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## 4

# School governance, assessment and accountability

This chapter examines the governance of school systems, assessment practices and accountability procedures and how they are related to student performance across PISA-participating countries and economies. It examines school autonomy; teachers' participation in school governance; public and private involvement in governance; school choice; policies on examinations, assessment practices and purposes; quality assurance; and the use of achievement data.

### **A note regarding Israel**

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

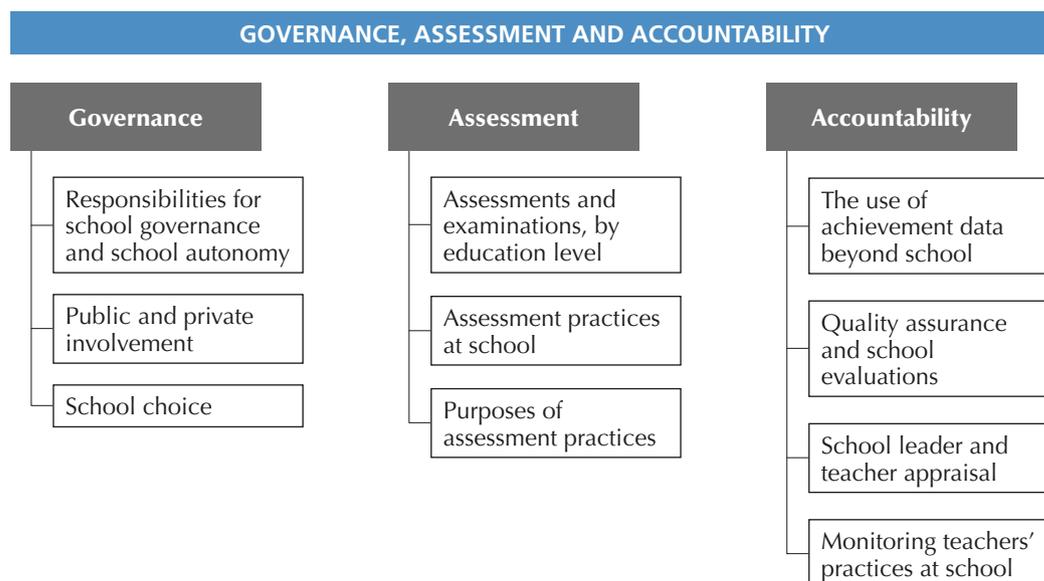


In most middle- and high-income countries, compulsory education is guaranteed by the state and realised through education authorities, stakeholders and/or independent agencies. Governing these complex education systems requires balancing responsiveness to local diversity with the ability to deliver high-quality and equitable education to all students, regardless of their social background, abilities and interests (see Box II.4.1). To do this, decisions must be taken on the roles of principals, teachers, parents, school governing boards, governments and private organisations in managing schools, on the level of competition among schools, and on how students are assessed, how teachers' practices are monitored, how school leaders are appraised, and how schools are held accountable for the quality of the education they provide (Figure II.4.1).

### What the data tell us

- Schools in the Czech Republic, Lithuania, Macao (China), the Netherlands and the United Kingdom enjoy the greatest autonomy while those in Greece, Jordan, Tunisia and Turkey are granted the least autonomy. In education systems where school principals hold greater responsibility for school governance, students score higher in science; and this relationship is stronger in school systems where the percentage of students whose achievement data are tracked over time and posted publicly is higher than the OECD average.
- Across OECD countries, 84% of students attend public schools, 12% attend government-dependent private schools and 4% attend private independent schools. Students in private schools score higher in science than students in public schools; but after accounting for the socio-economic profile of students and schools, students in public schools score higher than students in private schools on average across OECD countries and in 22 education systems.
- Students whose parents consider the distance to school and school expenses when choosing a school for their child score lower in science, even after accounting for the socio-economic profile of students and schools.
- Standardised tests are used extensively across PISA-participating countries and economies. In about five out of six school systems, more than one in two students are assessed at least once a year with mandatory standardised tests, and in about three out of four countries, more than one in two students are assessed at least once a year with non-mandatory standardised tests.
- Almost all schools that participated in PISA 2015 use internal evaluations, written specifications of the school's curriculum and education goals, and systematic recording of data, including test results and graduation rates, for quality assurance and improvement.

Figure II.4.1 ■ **Governance, assessment and accountability as measured in PISA 2015**





### Box II.4.1. **Governing complex education systems**

Over the last few decades, many OECD countries have decentralised control of their education systems, giving schools and local school authorities greater autonomy to respond more directly to citizens' needs. As evidence about school and student achievement has become more readily available, parents and other stakeholders (such as teachers, students and labour unions) have become more demanding and involved in decision making about education. The increased complexity in governance arrangements, accompanied by a rise in the number of stakeholders and in the availability and use of evaluation and accountability data, calls for a new approach to governance (Burns and Köster, 2016).

Education systems are, in fact, complex systems: they are networks of interdependently linked actors whose actions affect all other actors, and that evolve, adapt, and re-organise themselves. Complex systems do not work in a linear manner but rather exhibit a series of well-defined characteristics: tipping points, feedback loops, path dependence and sensibility to local contexts (Snyder, 2013).

#### **Complexity**

Understanding complexity is important for policy making and reform, as complex systems cannot be successfully governed with the simple, linear mechanisms of the traditional policy cycle. Simply devolving power to local authorities will not improve the functioning of the system unless it is also accompanied by attention to the connections and interactivity present. This interactivity means that a single intervention may generate both positive and negative effects in different parts of the system. For example, disclosing information about school performance might have a very different impact on a school that is thriving than on a school that struggles to attract well-performing students. Space must thus be made to facilitate and use the constant feedback required to guide complex systems when designing and implementing reforms. Although it might be tempting to look for easy, one-size-fits-all policy responses for a specific problem, simple solutions to complex problems are doomed to fail. Public governance must remain flexible enough to learn from and adapt to specific circumstances.

#### **Five elements of modern governance for complex systems**

Modern education governance must be able to juggle dynamism and complexity at the same time as it steers a clear course towards established goals. And it must do this as efficiently as possible, with limited financial resources. Successful modern education governance:

- **Focuses on processes, not structures.** Almost all governance structures can be successful under the right conditions. The number of levels, and the power at each level, is not what makes or breaks a good system. Rather, it is the strength of the alignment across the system, the involvement of actors, and the processes underlying governance and reform.
- **Is flexible and able to adapt to change and unexpected events.** Strengthening a system's ability to learn from feedback is a fundamental part of this process, and is also a necessary step to quality assurance and accountability.
- **Works through building capacity, stakeholder involvement and open dialogue.** However it is not rudderless: involvement of more stakeholders only works when there is a strategic vision and set of processes to harness their ideas and input.
- **Requires a whole-of-system approach.** This requires aligning policies, roles and responsibilities to improve efficiency and reduce potential overlap or conflict (e.g. between accountability and trust, or innovation and risk-avoidance).
- **Harnesses evidence and research to inform policy and reform.** A strong knowledge system combines descriptive system data, research findings and expert practitioner knowledge. The key is knowing what to use, when, why and how.

#### **References**

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## HOW SCHOOL SYSTEMS ARE GOVERNED

### Responsibilities for school governance and school autonomy

Among the many decisions that education authorities and schools have to make, those concerning the way responsibilities for education are distributed and managed have a direct impact on teaching and learning. Since the early 1980s, many school systems, such as those in Australia, Canada, Finland, Hong Kong (China), Israel, Singapore, Spain, Sweden and the United Kingdom, have granted individual schools greater authority to make decisions about curricula and resource allocation (Cheng and Lee, 2016; Fuchs and Woessmann, 2007; Wang, 2013). The underlying premise is that individual schools have highly qualified teachers and strong leaders who are good judges of their students' learning needs, and who can (re)design and implement rigorous curricula, internal evaluations and accountability mechanisms without feeling overloaded (Caldwell and Spinks, 2013; Department for Education, 2010; Hanushek, Link and Woessmann, 2013). Such school-based management involves increasing principals' decision-making responsibility and accountability and, in some cases, the management responsibilities of teachers or department heads. Yet school systems differ in the degree of autonomy granted to schools and in the domains over which autonomy is awarded to schools.

PISA 2015 asked school principals to report whether the teachers, the principal, the school's governing board, the regional or local education authorities, the national education authority,<sup>1</sup> or a combination of them, have considerable responsibility for allocating resources to schools (appointing and dismissing teachers; determining teachers' starting salaries and salary raises; and formulating school budgets and allocating them within the school), for the school curriculum (choosing textbooks; deciding which courses are offered; and determining the content of those courses), and for establishing student assessment, disciplinary and school admissions policies.<sup>2</sup>

Across OECD countries, most students are in schools whose principal reported having considerable responsibility for hiring (70% of students attend such schools) or firing teachers (57% of students attend such schools), but fewer than one in four students attends a school whose principal reported having considerable responsibility for establishing teachers' starting salaries (20%) or salary increases (23%) (Table II.4.1). More than half of students are in schools whose principal reported having considerable responsibility over budgetary issues, including deciding how the budget should be allocated within the school; over disciplinary, assessment and admissions policies; and also over which courses are offered at school. Across education systems, differences in the responsibility for hiring and firing teachers are particularly large. In Greece, Jordan, Tunisia and Turkey, fewer than one in ten students attends schools whose principals reported having considerable responsibility over hiring, while in the Czech Republic, Iceland, Montenegro and Sweden, virtually all students are in schools whose principals reported having such responsibility.

According to school principals in most PISA-participating countries, teachers have limited input about their working conditions (hiring, firing and salaries), school budgetary matters or admissions policies (Table II.4.1). They have more responsibility for disciplinary and assessment policies, choosing textbooks and course content, with around six in ten students or more, across OECD countries, attending schools whose principal reported that teachers have considerable responsibility for these issues. About half of students attend schools whose principal reported that teachers have considerable responsibility over which courses are offered at school. Despite having substantial responsibility over curricula across most PISA-participating education systems, there are some countries in which teachers appear to have little autonomy in choosing textbooks, determining course content or deciding which courses are offered. For example, in Greece and Jordan, fewer than one in ten students attends a school whose principal reported that teachers have considerable responsibility over selecting textbooks, courses on offer or course content.

School boards have less responsibility over school management than other stakeholders, according to school principals (Table II.4.1). Their main responsibilities lie in budgetary issues (on average across OECD countries, about one in three students attends a school whose principal said that school boards have considerable responsibility over formulating the school budget or allocating it within the school) and for disciplinary policies; they also appear to have some say over which courses are offered.

But the nature and composition of school boards vary widely across countries (see Box II.4.2). This is reflected in the role they play in managing schools across different education systems. In Croatia, for example, more than three in four students are in schools whose principals reported that school boards have considerable responsibility over firing and hiring teachers; in the Dominican Republic and the Former Yugoslav Republic of Macedonia (hereafter "FYROM"), more than seven in ten students are in schools where school boards have responsibility for formulating the budget; and in Singapore, at least six in ten students are in schools whose principals reported that school boards play a large role in decision making related to the school budget, discipline, assessment and curriculum.



#### Box II.4.2. School governing boards around the world

A school governing board, also known as a school leadership board or a school governing committee, is a group of individuals that is responsible for making certain decisions related to either a particular school or a network or group of schools. The board often shares responsibility with a higher-level government agency, such as a national or provincial/state department of education, that sets a framework within which the school governing board has a degree of discretion. However, school governing boards differ widely across countries in their composition and function.

##### Who sits on school governing boards?

School governing boards can be internal, comprising only school staff, parents and students; external, incorporating members of the community at large; or a combination of the two (OECD, 2010). For example, in Denmark, parents and students elect representatives for the board from among themselves, with parents making up at least half of the members of the board (UVM, 2015). Both academic and administrative staff members also sit on the board, and the local government can include representatives of the local business community or non-profit organisations, or those associated with other schools in the locality.

A similar system exists in South Korea, where parents and teachers elect both their own representatives and a group of community leaders<sup>1</sup> (MOE, 2015). There can be anywhere from 5 to 8 members on the governing board of schools with fewer than 200 students, to between 13 and 15 members on the board of schools with over 1 000 students. The composition of these boards is evenly split among parents, teachers and community members.<sup>2</sup> In Spain, the school board is composed of the school director, the head teacher, a representative from the city council, a group of teachers (elected among themselves), which makes up at least one-third of the board, a group of students and parents (elected among themselves), which makes up another third of the board, and a representative from the administrative staff<sup>3</sup> (BOE, 2013).

In Canada, most school boards<sup>4</sup> are elected by the local community to preside over certain aspects of the school system in the community (CSBA, 2015), while in the United States, most are appointed by the state governor (NASBE, 2016). School boards in these countries are responsible not just for one school, but for an entire network of schools, ranging from primary to upper secondary level. School staff, parents and students are excluded from these boards.

##### What do school governing boards do?

School governing boards also vary in their responsibilities. School boards in Spain, for example, are informed about school admissions and disciplinary problems at the school, they analyse and evaluate the school's annual programme, participate in the election of the school principal, and propose actions to improve the school facilities and the learning environment (BOE, 2013).

Portuguese school boards have a complex structure with four branches that, together, oversee a wide variety of tasks (Eurydice, 2016):

- The general board elects the school principal, approves the “educational project” and annual/multi-year activity plans, examines the results of the school's self-evaluation, participates in the principal's performance evaluation, and helps establish relationships with other schools.
- The school principal prepares the budget, assigns staff teaching and non-teaching duties, nominates heads of departments, selects and recruits teaching staff, manages school facilities and other educational resources, evaluates performance, and represents the school.
- The pedagogic board develops the “educational project” and annual/multi-year activity plans, organises professional development programmes for staff, adapts the curriculum to the school's needs, chooses textbooks, sets up the framework for hiring teachers and creating class timetables, and participates in teachers' performance evaluations.
- The administrative board manages the budget.

School governing boards in the French Community of Belgium have a smaller set of duties (Communauté française de Belgique, 1997). They discuss the school's education plan and monitor its implementation, proposing adjustments if necessary. They also audit the costs accrued during the year, particularly for cultural and athletic activities, and provide a mechanism for students from poorer families to pay for such activities.

...



Elected school boards in Canada and the United States are responsible for employing a superintendent, hiring teachers, and maintaining and improving facilities (OPSBA, 2014). More generally, they manage much of the financial aspects related to providing education; indeed, they often have the power to impose taxes and general school fees in order to do so. The curriculum, however, is usually designed by the state or province.

