educational and employment opportunities (Marconi et al., 2020[26]).

Less learning time during regular school hours can be related to several factors. Inadequate infrastructure, especially in densely populated areas, encourages some EECA countries to make frequent use of multi-shift schools, where separate groups of students attend school in one building at different times during one day. In Croatia, an estimated 35% of schools operate in at least two shifts (World Bank, 2019[27]). Over 6% of students in Kazakhstan attended triple-shift schools in 2018 (OECD, 2020[28]). In some countries, mandatory learning time is set at relatively low levels. For example, in Moldova and Ukraine, lower secondary classes are 45 minutes in length and school years roughly 35 weeks in length. Students in these countries receive over 100 fewer hours of instruction per year compared to the OECD average (OECD, 2020[6]). While these countries also have more years of compulsory education (see Chapter 1), issues such as truancy and dropout (see section on Truancy) moderate the educational value of those extra years.

Figure 2.6. Learning time during regular school hours, by subject



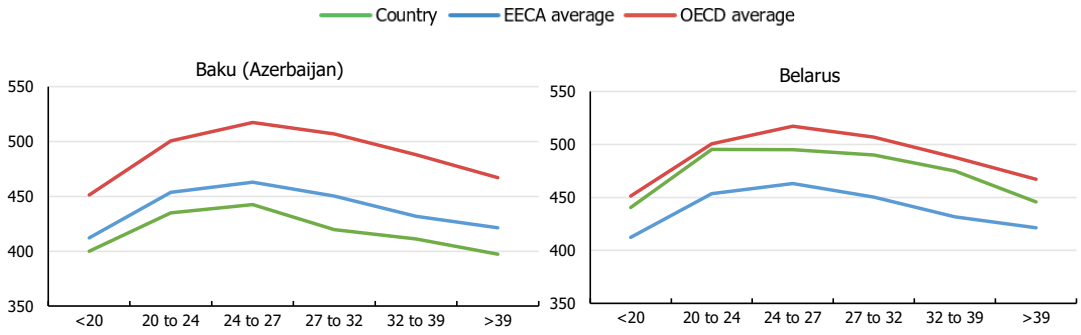
Notes: Learning time per week in regular school lessons is based on students' reports.
The data for this figure were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 database*, Table V.B1.6.1, Table V.B1.6.17, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