This contrasts with the situation in Hungary, where the National Education Act does not mandate school governing boards (Nemzeti Jogszabálytár, 2011). As a consequence, school governing boards have traditionally played a minor role in Hungary (Szekszárdi, 2006).

#### Notes

1. Community leaders include experts in law or accounting, civil servants, alumni, local business owners and, more generally, anyone in the community who is committed to improving education.
2. Parents often make up slightly more of the school governing board than either teachers or community leaders.
3. The school secretary also serves as the secretary of the school governing board. He/she may participate in the discussions but does not receive a vote.
4. Education in the three sparsely-populated Canadian territories, for example, is administered directly by the territorial government. Further oversight is provided by a committee at each school, however.

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In general, local, regional and national authorities have greater responsibility over resources, especially over establishing teachers’ starting salaries and salary increases, than over disciplinary, assessment or admissions policies, or over the curriculum (Table II.4.1). However, in some education systems, school principals reported that regional or national authorities have considerable responsibility over these issues too. For instance, a majority of principals in Beijing-Shanghai-Jiangsu-Guangdong (China) (hereafter “B-S-J-G [China]”) and the federal states of Switzerland and the United States reported that local or regional authorities have considerable responsibility over the curriculum, specifically in determining course content, and deciding which courses are offered and which textbooks will be used. In more centralised education systems, such as those in Croatia, Greece, Luxembourg, Tunisia and Turkey, the national government was cited as holding considerable responsibility over assessment policies and the curriculum.



## Changes between 2009 and 2015 in the allocation of responsibilities for school governance

On average across OECD countries, between PISA 2009 and PISA 2015, the allocation of responsibilities for school governance changed (Table II.4.4). Fewer students in 2015 than in 2009 attended schools whose principal reported that they hold considerable responsibility for selecting teachers for hire, formulating the school budget, deciding budget allocations, determining which courses are offered, and establishing assessment, disciplinary and school admissions policies. During the same period, less responsibility for those five tasks was allocated to teachers, according to principals, but teachers exercised greater autonomy over selecting other teachers for hire in 2015 than they did in 2009.

According to principals' reports, school governing boards had fewer responsibilities in 2015 than in 2009, particularly for any tasks related to the school budget. Local or regional education authorities held greater responsibility for the school budget in 2015 than in 2009, but held less responsibility in 2015 than in 2009 for selecting teachers for hire and deciding which courses are offered. National authorities held greater responsibility for three of the tasks in 2015 than in 2009, but held less responsibility for the curriculum in 2015 than in 2009.

In some education systems, how responsibilities are shared between schools and education authorities also changed between 2009 and 2015 (Table II.4.4). For instance, principals in Lithuania gained considerable responsibility for most tasks, particularly for teachers' salaries and the school budget. These responsibilities appear to have been transferred mainly from national education authorities. In Finland, school principals exercised greater autonomy over selecting and firing teachers in 2015 than in 2009, but had less responsibility for the curriculum and for assessment and disciplinary policies. In Hungary, school principals had considerably less autonomy in 2015 than in 2009 over tasks related to resources. According to school principals, these responsibilities appear to have been transferred mostly to local and regional authorities. In Germany and the United States, larger proportions of school principals in 2015 than in 2009 reported that local or regional education authorities held considerable responsibility for school governance. Reports from school principals in Qatar indicate that national education authorities gained considerable responsibility for all tasks between 2009 and 2015. In Turkey, national education authorities gained responsibility for all tasks except those related to school resources and textbooks; and in Slovenia, national education authorities gained greater responsibility for selecting and firing teachers, for the curriculum, and for disciplinary and admissions policies.

Figure II.4.2 presents a summary of "who is responsible for what" in managing schools across OECD countries. On average across OECD countries, establishing teachers' starting salaries and salary increases is mainly the responsibility of national authorities, choosing course content and textbooks is the responsibility of teachers, and assessment and disciplinary policies are established by principals and teachers jointly. All other responsibilities, including hiring and firing teachers, overseeing budgetary issues, setting policy for admissions and deciding which courses are offered at school, are held mainly by school principals.<sup>3</sup>

Figure II.4.2 ■ **Summary of responsibilities for school governance**  
Based on OECD average

Responsibility		Held mainly by <sup>1</sup>	Shared with <sup>2</sup>	Minor role <sup>3</sup>
Resources: teachers	Establishing teachers' starting salaries	National authority	Local/Regional authority	Principal
	Determining teachers' salary increases	National authority	Local/Regional authority	Principal
	Selecting teachers for hire	Principal		Local/regional/national authority
	Firing teachers	Principal	Local/Regional authority	School board and national authority
Resources: budget	Formulating the school budget	Principal	School board and local/regional authority	National authority
	Deciding on budget allocations within the school	Principal	School board	Local/Regional authority
Curriculum	Deciding which courses are offered	Principal	Teachers and school board	Local/Regional authority
	Choosing which textbooks are used	Teachers	Principal	National authority
	Determining course content	Teachers	Principal and national authority	Local/Regional authority
Establishing student assessment policies		Principal and teachers	National authority	School board
Establishing student disciplinary policies		Principal and teachers	School board	
Approving students for admission to the school		Principal		School board and local/regional authority

1. More than 50% of students attend schools whose principal reported that a given actor has considerable responsibility.

2. Between more than 25% and 50% of students attend schools whose principal reported that a given actor has considerable responsibility.

3. Between 15% and 25% of students attend schools whose principal reported that a given actor has considerable responsibility.

Source: OECD, PISA 2015 Database, Table II.4.1.



## Another perspective on how responsibilities are distributed

Another way of showing how the five actors – principals, teachers, school boards, local/regional authorities and national authorities – share responsibilities for school management is to assume that the sum of their responsibilities amounts to a fixed number – for convenience, 100. For instance, if a principal reports that only teachers have considerable responsibility for selecting course content, then they are assigned a value of 100. If they reported that both teachers and principals have considerable responsibility, then each receives a value of 50. If, according to the principal, the responsibility is shared among principals, teachers and a school board, then each actor is given a value of 33, and so on.

Analysing the data in this way, on average across OECD countries, 39% of the responsibility for resources would be assumed by principals, 3% by teachers, 12% by school boards, 23% by local or regional authorities, and the remaining 23% by national authorities (Figure II.4.3).<sup>4</sup> For the curriculum, 22% of the responsibility would lie with principals, 44% with teachers, 8% with school boards, and the remaining 27% shared between local, regional and national authorities (Figure II.4.4).<sup>5</sup> Responsibility for student disciplinary policies would mainly lie with school principals (39%), teachers (29%) and school boards (22%), with a minor role played by education authorities (Table II.4.2). Responsibility for student assessment policies would mainly lie with school principals (32%) and teachers (36%) with a minor role played by the other actors (Figure II.4.5). The responsibility for approving students for admission to the school would lie essentially with school principals (61%) and, to some extent, with the government (14% to local or regional and 7% to national educational authorities) (Figure II.4.6).

## School autonomy

According to school principals, the degree of autonomy enjoyed by schools varies considerably across education systems (Figure II.4.7).<sup>6</sup> At one end of the spectrum, in the education systems of the Czech Republic, Lithuania, Macao (China), the Netherlands and the United Kingdom, schools enjoy considerable autonomy. At the other end of the spectrum, the autonomy granted to school principals or teachers is limited in Greece, Jordan, Tunisia and Turkey, at least in comparison with other education systems.

On average across OECD countries and in 32 education systems, socio-economically advantaged schools enjoy greater autonomy than disadvantaged schools; and likewise, on average across OECD countries and in 15 education systems, urban schools are granted more autonomy than rural schools.<sup>7</sup> However, in four countries and economies, and particularly in Belgium and France, rural schools enjoy greater autonomy than urban schools (Figure II.4.7). Not surprisingly, in almost all education systems, private schools exercise greater autonomy than public schools. The largest differences between these two types of schools are observed in Turkey, the United Arab Emirates and Uruguay (Table II.4.5).

On average across OECD countries and in 29 education systems, students in schools whose principal reported that more responsibilities lie with either teachers or themselves score higher in science (Figure II.4.7). However, after accounting for the socio-economic profile of students and schools, there is no association, on average across OECD countries, and there is a positive association with science performance in only 12 education systems; but in 9 countries and economies, the association is negative. These results are consistent with a comprehensive review by Jensen, Weidmann and Farmer (2013) who reported that a wide range of studies show that increasing autonomy may improve academic achievement only to some extent, and only in some countries. After all, several studies find that to reap the full benefits of school autonomy, education systems need to have effective accountability systems to discourage opportunistic behaviour by school staff, and highly qualified teachers and strong school leaders to design and implement rigorous internal evaluations and curricula (Hanushek, Link and Woessmann, 2013; OECD, 2011).

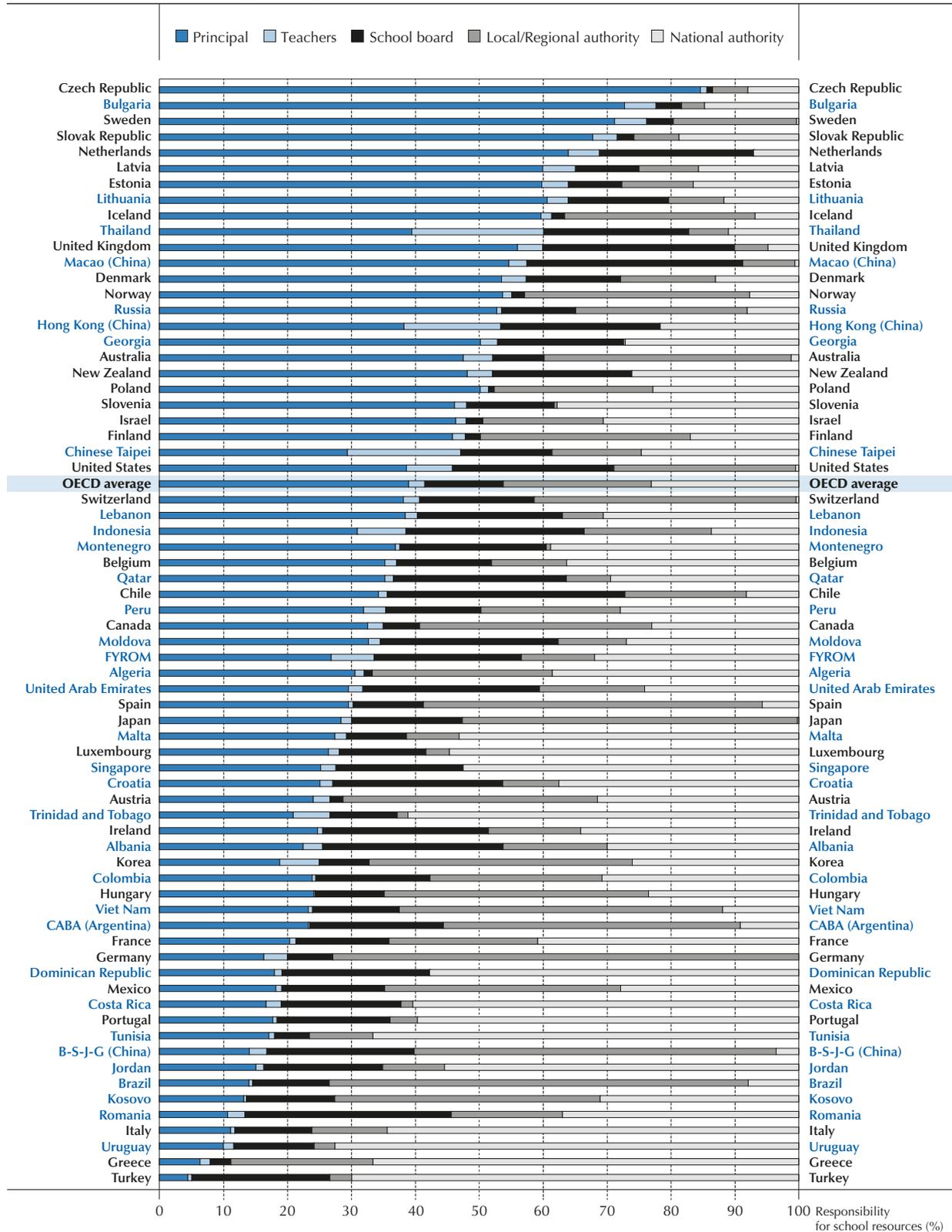
## HOW ARE THE RESPONSIBILITIES FOR SCHOOL GOVERNANCE RELATED TO SCIENCE PERFORMANCE AND EQUITY?

School autonomy is the focus of much of the debate concerning school governance; but it is nonetheless worthwhile to examine, at the system level, how the five areas of responsibility – resources, curriculum, assessment, school admissions and disciplinary policies – overseen by principals, teachers, school governing boards, local/regional education authorities and national education authorities, are related to students' science performance and equity in the system.

The results presented in Figure II.4.8 show that students in school systems where principals and, to some extent, teachers have greater autonomy in managing their schools score higher in science. This is particularly true when principals or teachers have greater responsibility for the curriculum, but less so when they have a greater say in admitting students to the school. Students score lower in science in those systems where school governing boards have greater responsibility for school admissions policies, and also when national education authorities hold greater responsibility for four areas, especially for the curriculum. No link is observed between the responsibility held by local/regional education authorities and performance in science.



Figure II.4.3 ■ **Distribution across the education system of responsibility for school resources**  
Assuming the responsibilities of the five actors combined amount to 100%

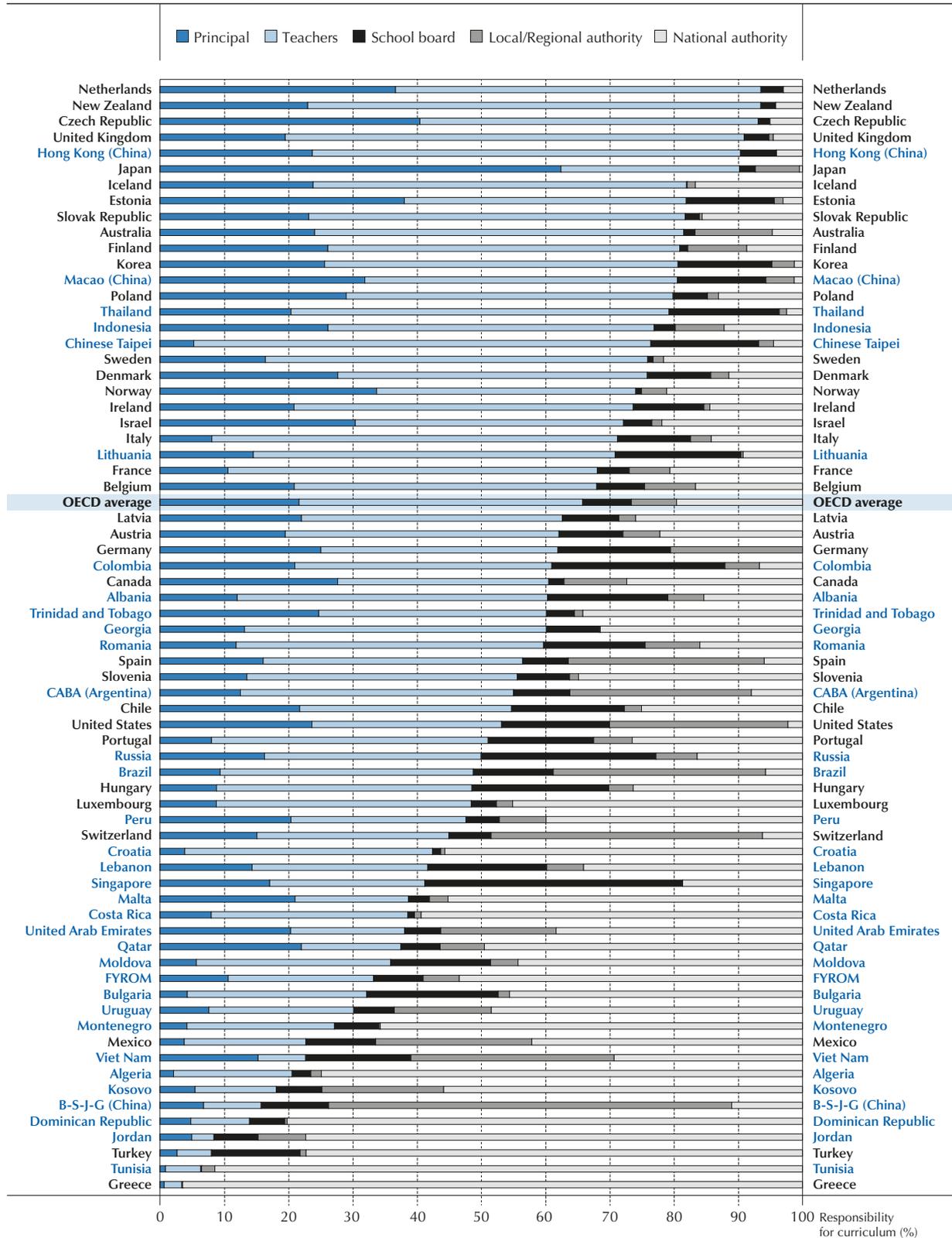


Countries and economies are ranked in descending order of the responsibility held by school principals and teachers.

Source: OECD, PISA 2015 Database, Table II.2.4.

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Figure II.4.4 ■ **Distribution across the education system of responsibility for the curriculum**  
Assuming the responsibilities of the five actors combined amount to 100%



Countries and economies are ranked in descending order of the responsibility held by school principals and teachers.

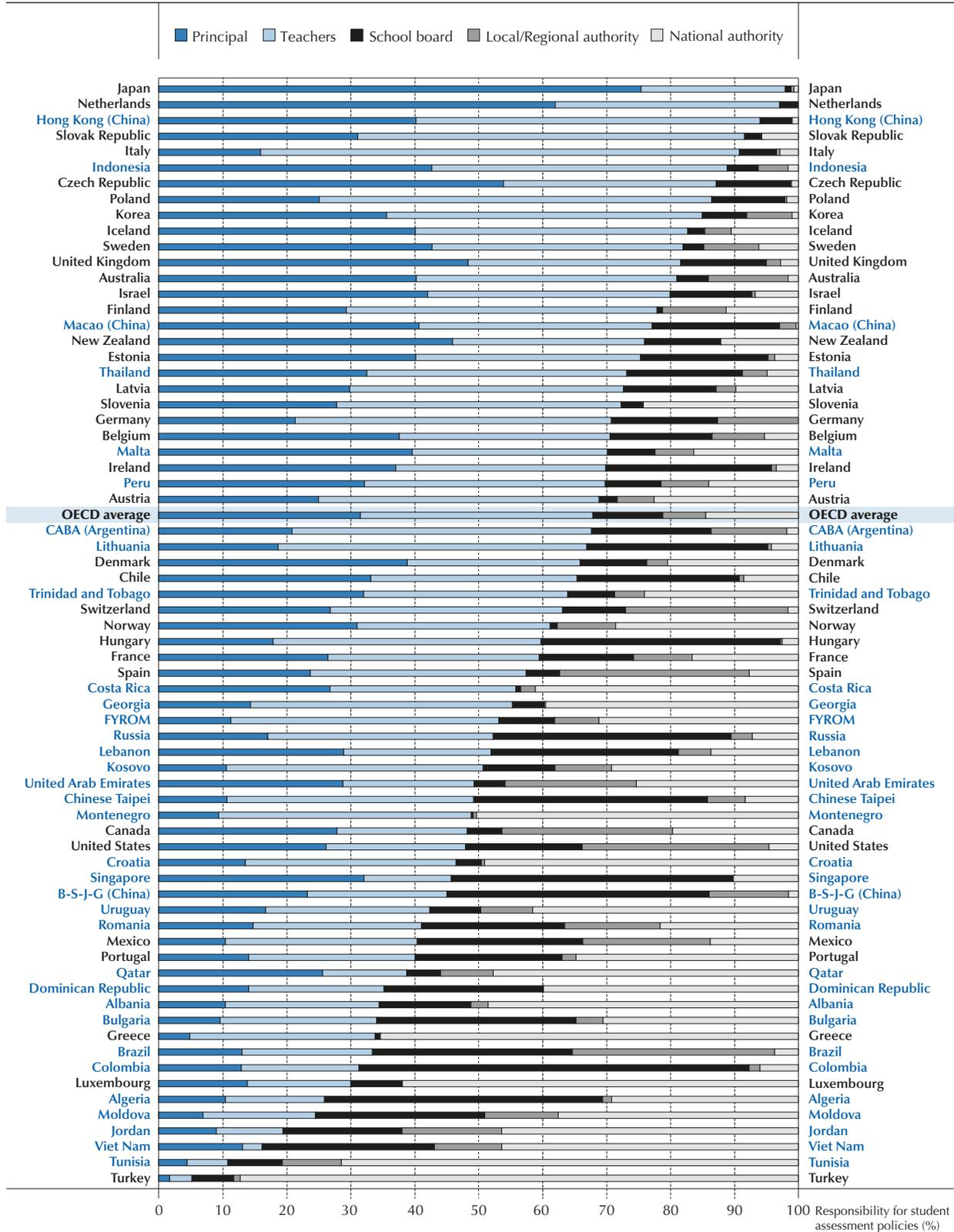
Source: OECD, PISA 2015 Database, Table II.2.4.

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Figure II.4.5 ■ **Distribution across the education system of responsibility for establishing student assessment policies**

Assuming the responsibilities of the five actors combined amount to 100%



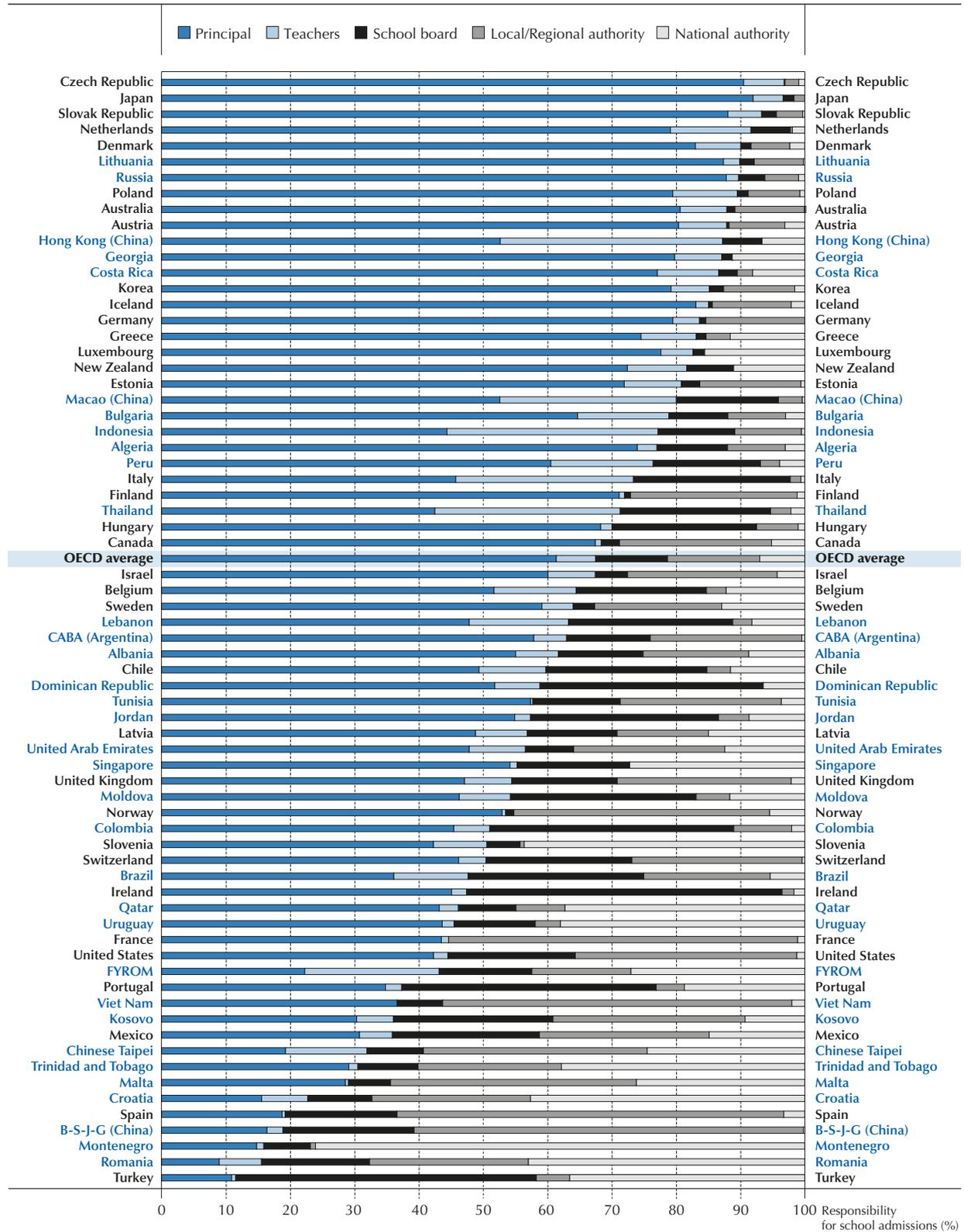
Countries and economies are ranked in descending order of the responsibility held by school principals and teachers.

Source: OECD, PISA 2015 Database, Table II.4.2.

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Figure II.4.6 ■ **Distribution across the education system of responsibility for approving students for admission to the school**

Assuming the responsibilities of the five actors combined amount to 100%



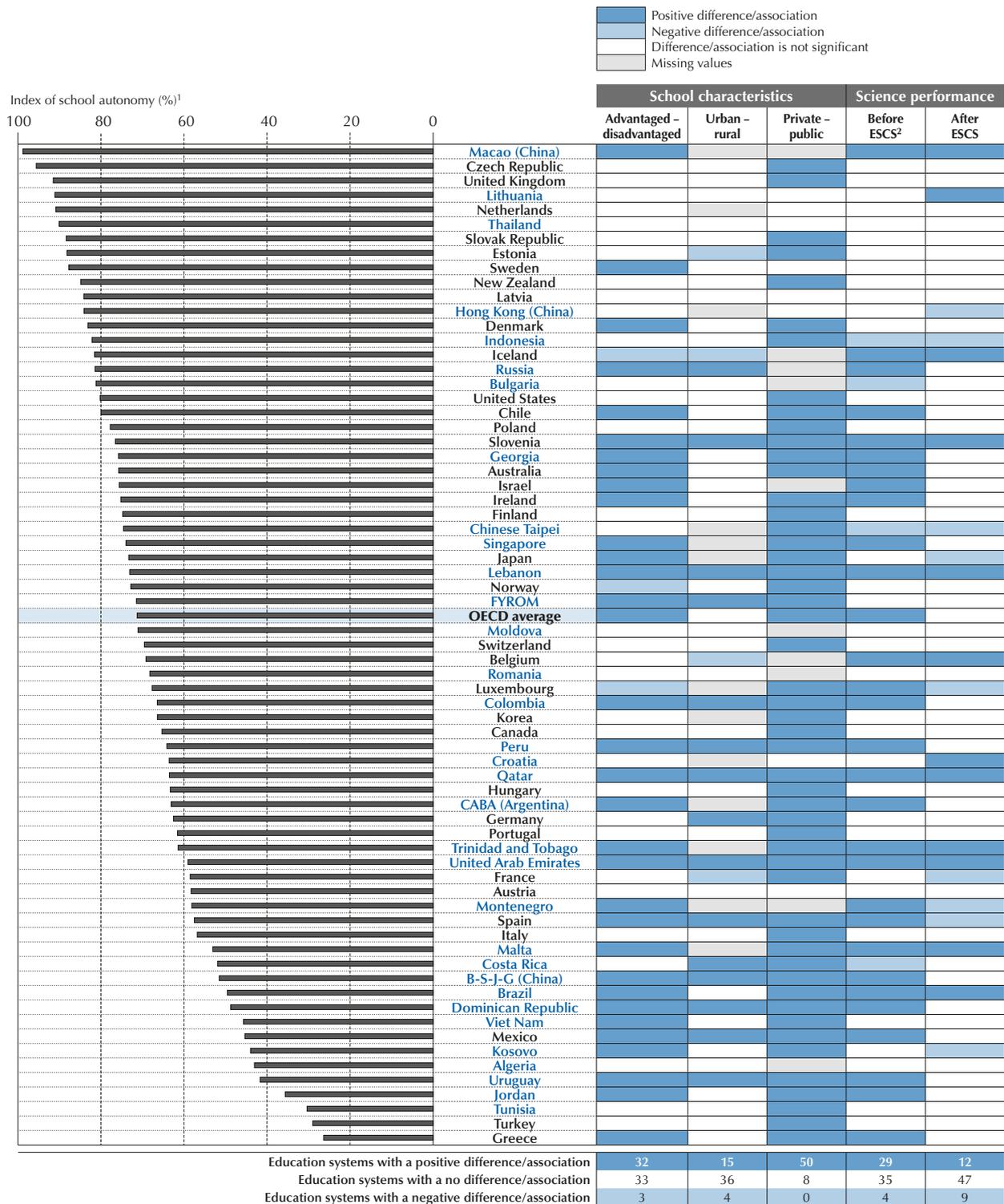
Countries and economies are ranked in descending order of the responsibility held by school principals and teachers.