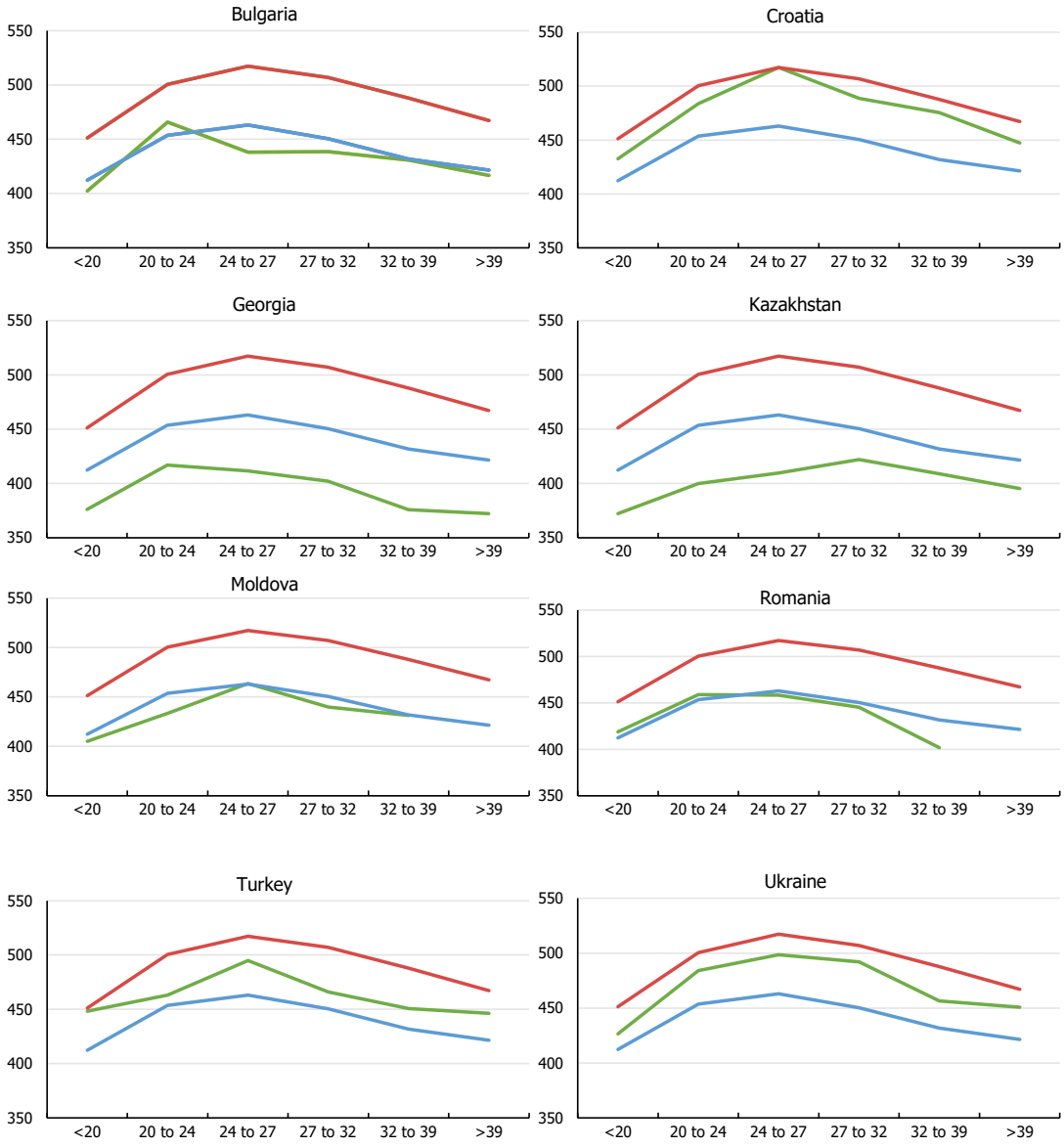
StatLink https://stat.link/fhg4wy

While ensuring that students have enough time to learn is important, PISA data show that, after a threshold of learning time is met, additional learning time might have diminishing effects on student performance. In most countries, the association between learning time during regular school hours and reading performance is positive up to 24-27 hours of instruction per week, but then declines (Figure 2.7). Data from EECA countries are consistent with international trends. This relationship could exist because governments do not always train teachers to use the additional time effectively, or because additional time is allocated to low-performing students, which can bias the overall results of students who receive a lot of learning time. These results suggest that EECA policymakers should make efforts to provide sufficient learning time, but also make efforts to ensure that additional learning time is used efficiently.

Figure 2.7. Total learning time in regular school lessons and reading performance

Learning time expressed in terms of hours per week





Note: The data for this figure were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 database*, Table V.B1.6.15, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

StatLink https://stat.link/56vuwt

Opportunities to learn outside regular school hours are relatively common, but might focus disproportionately on high-achieving students

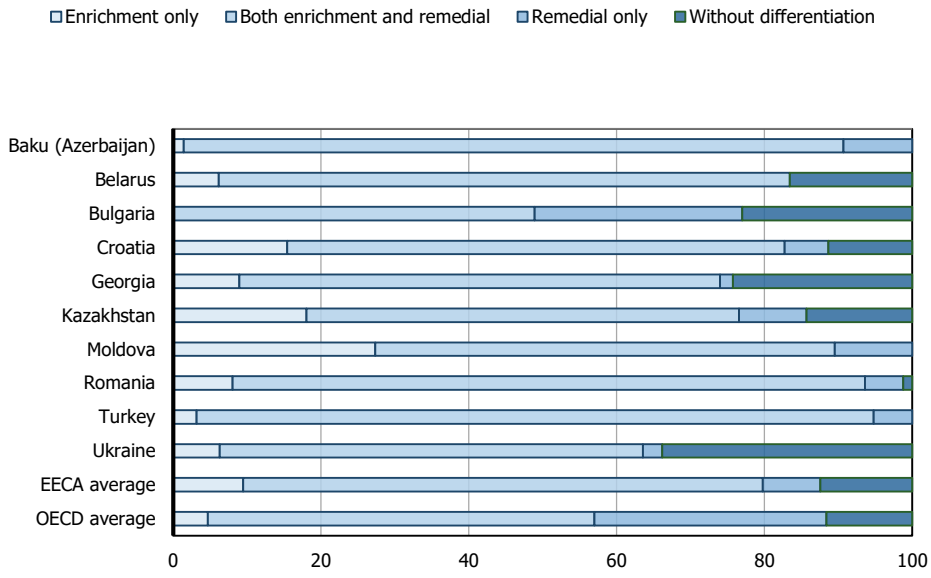
PISA 2018 considers two types of in school learning opportunities outside of regular hours:

- After-school lessons taught by teachers
- Less formal support activities to help students study, such as peer-to-peer learning

Regarding after-school lessons, across EECA countries 68% of students attend schools that offer additional lessons in the language of instruction, compared to 46% of students in OECD countries. However, the purpose of additional lessons in EECA countries differs compared to OECD countries. EECA schools are more likely to offer enrichment lessons (10%, compared to 5% across the OECD) and much

less likely to offer remedial lessons (8%, compared to 31% across the OECD) (Figure 2.8). Overall the availability of after-school lessons did not vary greatly according to students' socio-economic status; only in Bulgaria and Croatia was there a difference in the availability of such lessons (in both cases schools with more advantaged students were more likely to offer them).