Source: OECD, PISA 2015 Database, Table II.4.2.

StatLink  <http://dx.doi.org/10.1787/888933435844>



Figure II.4.7 ■ **Index of school autonomy, school characteristics and science performance**  
*Results based on school principals' reports*



1. The index of school autonomy is calculated as the percentage of tasks for which the principal, the teachers or the school governing board have considerable responsibility.

2. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).

Note: See Annex A7 for instructions on how to interpret this figure.

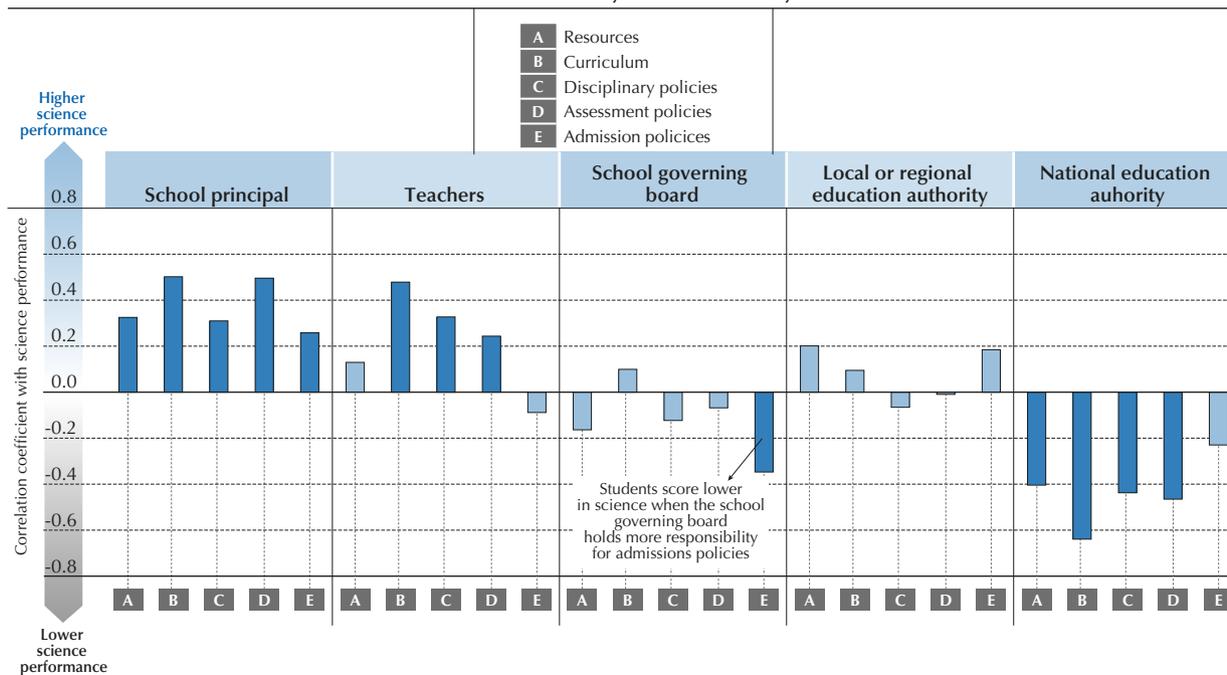
Countries and economies are ranked in descending order of the index of school autonomy.

Source: OECD, PISA 2015 Database, Table II.4.5.

StatLink <http://dx.doi.org/10.1787/888933435854>

Figure II.4.8 ■ **Correlations between the responsibilities for school governance and science performance**

Results based on system-level analyses



Notes: The responsibilities for school governance are measured by the share distribution of responsibilities for school governance in Table II.4.2.

Results based on 70 education systems.

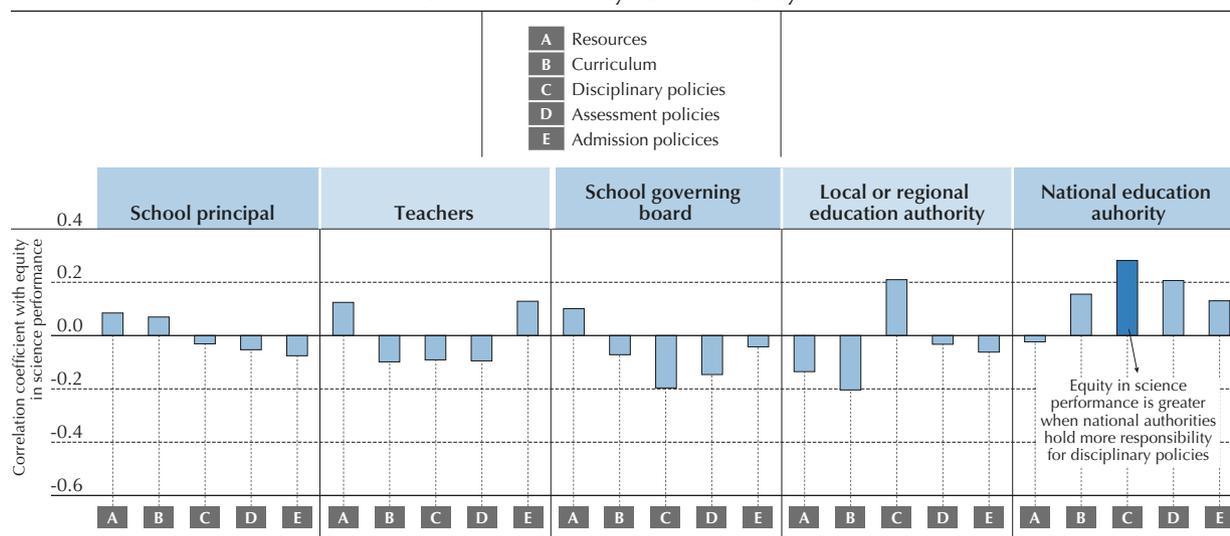
Statistically significant correlation coefficients are shown in a darker tone (see Annex A3).

Source: OECD, PISA 2015 Database.

StatLink <http://dx.doi.org/10.1787/888933435864>

Figure II.4.9 ■ **Correlations between the responsibilities for school governance and equity in science performance**

Results based on system-level analyses



Notes: The responsibilities for school governance are measured by the share distribution of responsibilities for school governance in Table II.4.2.

Results based on 70 education systems.

Statistically significant correlation coefficients are shown in a darker tone (see Annex A3).

The equity in science performance is 100 - the percentage of the variation in science performance explained by students' socio-economic status.

Source: OECD, PISA 2015 Database.

StatLink <http://dx.doi.org/10.1787/888933435870>



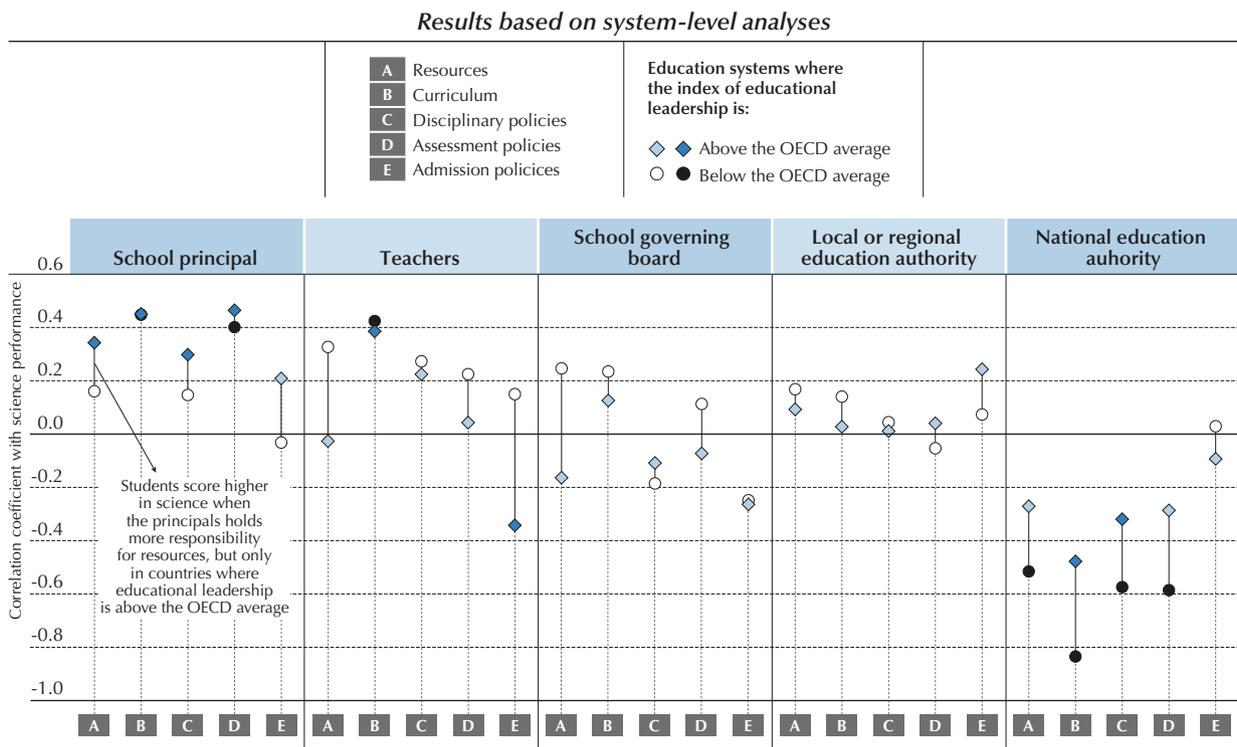
However, more school autonomy may not always be effective (Hanushek, Link and Woessmann, 2013). For instance, Figure II.4.9 shows that more autonomy for schools and teachers is not positively associated with equity in science performance. In fact, results in science are more equitable – meaning there is a weaker association between students’ socio-economic status and their performance in science – when education authorities have greater responsibility for disciplinary policies.

Also, the benefits of school autonomy may be contingent on how prepared schools are to use their responsibility effectively and how accountable they are for their students’ outcomes to parents, local communities and education authorities (Hanushek, Link and Woessmann, 2013; OECD, 2013a). Figures II.4.10 to II.4.13 examine how the association between the responsibilities held by school principals, teachers and education authorities, and students’ science performance varies depending on how ready school principals are to seize the opportunities available due to greater autonomy (measured by the index of educational leadership) and the degree to which schools are held accountable (measured by the use of mandatory standardised tests and the extent to which achievement data is posted publicly or tracked by education authorities over time).

### Educational leadership

Students score higher in science when school principals hold more responsibility for school governance, and somewhat more in those education systems where principals report stronger educational leadership (Figures II.4.10). For example, students score higher in science when the principal holds more responsibility for school resources (e.g. budget, hiring and firing staff), but only when comparing countries where the index of educational leadership is above the OECD average. Schools are expected to benefit more from greater autonomy when their principals are prepared to assume leadership.

Figure II.4.10 ■ **Correlations between the responsibilities for school governance and science performance, by educational leadership**

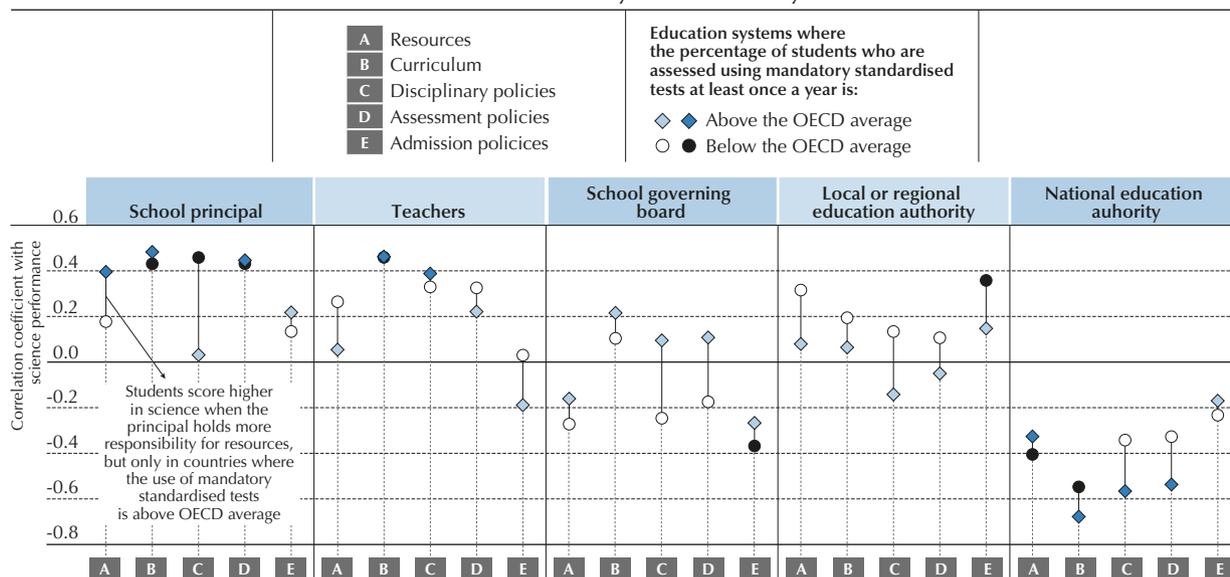


**Notes:** The responsibilities for school governance are measured by the share distribution of responsibilities for school governance in Table II.4.2. Results based on 26 education systems where the index of educational leadership is below the OECD average, and 44 education systems where it is above the OECD average. Statistically significant correlation coefficients are shown in a darker tone (see Annex A3).  
**Source:** OECD, PISA 2015 Database.