Figure 2.8. Types of after-school language-of-instruction lessons offered at schools

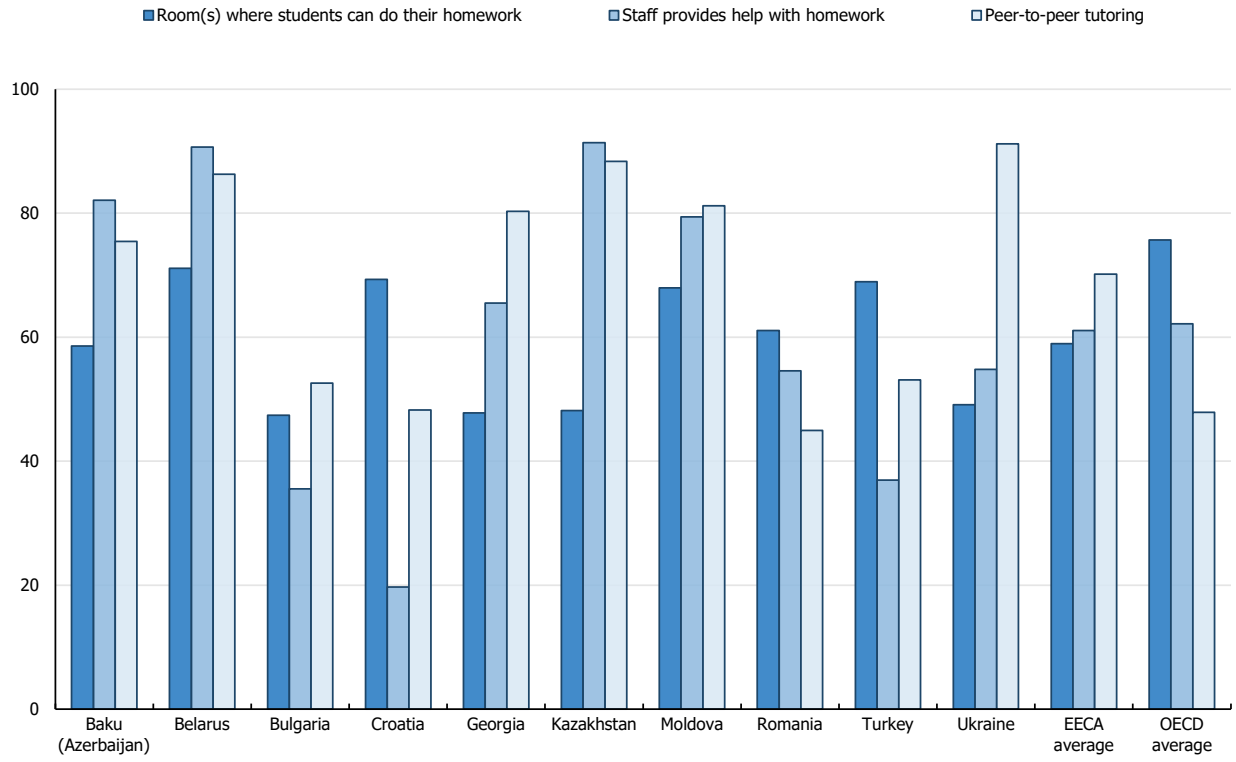


Notes: The analysis only pertains to schools that offer after-school language-of-instruction lessons.
Values represent the percentage of students in schools where the lessons are offered.
The data for this figure were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 Database*, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

StatLink https://stat.link/oai9yk

Regarding other resources, EECA countries generally provide similar levels of support, but the types of activities in EECA countries differ from international benchmarks. In particular, most EECA countries seem to place stronger emphasis (relative to OECD countries) on facilitating peer-to-peer learning (i.e. students helping each other). Conversely, students in EECA countries are less likely to have access to rooms where they can do homework, though they have similar access to staff to help them (Figure 2.9). In both EECA and OECD countries, the same levels of school support are generally available to students regardless of their socio-economic background. These differences could be a reflection of the lower levels of school resourcing in EECA countries (see section on School resourcing). Providing rooms where students can do homework and staff to help them can incur greater costs in the form of rent, maintenance and salaries. However, such resources can be particularly important for students from disadvantaged families who might lack a quiet place to study or adult help at home.

Figure 2.9. Percentage of students who attend schools that provide study help outside of regular school hours



Note: The data for this figure were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 database*, Table V.B1.6.19, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

StatLink https://stat.link/rt0ame

Learning time outside of school is higher in EECA countries

While PISA 2018 did not collect information about learning time outside of school, PISA 2012 collected this data, classified into several types of activities, from five EECA countries. These activities are:

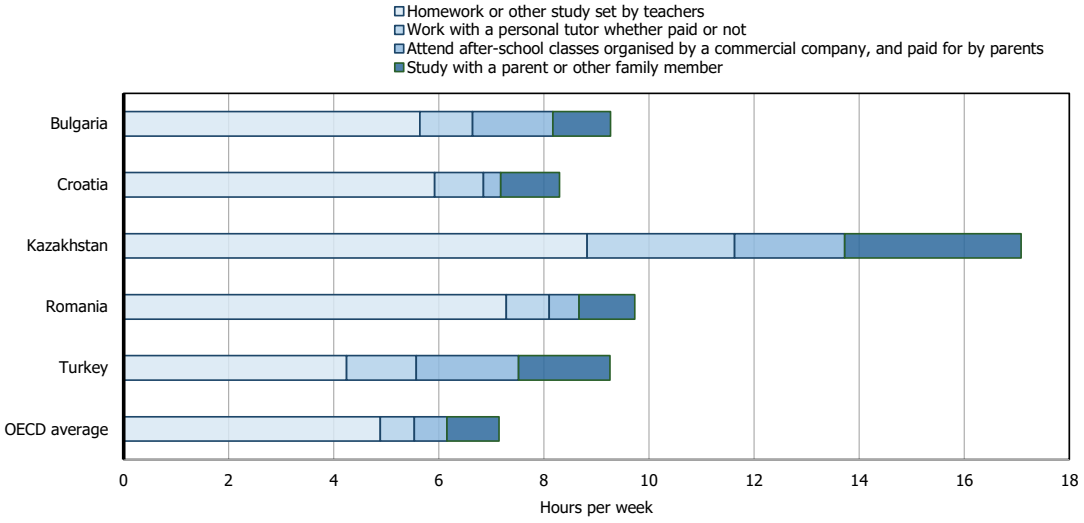
- Doing homework or other study set by teachers
- Working with a personal tutor, whether paid or not
- Attending after-school classes organised by a commercial company, and paid for by parents
- Studying with a parent or family member

The results of PISA 2012 show that, at the time of the survey, students from some EECA countries were spending considerably more time learning outside of school than students across OECD countries (Figure 2.10). Most of this time was spent doing homework, which was also the case with students across the OECD. However, students in participating EECA countries spent comparatively more time engaged in commercial tutoring. For example, students in Kazakhstan and Turkey participated in this activity over three times as much as students across the OECD. Recent analysis by the OECD shows that governments have sought to reduce this shadow education sector, but also shows that tutoring outside school remains common in some contexts (Kitchen et al., 2019[29]; Li et al., 2019[10]; OECD, 2017[3]; OECD, 2020[28]).

The scale of learning time outside of school in the region is related to several educational, social and cultural factors. For example, high levels of learning time outside of school can signal that families are

involved in the education of students. Another contributing reason could be the previously mentioned lack of learning time during regular school hours. Some teachers might not be able to progress through the curriculum in the limited time they have and perhaps assign extra homework to compensate. Students might also seek additional assistance outside of school, from tutors or parents, to help understand the material. A high-stakes sorting and examinations culture, especially in Bulgaria, Romania and Turkey (countries where grouping is more closely related with socio-economic background), might also be contributing to students seeking out learning opportunities outside of school (see Student sorting and segregation).