**StatLink** <http://dx.doi.org/10.1787/888933435885>

Figure II.4.11 ■ **Correlations between the responsibilities for school governance and science performance, by use of mandatory standardised tests**

Results based on system-level analyses

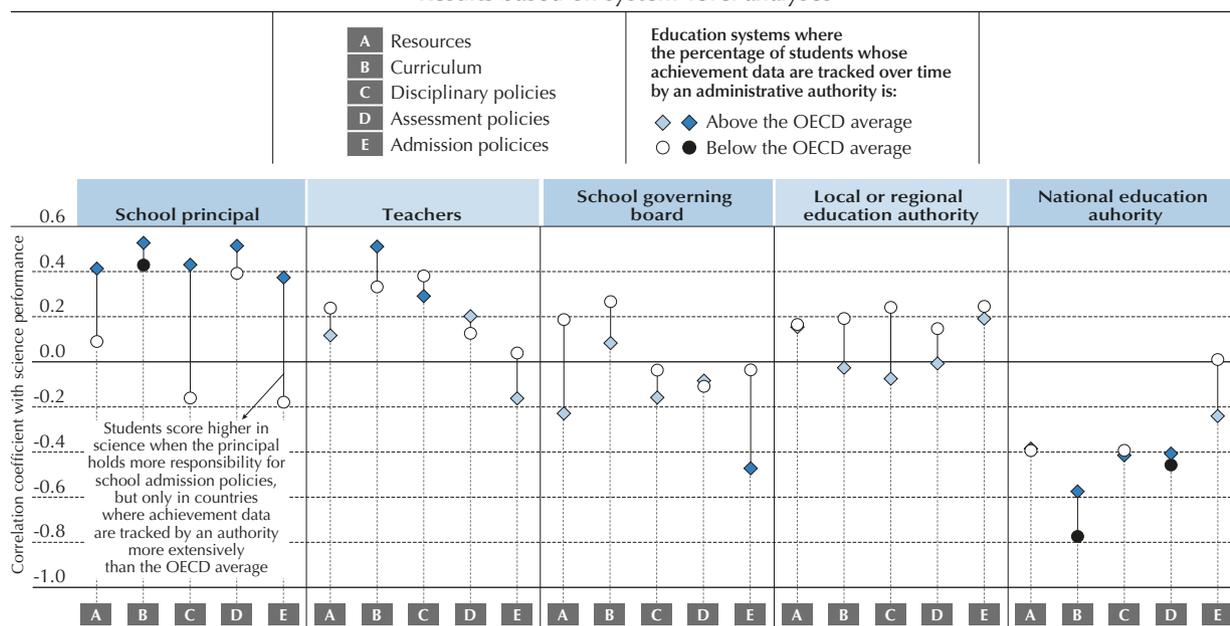


**Note:** The responsibilities for school governance are measured by the share distribution of responsibilities for school governance in Table II.4.2. Results based on 30 education systems where the percentage of students who are assessed using mandatory standardised tests at least once a year is below the OECD average and 35 education systems where it is above the OECD average. Statistically significant correlation coefficients are shown in a darker tone (see Annex A3). Source: OECD, PISA 2015 Database.

StatLink <http://dx.doi.org/10.1787/888933435891>

Figure II.4.12 ■ **Correlations between the responsibilities for school governance and science performance, by tracking achievement data over time**

Results based on system-level analyses



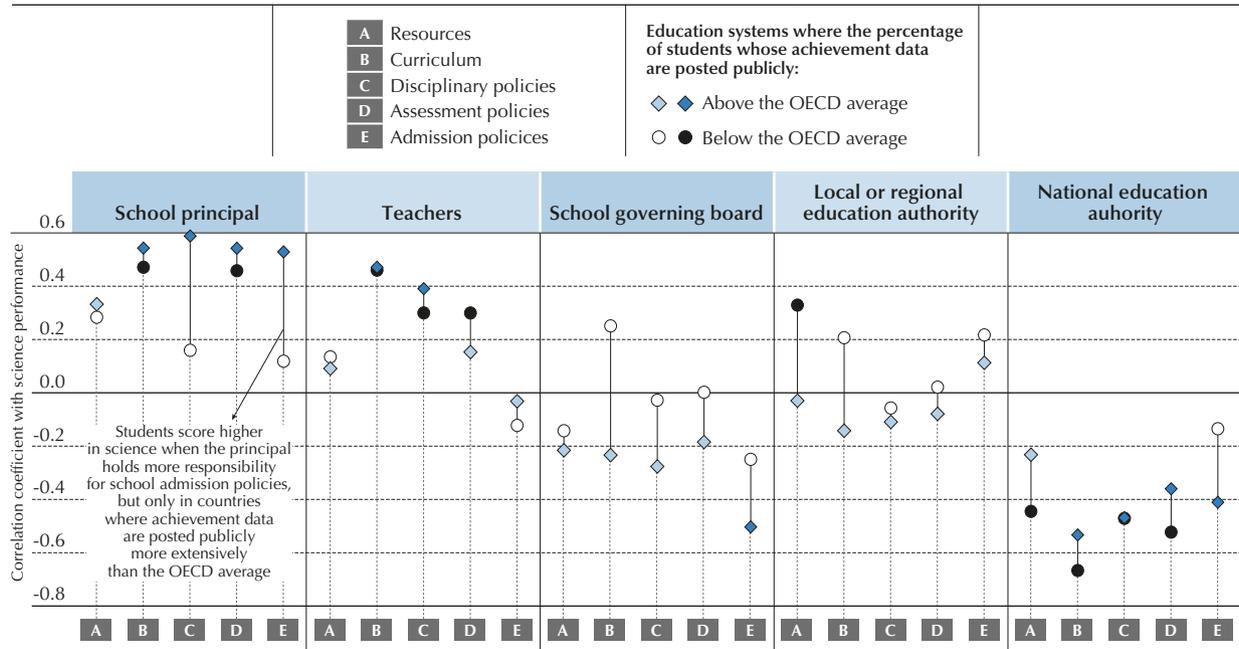
**Notes:** The responsibilities for school governance are measured by the share distribution of responsibilities for school governance in Table II.4.2. Results based on 22 education systems where the percentage of students whose achievement data are tracked over time by an administrative authority is below the OECD average and 48 education systems where it is above the OECD average. Statistically significant correlation coefficients are shown in a darker tone (see Annex A3). Source: OECD, PISA 2015 Database.

StatLink <http://dx.doi.org/10.1787/888933435908>



Figure II.4.13 ■ **Correlations between the responsibilities for school governance and science performance, by posting achievement data publicly**

Results based on system-level analyses



**Notes:** The responsibilities for school governance are measured by the share distribution of responsibilities for school governance in Table II.4.2. Results based on 42 education systems where the percentage of students whose achievement data are posted publicly is below the OECD average and 28 education systems where it is above the OECD average.

Statistically significant correlation coefficients are shown in a darker tone (see Annex A3).

**Source:** OECD, PISA 2015 Database.

**StatLink** <http://dx.doi.org/10.1787/888933435918>

## School accountability: Mandatory standardised tests and using achievement data beyond the school

The positive association between the autonomy exercised by principals and students' performance in science is stronger across countries where achievement data are more frequently tracked over time by an administrative authority or posted publicly than in countries where this happens less frequently. The differences are particularly striking when considering the responsibility for resources, disciplinary policies and school admissions policies. For instance, across the 22 education systems where achievement data is tracked by an administrative authority less frequently than on average across OECD countries, there is no association between principals' responsibility for resources, disciplinary policies or school admissions policies, and science performance. But among the 48 systems where achievement data is tracked more frequently than the OECD average, the correlation is moderately strong. The positive association between the autonomy enjoyed by principals and students' science performance is also stronger in countries where more students are assessed with mandatory standardised tests, but only when such autonomy pertains to the responsibility for resources (Figures II.4.11 to II.4.13). Granting greater autonomy to schools is expected to entail fewer risks if school outcomes are continuously monitored.

## PUBLIC AND PRIVATE INVOLVEMENT

Schooling mainly takes place in public institutions; but some countries, such as Belgium and the Netherlands, have a long-standing tradition of private schooling. Others, like Chile, Sweden, the United Kingdom and the United States, have implemented reforms to allow a greater variety of programmes and providers to enter the education system. Advocates of private schooling argue that private schools are more responsive to parents, more cost-effective, and increase competition, accountability and pedagogical diversity throughout the school system (Chapman and Salokangas, 2012; Jimenez and Paqueo, 1996). Critics point to the detrimental effects of school choice, including social segregation of students and the threat to social cohesion (Elacqua, 2012; Levin, Cornelisz and Hanisch-Cerda, 2013; Renzulli and Evans, 2005; Saporito, 2003).



A corrigendum has been issued for this page. See: <http://www.oecd.org/about/publishing/Corrigenda-PISA2015-Volumell.pdf>

Evidence of the benefits of private schooling is mixed. Some studies show that the combination of private management and public funding produces the best results for student outcomes (Angrist, Pathak and Walters, 2013; West and Woessmann, 2010); others point to the benefits of private schooling more generally (Filer and Munich, 2003; Lara, Mizala and Repetto, 2009; Sandstrom and Bergstrom, 2005); still others provide a more nuanced picture (Geller, Sjoquist and Walker, 2006; Mancebón and Muñiz, 2008; Smith and Meier, 1995). The impact on student outcomes of offering private schooling ultimately depends on how the greater autonomy is used, the levels of competition and the degree to which learning outcomes drive this competition, and the means in place to monitor and ensure coherence in school standards and to intervene when schools fail (Couch, Shughart and Williams, 1993; Ferraiolo et al., 2004; Waslander, Pater and van der Weide, 2010). Of course, it is difficult to compare school types across countries, as in some countries, public and private schools enjoy a similar degree of autonomy.

In countries where many private schools are managed by religious organisations, the debate concerning private schooling is frequently linked to the debate concerning religious schools. Again, there are benefits and drawbacks associated with religious education. Some studies in the United States have reported achievement and behavioural benefits for minority students in particular (Jeynes, 2002), and improvements in graduation rates and college attendance (Altonji, Elder and Taber, 2002), for students attending religious schools; others observe no academic gains (Hallinan and Kubitschek, 2012) or show how their admissions and transfer policies may result in school segregation (Allen and West, 2009; Fernández-Llera and Muñiz-Pérez, 2012).

Private schools, as defined in PISA, refer to schools managed directly or indirectly by a non-government organisation, such as a church, trade union, business or other private institution. Depending on whether or not they receive funding from the government, private schools can be considered as government-independent (50% or more of their funding comes from private sources) or government-dependent (at least 50% of their funding comes from the government). In some education systems, government-dependent private schools are completely free for parents, whereas in others, they charge parents an additional fee. Public schools are those managed by a public education authority, government agency, or governing board appointed by a government or elected by public franchise.

On average across OECD countries, about 84% of 15-year-old students attend public schools, about 12% attend government-dependent private schools, and slightly more than 4% attend government-independent private schools (Table II.4.7). In Bulgaria, Iceland, Montenegro and the Russian Federation (hereafter “Russia”), virtually all 15-year-old students attend a public school. In Chile, Hong Kong (China), Ireland, Macao (China) and the Netherlands, more than one in two students attend a government-dependent private school; and in Japan, Lebanon, Peru, Qatar, Chinese Taipei and the United Arab Emirates, at least one in four students are enrolled in government-independent private schools.

For the first time, in 2015, PISA also asked principals of private schools what kind of organisation (“a church or other religious organisation”, “another not-for-profit organisation” or “a for-profit organisation”) ran their school. Across OECD countries, of the 12% of students who are enrolled in private government-dependent schools, around 38% of them attend schools run by a church or other religious organisation, 54% attend schools run by another non-profit organisation, and 8% attend schools run by a for-profit organisation (Table II.4.7). In the Dominican Republic, Ireland and Malta, all 15-year-old students in private government-dependent schools attend a religious one; in Austria, all students attending private government-dependent schools attend schools run by another non-profit organisation; and in Sweden, over half of students in private government-dependent schools attend one run by a for-profit organisation.

Across OECD countries, about 4% of 15-year-old students are enrolled in private independent schools, of which about a quarter attend a school run by a church or other religious organisation, a bit less than a quarter attend a school run by a for-profit organisation, and about a half attend a school run by another not-for-profit organisation. In Italy and in the United States, around 70% of these students attend a private independent school run by a religious organisation. In Austria and Denmark, all of these students attend a not-for-profit organisation, whereas in Georgia, Turkey and the United Arab Emirates, at least 7 in 10 students attend for-profit private independent schools.