Figure 2.10. Learning time outside of school

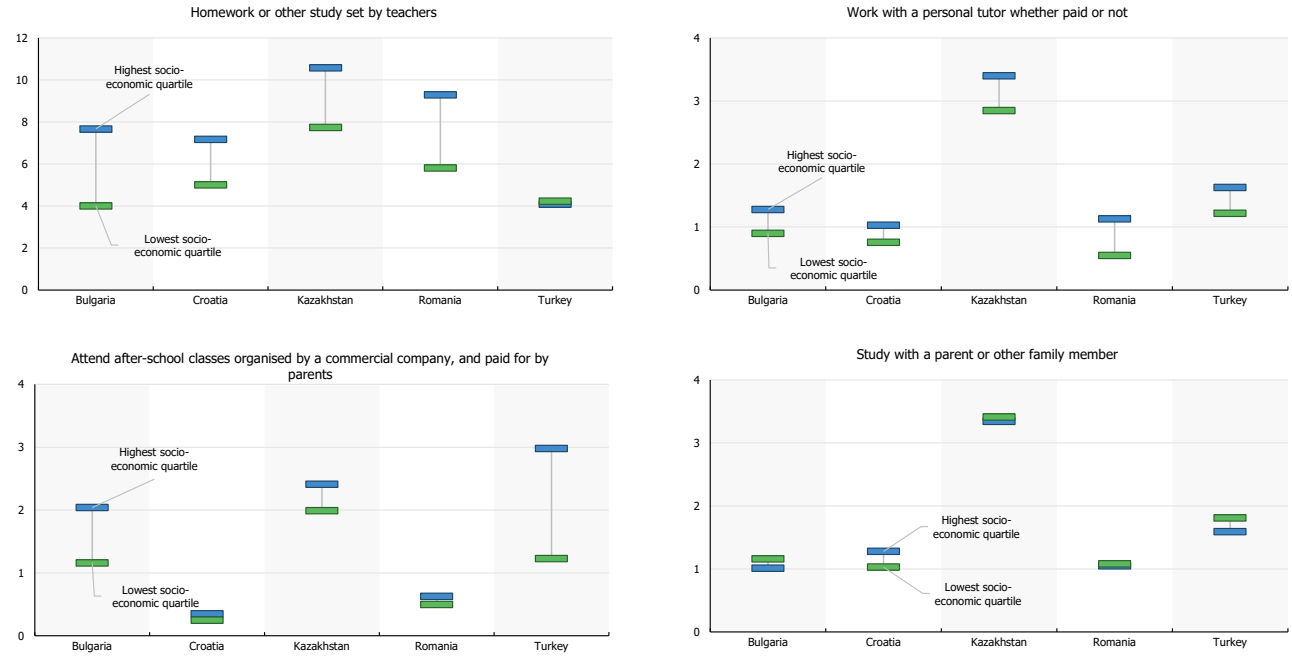


Note: The data for this figure were collected given OECD membership at the time that PISA 2012 was administered.
Source: (OECD, 2019[1]), *PISA 2012 database*, https://www.oecd.org/pisa/pisaproducts/pisa2012database-downloadabledata.htm (accessed 17 November 2020).

StatLink https://stat.link/gvrl0q

The amount of time that some EECA students spend learning outside of school raises concerns about equity. Since socio-economically advantaged students have more resources, they have better conditions to learn outside of school (e.g. they might have quiet spaces at home) and have greater access to different options, such as private tutoring (OECD, 2011[30]; OECD, 2013[31]). Figure 2.11 shows that, across five EECA countries that participated in PISA 2012, socio-economically advantaged students were more likely to have higher levels of outside-of -school learning time, which is likely contributing to gaps in learning outcomes.

Figure 2.11. Learning time outside of school according to socio-economic quartiles



Source: (OECD, 2019[1]), *PISA 2018 Database*, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

StatLink https://stat.link/qrxns8

Policy implications

Consider allocating more learning time during regular school hours

Ensuring sufficient learning time during school is vital to supporting student learning and equity of opportunity. Countries can alter learning time during regular school hours through addressing several aspects of schooling, including:

- The number of years of compulsory instruction
- The length of the school year
- The length of the school week
- The length of the school day, class periods, and time allocated to learning different subjects (Gromada and Shewbridge, 2016[22])

In EECA countries, the need to expand learning time during school hours is critical because current low levels might be contributing to high levels of inequitable learning time outside of school. EECA countries have made considerable efforts to extend learning time during school hours. In the past two decades all EECA countries except Belarus, Croatia and Kazakhstan have made compulsory learning longer by at least one year (World Bank, 2020[32]).

Policymakers can consider additional options to extend learning time during school hours. Kazakhstan is trying to reduce the number of multi-shift schools so schooling hours are not limited by the need to share facilities (OECD, 2020[28]). Similarly, a World Bank-funded project in Croatia aimed, among other goals, to construct new schools and reduce the number of multi-shift schools (World Bank, 2012[33]). Another option

is to extend the duration of classes and/or introduce more flexible scheduling, which might make teachers and students less reliant on out-of-school learning to master the material.

Adding learning time during school hours requires considerable resources, and some research has shown that expanding instructional time can be a less efficient means of achieving learning gains than other measures, such as reducing class size (Gromada and Shewbridge, 2016[22]). Given the low levels of education spending and government revenue in the region, it is critical that any added instructional time be used effectively. Furthermore, EECA countries will need to address issues that could mitigate the effects of added learning time, such as student truancy and teacher absenteeism (see section on Truancy and Chapter 3).

Use learning opportunities outside of regular school hours to support all students

Learning outside of regular school hours is an important accompaniment to learning during school hours, but in EECA countries these opportunities, especially the most formal, structured ones, tend to target students who are doing well. Students who are struggling and already less likely to have access to high-quality learning opportunities outside of school are at risk of falling even further behind.

EECA policymakers can consider shifting the focus of out-of-school learning opportunities to help students who need the most support. Options include dedicating more school lessons to remediation and expanding the availability public resources, like rooms where students can study and community education centres. In Romania, an Anti-Poverty Package launched in 2016 established after-school remediation programmes and offered grants to schools in disadvantaged communities (OECD, 2017[34]). Turkey has created several learning centres in areas with large refugee populations to help migrant students integrate into the education system (Kitchen et al., 2019[29]).

Truancy

Student truancy is generally understood as unexcused absence from school (OECD, 2019[1]; UNICEF, 2016[35]). Preventing truancy is important because students who are truant miss valuable learning time, which affects their development and engagement, and can lead to consequences such as dropout and a greater likelihood of economic hardship and social misbehaviour, in particular crime (European Commission, 2013[36]; Campbell, 2015[37]). Research has identified student truancy as being a particular concern in the EECA region (UNICEF, 2017[38]), which heightens the need to develop effective policies to address the issue.

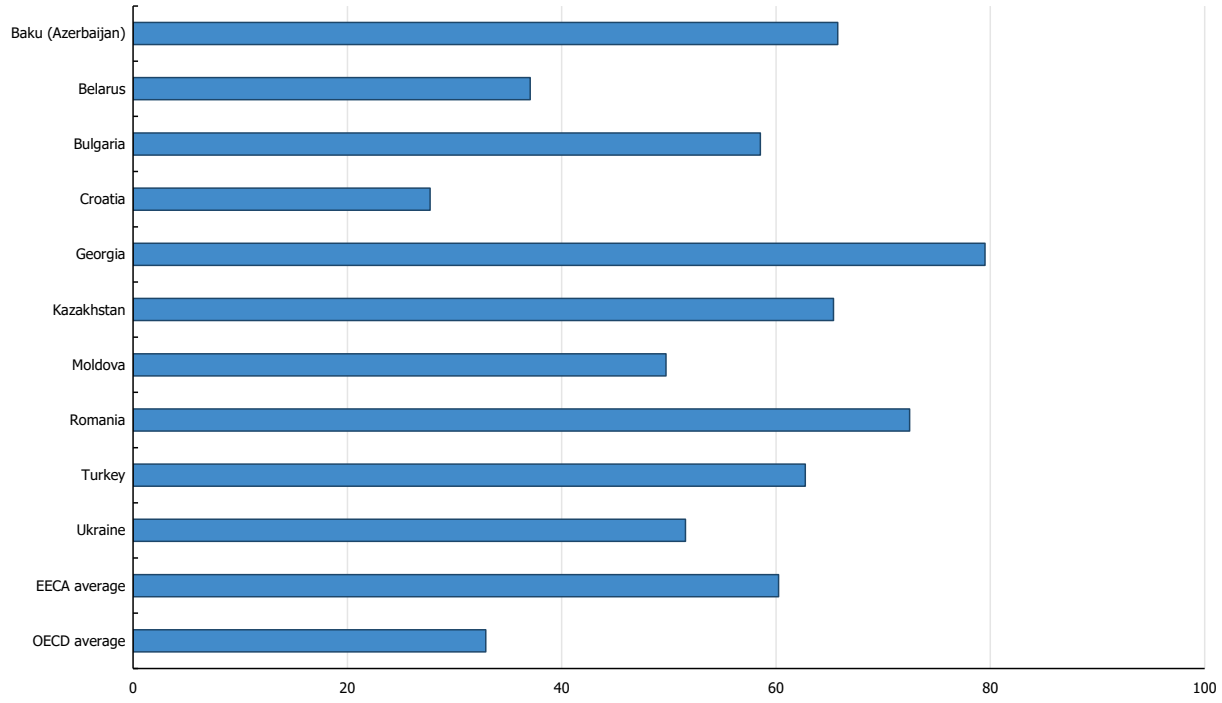
Data from PISA

Students in EECA countries are more likely to be truant than those in OECD countries

PISA 2018 considers a student to be truant if they have either skipped a day of school or skipped at a class in the two weeks prior to taking the PISA test. In 2018, 60% of students from EECA countries reported that they had been truant, compared to the OECD average of 33%. In Georgia, 80% reported engaging in truant behaviour, which is the highest rate of any country that participated in PISA (Korea has the lowest rate, at 3%). Only students in Croatia, the highest performing country in the region, had a lower share of truant students compared to the OECD average. These results are consistent with OECD reviews that highlighted higher levels of student dropout and irregular attendance in the region, especially among vulnerable populations such as the Roma (Kitchen et al., 2017[16]; Li et al., 2019[10]).

Figure 2.12. Percentage of students who were truant in the two weeks prior to taking PISA

Being truant is defined as having skipped school or skipped classes at least once