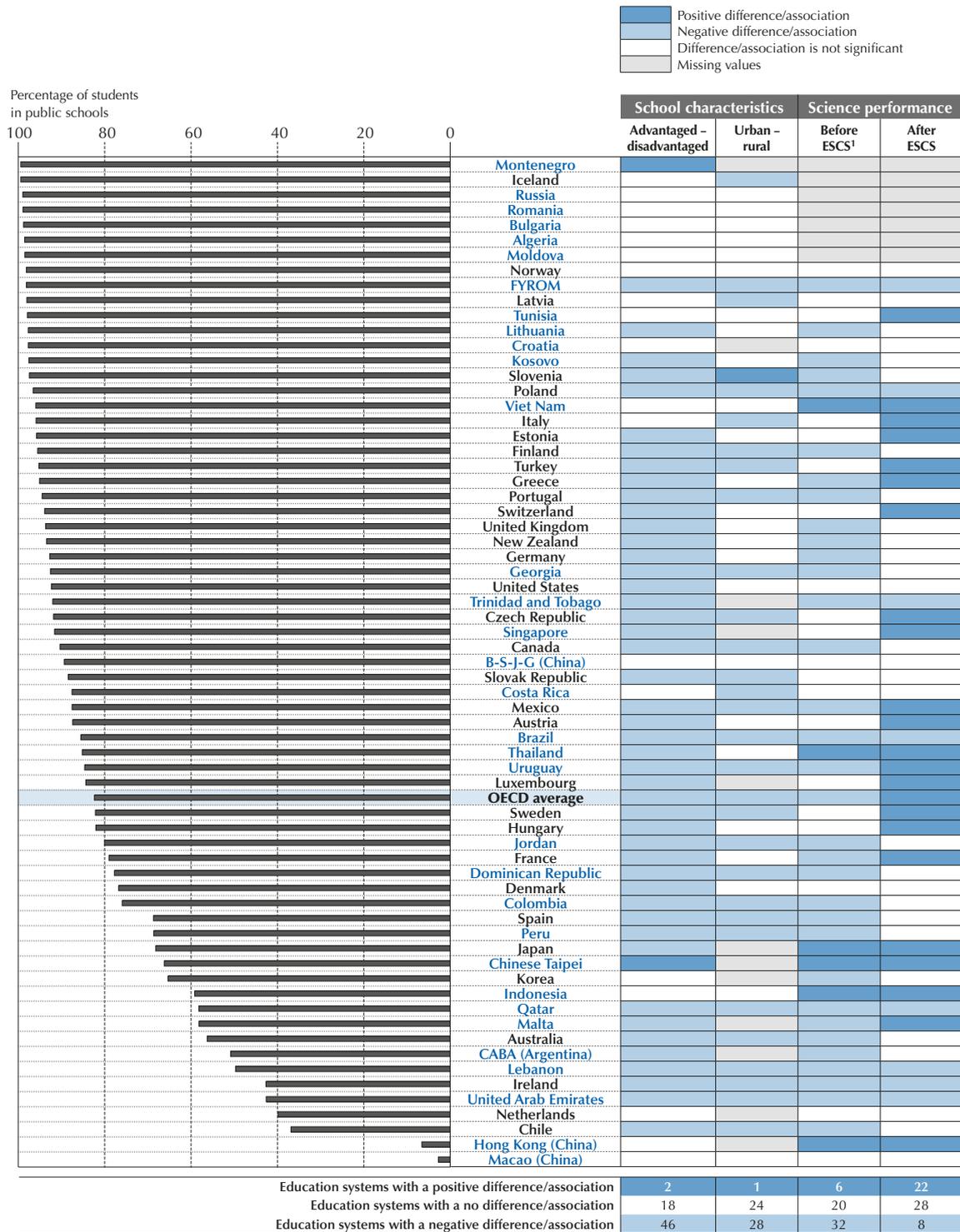
Across the education systems that participated in PISA 2015, socio-economically disadvantaged schools and rural schools are more likely to be public (Figure II.4.14). In fact, only in Montenegro and Chinese Taipei are advantaged schools more likely to be public than disadvantaged schools, and only in Slovenia are urban schools more likely to be public than rural schools. Across OECD countries, 86% of 15-year-old students in lower secondary education and 81% of students in upper secondary education are enrolled in public schools (Table II.4.10). However, in Australia, Canada, Germany and Sweden, 15-year-old students in upper secondary education are more frequently enrolled in public schools than are students in lower secondary education.

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Figure II.4.14 ■ **Attendance at public school, school characteristics and science performance**

Results based on school principals' reports



1. ESCS refers to the PISA index of economic, social and cultural status.

Countries and economies are ranked in descending order of the percentage of students attending public schools.

Source: OECD, PISA 2015 Database, Table II.4.10.

StatLink <http://dx.doi.org/10.1787/888933435921>

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## Student performance and enrolment in public and private schools

On average across OECD countries and in 32 education systems, students enrolled in public schools score lower in science than students in private schools (Figure II.4.14). However, after accounting for socio-economic status, in 22 education systems, students in public schools score higher than students in private schools, in 8 systems they score lower than students in private schools, and on average across OECD countries, students in public schools score higher than students in private schools. This remarkable difference in results before and after accounting for socio-economic status has been consistently observed in previous rounds of PISA (OECD, 2013a, 2010b). It reflects the larger proportions of disadvantaged students enrolled in public schools than in private schools. In Italy, Japan, Singapore, Chinese Taipei, Thailand, Tunisia, Turkey and Viet Nam, students in public schools score more than 40 points higher in science than students in private schools, after accounting for the socio-economic status of students and schools; the opposite is observed in Qatar and the United Arab Emirates (Table II.4.10).

Enrolling in a particular type of school can have implications that go beyond the benefits or drawbacks for an individual student. For instance, if enough middle-class families leave the public school system, and the concentration of disadvantaged students in particular schools grows as a result, public schools may enter a vicious circle of fewer students, less funding and deteriorating quality; and education systems could become less socially cohesive (Renzulli and Evans, 2005; Schneider, Elacqua and Buckley, 2006; Sonstelie, 1979). It is thus important to examine how enrolment in public and private schools is associated with student performance at the country level.

At the system level, science scores and equity in science performance are virtually unrelated to the percentage of students enrolled in public schools (Figure II.4.15). Average science scores at the country level are moderately and positively associated with the percentage of students enrolled in government-dependent private schools, but not when only OECD countries are compared. However, there is no association between equity in science performance and attendance at any type of school. A recent OECD report on low-performing students (OECD, 2016) observed that the positive association between the percentage of students enrolled in government-dependent private schools and student achievement is mainly explained by the greater levels of autonomy enjoyed by these schools.

Figure II.4.15 ■ **Attendance at different types of schools, science performance and equity**  
*Correlations at the system-level*

OECD countries (Based on 34 OECD countries)	Percentage of students attending		
	Public schools	Private government-dependent schools	Private independent schools
Science performance	-0.04	0.01	0.11
Equity in science performance <sup>1</sup>	0.26	-0.29	0.11

Countries and economies (Based on 69 countries and economies)	Percentage of students attending		
	Public schools	Private government-dependent schools	Private independent schools
Science performance	-0.13	<b>0.30</b>	-0.23
Equity in science performance	0.00	-0.01	0.04

1. The equity in science performance is 100 - the percentage of the variation in science performance explained by students' socio-economic status.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Information on public schools' attendance comes from Table II.4.6.

Source: OECD, PISA 2015 Database, Tables II.4.6 and II.4.7.

StatLink  <http://dx.doi.org/10.1787/888933435935>

## SCHOOL CHOICE

Students in some school systems are assigned to their neighbourhood school. However, in recent decades, reforms in many countries have tended to give greater choice to parents and students, to enable them to choose the schools that meet the child's education needs or preferences (Heyneman, 2009). Assuming that students and parents have adequate information and choose schools based on quality considerations, the competition for schools creates incentives for institutions to organise programmes and instruction in ways that better meet diverse student requirements and interests, thus reducing the cost of failure and mismatches (Card, Dooley and Payne 2010; Woessmann et al., 2007).

In some school systems, this competition has financial implications for schools, to the extent that schools not only compete for enrolment, but also for funding. Direct public funding of independently managed institutions, based on student enrolment or student credit-hours, is one model for this. Giving money to students and their families (through, for example, scholarships or vouchers) to spend on public or private educational institutions of their choice is another method.



But some studies have questioned the validity of the underlying assumptions about parental and student choice, such as equal access to information about schools (Berends and Zottola, 2009; Hess and Loveless, 2005; Jensen et al., 2013; Waslander, Pater and van der Weide, 2010). Previous PISA findings, for instance, clearly show that even if most parents would like their child to attend the best school, disadvantaged parents need to think more about money when choosing a school than advantaged parents do (OECD, 2015a). As a result, adopting school-choice practices can lead to greater socio-economic segregation among schools, which, in turn, can result in differences in teacher quality and student achievement across schools, harming disadvantaged students the most (Behrman et al., 2016; Ladd, 2002; Valenzuela, Bellei and Rios, 2014).

In PISA 2015, students in 18 countries and economies took home a questionnaire for their parents to complete. Among other things, parents were asked if there are “no other”, “one other” or “two or more” school(s) competing with their child’s school in the same area. Competition varies widely across education systems (Table II.4.13). For instance, in highly urbanised economies like Hong Kong (China) and Korea, but also in Ireland, about four out of five parents reported that at least one other school competes with their child’s school in the same area; in the Dominican Republic, Georgia and Italy, fewer than one in two parents so reported.

The parents of children in socio-economically advantaged and urban schools were more likely to report that at least one other school competes with their child’s school than the parents of children in disadvantaged and rural schools (Table II.4.14). Except for students in Korea and Scotland (United Kingdom), these students are also more likely to score higher in the PISA science assessment, before accounting for the socio-economic profile of students and schools. After accounting for socio-economic status, in 7 of 17 education systems, students score significantly higher in science when their parents reported some competition among schools in the area.

Parents were also asked which criteria they consider important when choosing a school for their child. They were asked to report how much importance they give (“not important”, “somewhat important”, “important” or “very important”) to 11 criteria, mainly related to school quality, financial constraints, the school’s philosophy or mission, and geographic distance between their home and the school. Across the 18 education systems where parents answered this question, parents were more likely to consider important or very important that there is a safe school environment, that the school has a good reputation and that the school has an active and pleasant climate – even more so than the academic achievement of the students in the school (Table II.4.15). The least important criterion for parents is whether the school adheres to a particular religious philosophy, followed by attendance at the school of other family members and financial considerations.

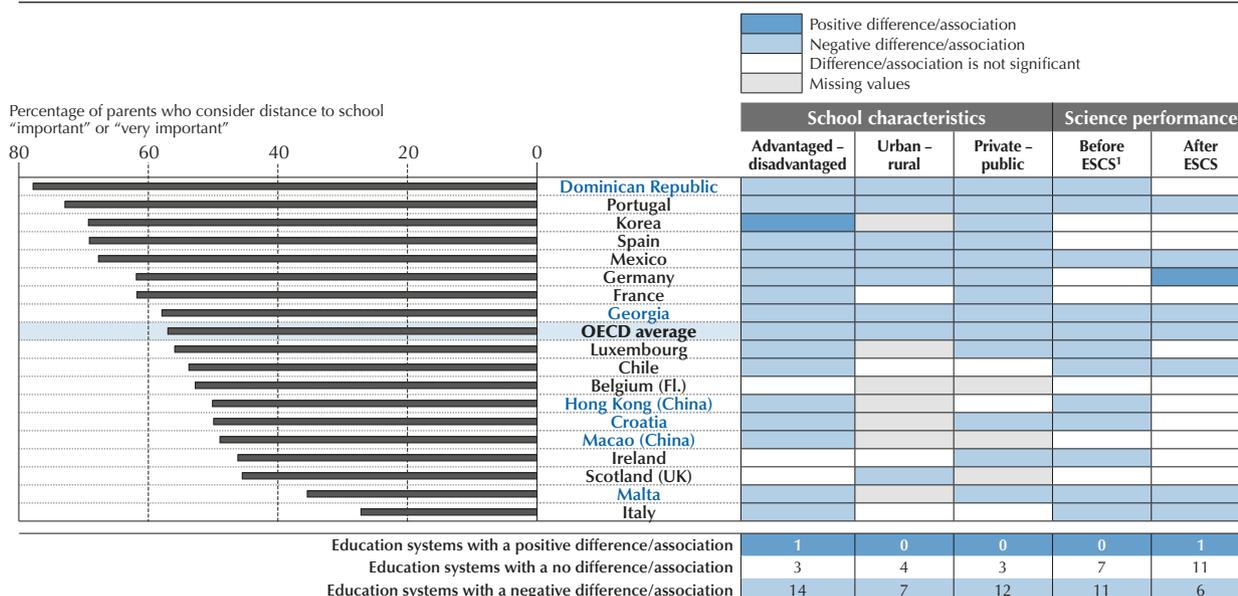
A detailed analysis of this question reveals that the parents of children who attend disadvantaged, rural and public schools were considerably more likely than the parents of children who are enrolled in advantaged, urban and private schools to report that distance to the school is important (Figure II.4.16). This finding is important, as the children of parents who assigned more importance to the distance between home and school score considerably lower in the science assessment, even after accounting for the students’ and schools’ socio-economic profile. In Georgia, for example, students whose parents considered distance to school important or very important when choosing a school for their child score 32 points lower in science – 15 points after accounting for socio-economic status – than students whose parents consider distance to school not important or somewhat important.

This was also observed among students whose parents considered low expenses to be important or very important, who scored 30 points lower than students whose parents considered low expenses to be only somewhat important or not important (11 points after accounting for students’ and schools’ socio-economic profile) across the OECD countries where parents answered this question (Figure II.4.17 and Table II.4.18). The association was particularly strong in Luxembourg, where the gap was 58 points (25 points after accounting for students’ and schools’ socio-economic profile). In most countries and economies, the parents of children attending disadvantaged and public schools are more likely to consider low expenses important than those of children attending advantaged and private schools.

Finally, on average across the OECD countries that distributed the parents’ questionnaire students attending advantaged and private schools are more likely to have parents who ascribe greater importance to quality considerations about the school; there was no difference observed between rural and urban schools in this regard (Figure II.4.18). After accounting for students’ and schools’ socio-economic status, there is no relationship between whether parents considered the school’s reputation to be important or very important, and their child’s performance in science across OECD countries.

Figure II.4.16 ■ **Distance to school as a reason for choosing school, school characteristics and science performance**

Results based on parents' self-reports



1. ESCS refers to the PISA index of economic, social and cultural status.

Note: Only countries and economies with data from the parent questionnaire are shown.