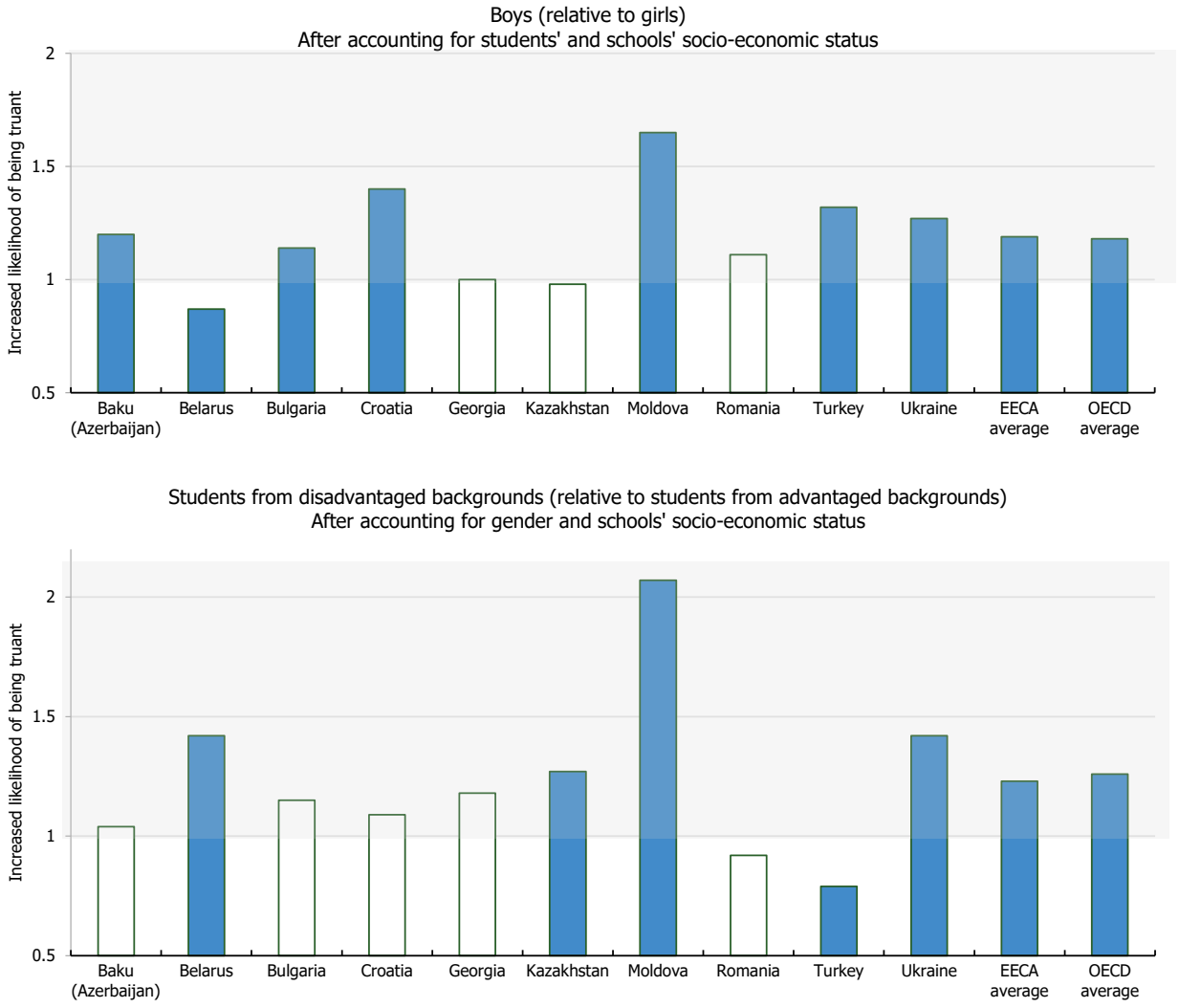


Note: The data for this figure were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 database*, Table III.B1.4.1, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

StatLink https://stat.link/17gciq

In general, boys and students from disadvantaged backgrounds are more likely to be truant in EECA countries, as they are across the OECD (Figure 2.13). There are significant variations across countries, however. For example, in Moldova, boys are 1.65 times more likely to be truant, and in Belarus girls are more likely to be truant. Students from disadvantaged socio-economic background in Moldova are more than twice as likely to be truant, while in Turkey socio-economically advantaged students are more likely to be truant. In no OECD country other than Turkey are socio-economically advantaged students more likely to be truant. In no EECA country with a significant share of rural students were there differences in truancy between rural and urban students.

Figure 2.13. Increased likelihood of student groups to be truant



Notes: Values greater than one are considered more likely to be truant than the reference group. Values less than one are considered less likely. Values that are statistically significant are shaded.
The data for this figure were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 Database*, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

StatLink https://stat.link/rwlga3

Truancy in the region has a weaker association with performance

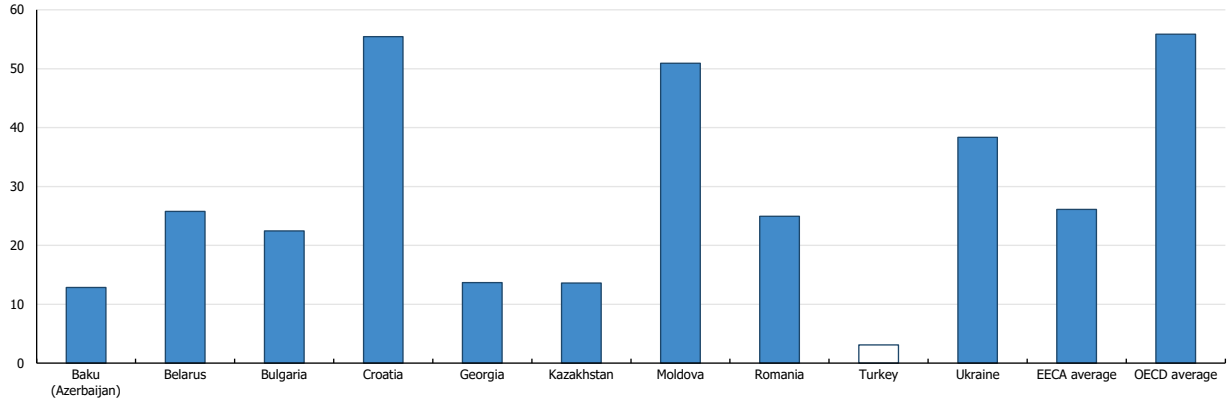
Several factors might explain why students in EECA countries demonstrate different truancy trends compared to each other and to OECD countries. One could be the lesser opportunity cost of skipping school. Given the lower levels of learning time during regular school hours in several EECA countries (see section on Learning time), many students in the region miss less instructional time by skipping school (conversely, the relative lack of value of school time might not be motivating students to miss school, but those who do simply experience less learning loss). Moreover, the share of students participating in out-

of-school learning is higher in the EECA region, and some students might skip school to attend tutoring (OECD, 2017[3]; Li et al., 2019[10]).

These factors might help explain why the average difference in performance between students with the most truant tendencies (those who skipped at least three days of school in the last two weeks) and those with the least (who skipped two or fewer days) in EECA countries is less than in OECD countries (Figure 2.14). In three out of ten EECA countries, the difference in reading performance between these student groups is less than 15 score points (compared to over 55 across the OECD), and in Turkey there is no difference.

Figure 2.14. Difference in reading performance between the students with the most and least truant tendencies

Least truant minus most truant students, after accounting for gender, students' and school's socio-economic status



Notes: Values that are statistically significant are shaded.
The data for this figure were collected before Costa Rica became an OECD member.
Source: (OECD, 2019[1]), *PISA 2018 Database*, https://www.oecd.org/pisa/data/2018database/ (accessed 17 November 2020).

StatLink https://stat.link/rmpfe2

Policy implications

Creating data collection and analytical tools can help identify truant students and understand truancy trends

Addressing student truancy, and avoiding further negative consequences like dropout, requires identifying which students exhibit truant behaviour, which requires developing comprehensive and integrated education data systems (UNICEF, 2016[35]). Such systems not only need to collect relevant data (e.g. when students are truant, in which schools, and the characteristics of those students), but also present the data in an accessible manner (e.g. via an analytical dashboard that can highlight at risk populations) to help inform timely policy interventions.

Georgia serves as an example of a country that has made tremendous progress in collecting relevant data and is in the process of making its data more accessible. In 2012, the Georgian Ministry of Education, Science, Culture and Sport (MoESCS) developed its national education management information system (EMIS). Georgia's EMIS holds all education data, including student attendance, and schools continuously input new data into EMIS through an internal portal called E-School (Li et al., 2019[10]). However, using the data in EMIS has sometimes been challenging. For example, principals do not have tools that allow them to view their schools' attendance rates over time or by dimensions such as gender, thus there is also no

way of quickly identifying which student populations are more likely to be truant and at risk of dropping out (UNICEF, 2017[39]). In 2018, MoESCS began partnering with Microsoft to strengthen its digital ecosystem, which included the introduction of tools to help visualise and thereby analyse data in EMIS instantaneously (Microsoft, 2020[40]). These tools can help principals instantly see which students are truant, and how recent truancy data compare with previous weeks and months.

Developing warning systems and targeted programmes to address truancy

With accurate and comprehensive information management systems, countries can analyse the data they collect to develop appropriate measures to address truancy and help prevent more negative consequences like dropout (UNICEF, 2017[38]). A common approach is to develop early warning systems based upon administrative data, which can alert school staff and parents that students are exhibiting behaviours that could lead to increased truancy and dropout (EU, 2013[41]). Many countries in the European Union have implemented such systems, including Bulgaria and Croatia (ibid).

In addition to creating detection systems at the school level, EECA countries have also monitored system-level data to better understand macro trends in truancy and dropout. Based upon this information, countries have developed national initiatives to target the populations most vulnerable to being truant and dropping out. For example, the government of Bulgaria has worked closely to address persistent truancy in the country's Roma community. Efforts include organising national and local round tables to confront negative attitudes towards Roma students, and opening family centres to help prevent child marriages and promote school attendance for girls (UNICEF, 2016[42]).

Nevertheless, while such programmes can help remove obstacles to attending school, EECA countries should also consider strengthening students' intrinsic motivation (often shaped by family background) to attend school by raising the value of schooling (which might also encourage some students to attend school instead of private tutoring). To achieve this aim, policymakers can consider increasing learning time during school (see section on Learning time) and encouraging the use of more modern teaching practices (see Chapter 3).

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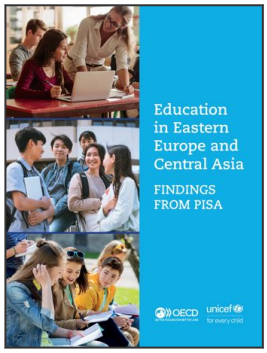
Note

[1] A socio-economically disadvantaged (advantaged) school is a school in the bottom (top) quarter of the index of ESCS in the relevant country/economy.



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