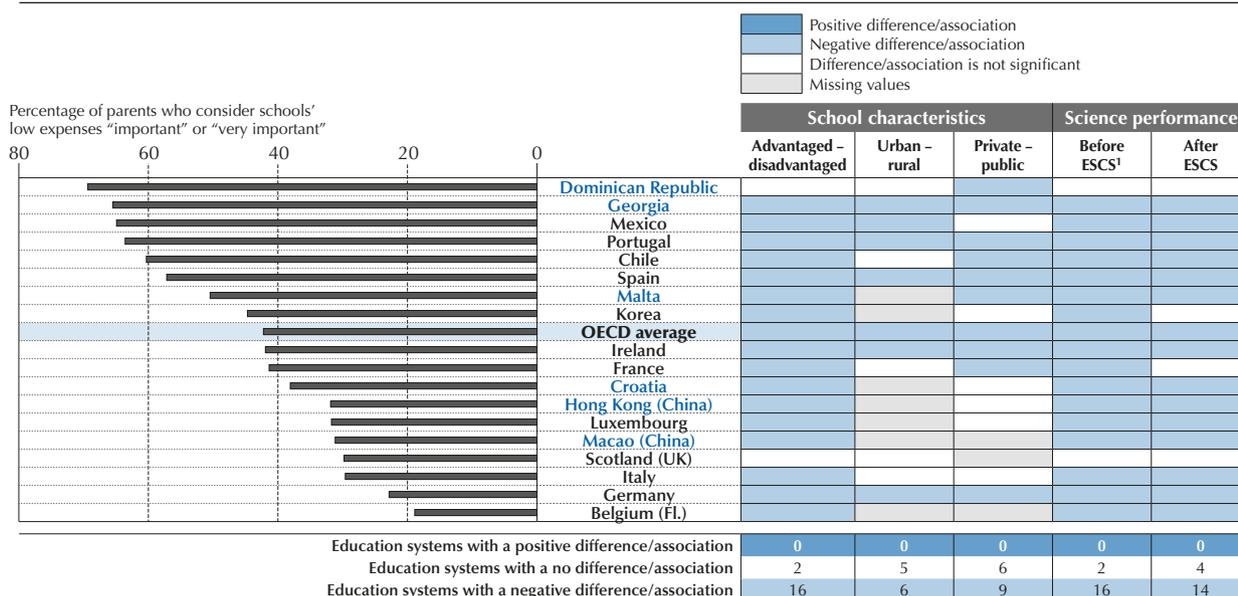
Countries and economies are ranked in descending order of the percentage of students whose parents consider distance to school as "important" or "very important".

Source: OECD, PISA 2015 Database, Table II.4.16.

StatLink <http://dx.doi.org/10.1787/888933435944>

Figure II.4.17 ■ **School low expenses as a reason for choosing school, school characteristics and science performance**

Results based on parents' self-reports



1. ESCS refers to the PISA index of economic, social and cultural status.

Note: Only countries and economies with data from the parent questionnaire are shown.

Countries and economies are ranked in descending order of the percentage of students whose parents consider low expenses as "important" or "very important".

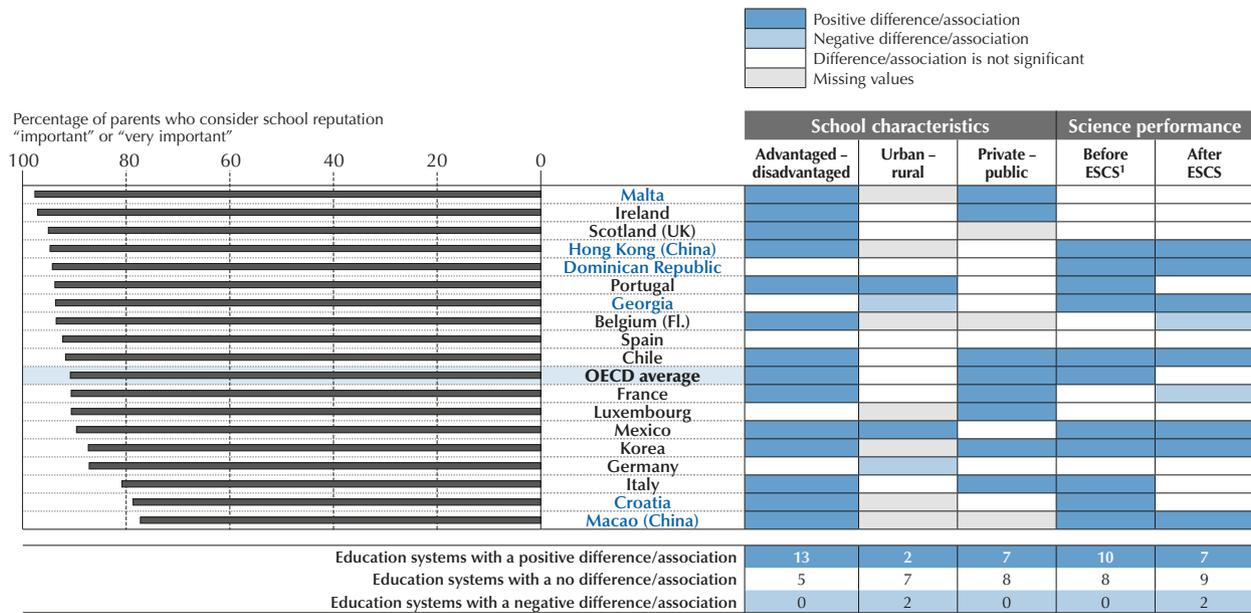
Source: OECD, PISA 2015 Database, Table II.4.18.

StatLink <http://dx.doi.org/10.1787/888933435957>



Figure II.4.18 ■ **School reputation as a reason for choosing school, school characteristics and science performance**

Results based on parents' self-reports



1. ESCS refers to the PISA index of economic, social and cultural status.

Note: Only countries and economies with data from the parent questionnaire are shown.

Countries and economies are ranked in descending order of the percentage of students whose parents consider school reputation as "important" or "very important".

Source: OECD, PISA 2015 Database, Table II.4.17.

StatLink <http://dx.doi.org/10.1787/888933435964>

## ASSESSMENTS AND EVALUATIONS

Tests can serve as powerful incentives for students to put greater effort into learning, particularly if the tests have direct consequences for students (Bishop 2006; Fuchs and Woessmann, 2007). For teachers, standardised assessments provide a way to compare instructional objectives against the results achieved, and to compare the performance of their students to the performance of students elsewhere in the school system, so that teachers can tailor pedagogy accordingly. At the school level, achievement data can be used to determine how resources and additional support are allocated; they may also trigger intervention by higher authorities. Achievement data can also be used to inform the design of education policies, to create more efficient learning environments and to prompt schools, teachers and students themselves to work towards centrally established education outcomes.

But student assessments and examinations have their critics. For example, some argue that standardised tests and examinations may reinforce the advantages of schools that serve students from privileged backgrounds (Ladd and Walsh, 2002; Downey, Von Hippel and Hughes, 2008). In addition, teachers may respond strategically to accountability measures by sorting out or retaining disadvantaged students (Jacob, 2005; Jacob and Levitt, 2003; Booher-Jennings, 2005). Standardised tests and examinations might also have the adverse effect of narrowing education goals to passing or showing proficiency on particular tests, and focusing instruction on those students who are close to average proficiency while giving less attention to those who are far below or above the average (Neal and Schanzenbach, 2010). In order to avoid the negative impact of "teaching to the test", evaluations in most OECD countries are becoming more diverse (Hooge, Burns and Wilkoszewski, 2012).

This section examines the policies on assessments and examinations at the system level, assessment practices at schools across PISA-participating countries and economies, and the relationship between these policies and practices and students' science performance. How assessment practices at school are related to students' social and emotional outcomes is examined in Volume III of *PISA 2015 Results*.



## Profiles of assessments and examinations, by education level

Countries and economies implement different policies to evaluate their students' performance. System-wide evaluations can generally be classified as those that do not have direct consequences for students (assessments) and those that do (examinations). Assessments can be used to take stock of students' performance in order to make decisions about future instruction or to summarise performance for information purposes. Although assessments can be used to allocate resources to low-performing schools or tailor instruction to low-performing students, for example, assessment results do not have direct, tangible consequences for students. Results from examinations, by contrast, can be used to determine students' progression to higher levels of education (e.g. the transition from lower to upper secondary school), selection into different curricular programmes (e.g. into vocational or academic programmes), or admission into university programmes. Assessments and examinations provide students with benchmarks and, in the case of examinations, with incentives to work hard in school in order to pass them (OECD, 2013b).

System-level data<sup>8</sup> reveal that all OECD education systems,<sup>9</sup> except that in Switzerland, have a national assessment or examination system in place at either the lower or upper secondary level (Tables II.4.44 to II.4.46). This is also the case among partner countries and economies with available data, except Macao (China) and Uruguay. In Macao (China), although there are no national examinations, schools conduct their own entrance examinations at both the lower and upper secondary levels. In Uruguay, assessments are conducted only at the primary level.<sup>10</sup>

Twenty-seven school systems in OECD countries conduct national assessments at the lower secondary level and 12 do so at the upper secondary level. All 12 systems that conduct national assessments at the upper secondary level, namely Belgium (Flemish and French Communities), Chile, the Czech Republic, Hungary, Italy, Korea, Mexico, New Zealand, Norway, Sweden and the United States, also do so at the lower secondary level. Among partner countries and economies with available data, 14 countries conduct national assessments at the lower secondary level and 10 do so at the upper secondary level. Seven of these 10 countries/economies, namely Argentina, Brazil, FYROM, Kazakhstan, Malta, Qatar and the United Arab Emirates, also conduct assessments at the lower secondary level (Table II.4.44).

Among OECD education systems, national examinations are more prevalent at the upper secondary level (30 education systems) than at the lower secondary level (14). Belgium (Flemish Community), Canada, Iceland, Japan, Mexico, Sweden and Switzerland do not conduct national examinations at either the lower or upper secondary level. Similarly, approximately twice as many partner countries conduct national examinations (17 systems) at the upper secondary level as at the lower secondary level (8 systems). Argentina, Brazil, Macao (China), Peru and Uruguay do not conduct national examinations at either the lower or upper secondary level (Tables II.4.45 and II.4.46).

While a number of PISA-participating countries and economies rely exclusively on the use of national assessments (9 systems) or examinations (12 systems) at the lower and/or upper secondary level, the remaining systems often combine the use of assessments and examinations at these levels. The most typical combinations observed among systems that use both assessments and examinations are displayed by education level in Figure II.4.19. The combination adopted by the greatest number of education systems comprises national assessments at the lower secondary level with examinations at the upper secondary level (32 systems). The next most common scenario is to have both assessments and examinations at the upper secondary level (16 systems). Fourteen education systems use both assessments and examinations at the lower secondary level, and a much smaller number of countries (7) use national assessments at the upper secondary level and examinations at the lower secondary level. Countries may adopt more than one of these arrangements as they are not mutually exclusive. For example, a country may conduct national assessments at both the lower and upper secondary levels in combination with national examinations at either the lower or the upper secondary level or both.

In most OECD countries and all partner countries and economies, the central government is responsible for standardising both upper and lower secondary examinations (Tables II.4.45 and II.4.46). State education authorities are responsible for standardising lower secondary examinations in Belgium (French community), Germany and the United States; they are responsible for standardising upper secondary examinations in Australia, Belgium (French community), Germany, Spain and the United States.

While in most OECD countries the development of examinations is also centralised at the national level, in some countries this responsibility lies with state or regional authorities. This is the case in Belgium (French community), Germany and the United States at the lower and upper secondary levels, and in Spain at the upper secondary level. In Poland, this responsibility is shared between central and regional authorities at both education levels. In England, the central



government works with private companies to develop upper secondary examinations. Among partner countries, with the exception of FYROM, where examinations are developed by a state agency responsible for assessment or certification, all countries and economies centralise the development of examinations at the national level. In Kazakhstan, national examinations are developed through a collaboration between central authorities and agencies responsible for assessment, local authorities, and private companies.

In OECD education systems, the responsibility for marking/grading national examinations is often distributed and/or shared among various levels of education authorities. In almost half of these systems, this task involves the participation of schools, whether the student's own or another school. Among partner countries and economies, the marking/grading of national examinations occurs predominantly at the central level, except for FYROM, where this task is carried out at the state level, and Montenegro, where this happens at the school level for lower secondary examinations.

Figure II.4.19 ■ Profiles of assessments and examinations across countries and economies

		Both assessments and examinations		No assessment or examination	Assessments only (at either lower or upper secondary level)	Examinations only (at either lower or upper secondary level)
		National examinations				
		Lower secondary	Upper secondary			
National assessments	Lower secondary	Belgium (Fr.)	Australia	Macao (China)	Argentina	Dominican Republic
		Bulgaria	Austria	Switzerland	Belgium (Fl.)	England (UK)
		Denmark	Belgium (Fr.)	Uruguay	Brazil	Estonia
		France	Bulgaria		Canada	Greece
		Germany	Chile		Iceland	Ireland
		Italy	Colombia		Japan	Netherlands
		Kazakhstan	Costa Rica		Mexico	Poland
		Latvia	Czech Republic		Peru	Portugal
		Montenegro	Denmark		Sweden	Scotland (UK)
		Norway	Finland			Singapore
	Qatar	FYROM			Chinese Taipei	
	Thailand	France			Turkey	
	United Arab Emirates	Germany				
	United States	Hong Kong (China)				
		Hungary				
		Israel				
		Italy				
		Kazakhstan				
		Korea				
		Latvia				
	Luxembourg					
	Malta					
	Montenegro					
	New Zealand					
	Norway					
	Qatar					
	Slovak Republic					
	Slovenia					
	Spain					
	Thailand					
	United Arab Emirates					
	United States					
	Upper secondary	Belgium (Fr.)	Belgium (Fr.)			
		Italy	Chile			
		Kazakhstan	Croatia			
		Norway	Czech Republic			
		Qatar	FYROM			
		United Arab Emirates	Georgia			
		United States	Hungary			
			Italy			
			Kazakhstan			
			Korea			
			Malta			
			New Zealand			
			Norway			
			Qatar			
			United Arab Emirates			
			United States			

Source: OECD, PISA 2015 Database, Tables II.4.44, II.4.45, and II.4.46.



In all education systems, national examinations at the lower and upper secondary levels are used for the purpose of student certification, graduation or grade completion or to determine students' entry into a higher grade/education level. In 34 education systems, national examinations at the upper secondary level are also frequently used to determine students' access to selective tertiary education institutions and/or students' selection into a specific programme/faculty/discipline at the tertiary level. Other uses include decisions regarding financial assistance/scholarships for students (16 systems) and decisions regarding student expulsion from school (3 systems). The results of national examinations at the upper secondary level are shared with students and various other audiences (school administrators, classroom teachers, parents and/or the media) in all OECD countries and in most partner countries except Bulgaria and the United Arab Emirates.

### Assessment practices at school

PISA 2015 asked school principals how often ("never", "1-2 times a year", "3-5 times a year", "monthly" or "more than once a month") students in the national modal grade for 15-year-olds are assessed using the following methods: mandatory standardised tests, non-mandatory standardised tests, teacher-developed tests, and teachers' judgemental ratings.

On average across OECD countries, about one in four students attends a school whose principal reported that mandatory standardised tests are never used to assess students in the modal grade for 15-year-olds, and six in ten students attend schools where these tests are used once or twice a year (Figure II.4.20). In 11 countries, including Costa Rica, the Dominican Republic, Germany, Montenegro and Uruguay, at least one in two students attend schools where mandatory standardised tests are never used, while in Sweden and the United Kingdom, all school principals reported that such tests are used at least once a year (Figure II.4.21).

#### Box II.4.3. Are students in the United States taking too many standardised tests?

Despite the common belief that students in the United States are incessantly subjected to standardised testing (Hart et al., 2015), they are not the most frequently exposed to mandatory standardised tests among all students in PISA-participating countries and economies. There are at least 19 education systems where there is a similar or higher percentage of 15-year-old students who attend schools where mandatory standardised tests are used at least once a year; and the percentage of students in the United States who are assessed with these tests more than once a month is similar to the OECD average (Table II.4.19). Nor are students in the United States more frequently exposed to non-mandatory standardised tests. The United States is third, after Albania and Poland, in the percentage of students who attend schools where non-mandatory tests are used at least once a year; but the percentage of students who are assessed with these tests at least once a month is below the OECD average.

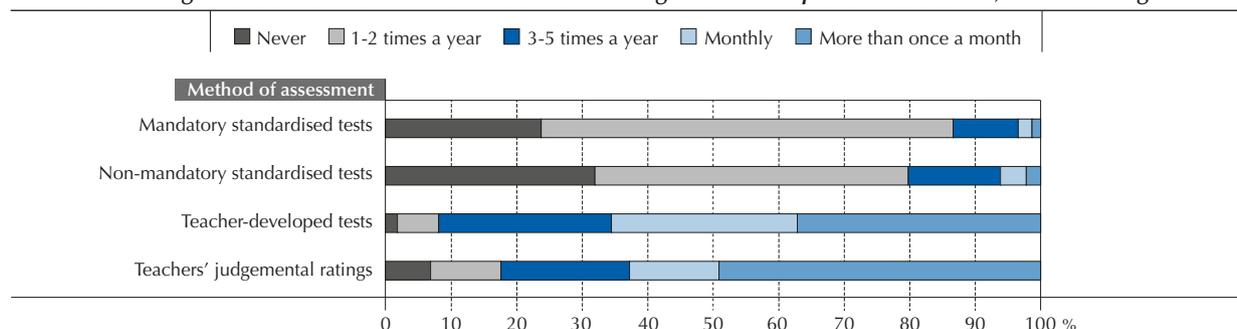
By international standards, the United States uses standardised tests extensively – almost all students in the United States are assessed with mandatory and non-mandatory tests at least once a year – but not intensely – almost no 15-year-old student in the United States is assessed with standardised tests more than 3-5 times per year.

#### Reference

Hart, R. et al. (2015), *Student Testing in America's Great City Schools: An Inventory and Preliminary Analysis*, Council of the Great City Schools, Washington, D.C.

Figure II.4.20 ■ Frequency of assessments at school

Percentage of students in schools where the following assessment practices are used, OECD average

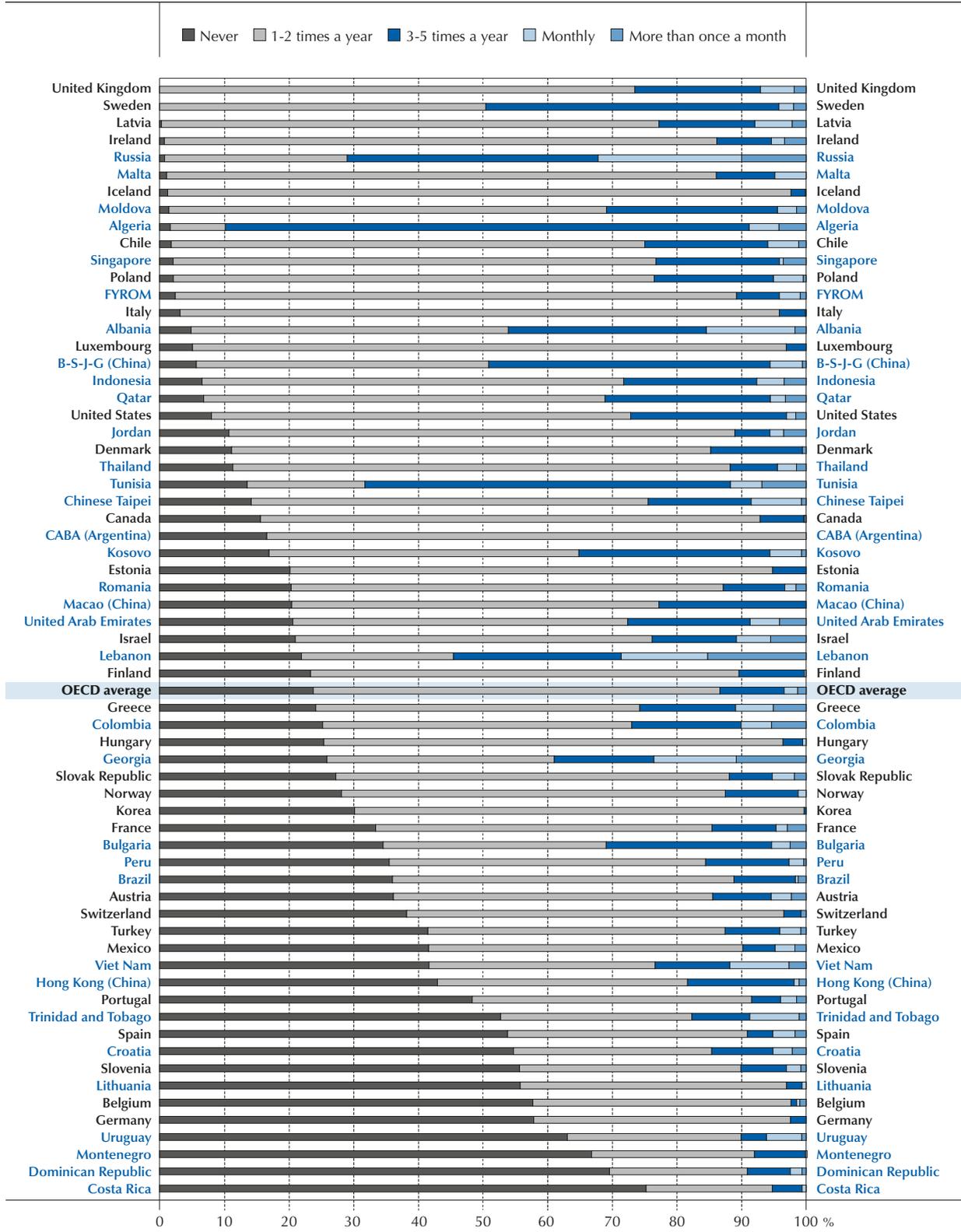


Source: OECD, PISA 2015 Database, Table II.4.19.

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Figure II.4.21 ■ **Frequency of mandatory standardised tests at school**  
 Percentage of students in schools where mandatory standardised tests are used

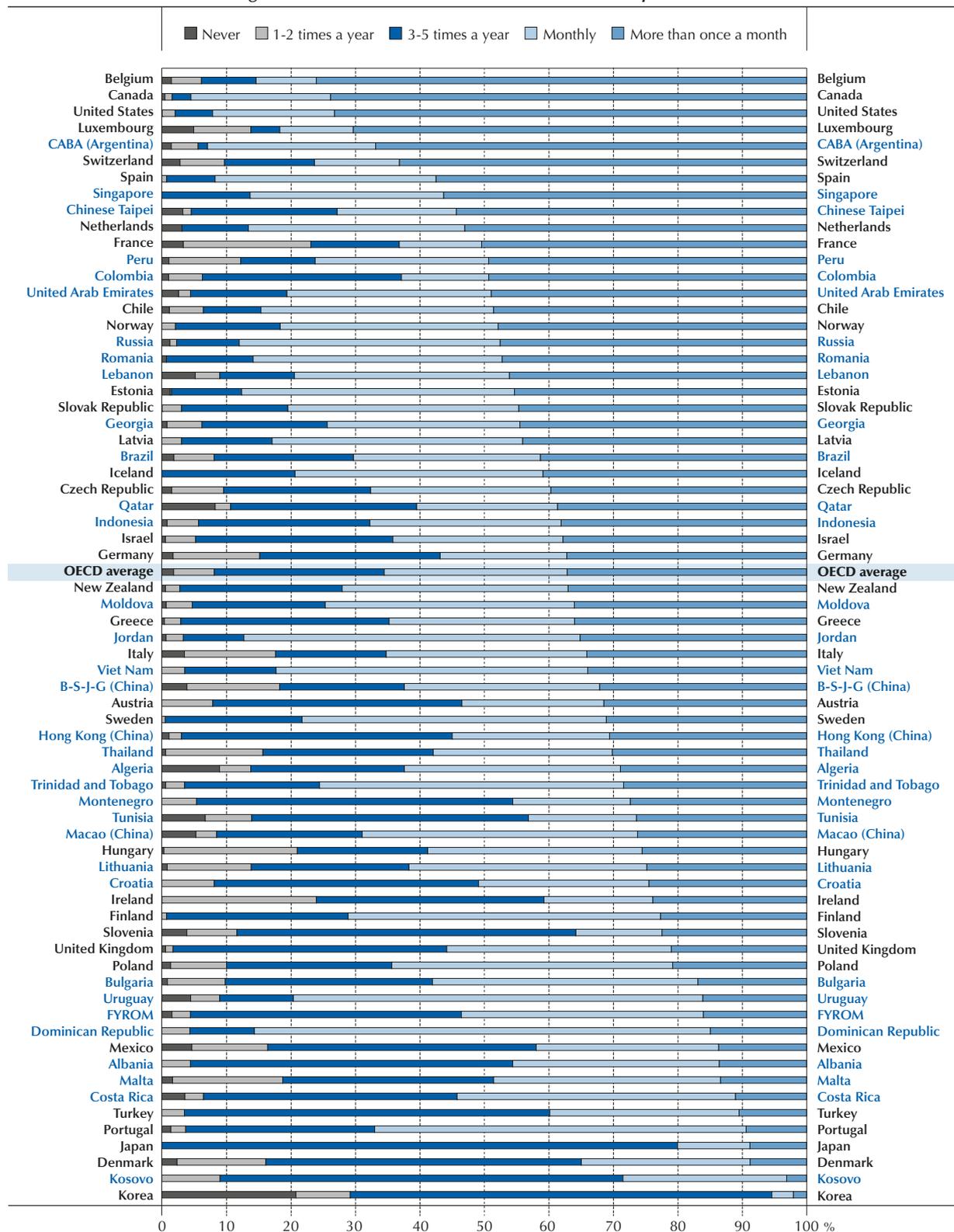


Countries and economies are ranked in ascending order of the percentage of students in schools where mandatory standardised tests are never used.  
 Source: OECD, PISA 2015 Database, Table II.4.19.

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Figure II.4.22 ■ **Frequency of teacher-developed tests at school**  
*Percentage of students in schools where teacher-developed tests are used*



Countries and economies are ranked in descending order of the percentage of students in schools where teacher-developed tests are used more than once a month.

Source: OECD, PISA 2015 Database, Table II.4.19.

StatLink <http://dx.doi.org/10.1787/888933435999>



Non-mandatory standardised tests are used somewhat less frequently than mandatory tests, whereas teacher-developed tests and judgemental ratings are used considerably more frequently (Figure II.4.20). For example, on average across OECD countries, almost two in three students attend schools whose principal reported that teacher-developed tests are used at least once a month, while for more than six in ten students, teacher's judgemental ratings are used at least once a month (Table II.4.19).

Education systems where at least six out of ten students in the modal grade are assessed more than once a month using teacher-developed tests include: Ciudad Autónoma de Buenos Aires (Argentina) (hereafter "CABA [Argentina]"), Belgium, Canada, Luxembourg, Switzerland and the United States (Figure II.4.22). By contrast, in Denmark, Japan, Korea, Kosovo and Portugal, less than 10% of students are assessed using teacher-developed tests more than once a month. In Korea, 21% of students are in schools where teacher-developed tests are never used to assess students in the modal grade for 15-year-olds.

The analyses of how the use of the four types of assessment varies across types of schools show few large differences (Tables II.4.20 to II.4.23). There are 19 education systems where non-mandatory standardised tests are more frequently used in private than in public schools, according to school principals, while in only 4 countries are they more frequently used in public schools. On average across OECD countries, mandatory standardised tests are slightly more frequently used in disadvantaged and public schools than in advantaged and private schools, while the opposite is true for teacher-developed tests. Students in lower secondary schools are more frequently assessed than students in upper secondary schools. On average across OECD countries, the percentage of students assessed using mandatory standardised tests (at least once a year) is eleven percentage points higher in lower secondary schools than in upper secondary schools, and ten percentage points higher in the case of assessments using teachers' judgemental ratings (at least once a month).

Similarly, there are few education systems where science performance varies according to the method of assessment used (Tables II.4.20 to II.4.23). On average across OECD countries, and only before accounting for the students' and schools' socio-economic profile, students in schools whose principal reported that mandatory standardised tests are used at least once a year score slightly lower in the science assessment (by six score points), while students in schools whose principal reported that teacher-developed tests are used at least once a month score somewhat higher (by five score points). At the system level, only the percentage of students who are assessed using teachers' judgemental ratings (at least once a month) is positively associated with science performance, and only when OECD countries are compared (Figure II.4.23). How extensively the four types of assessments are used across PISA-participating countries is not related to the degree to which students' socio-economic status explains science performance (i.e. equity in science performance).

Figure II.4.23 ■ **Type of assessments at school, science performance and equity**

*Correlations at the system-level*

OECD countries (Based on 29 OECD countries)	Mandatory standardised tests	Non-mandatory standardised tests	Teacher-developed tests	Teachers' judgemental ratings	Science performance	Equity in science performance <sup>1</sup>
Mandatory standardised tests at least once a year		<b>0.45</b>	0.11	-0.03	0.05	0.32
Non-mandatory standardised tests at least once a year	<b>0.45</b>		-0.10	-0.11	-0.04	0.15
Teacher-developed tests at least once a month	0.11	-0.10		<b>0.49</b>	0.15	-0.06
Teachers' judgemental ratings at least once a month	-0.03	-0.11	<b>0.49</b>		<b>0.41</b>	-0.08

Countries and economies (Based on 64 countries and economies)	Mandatory standardised tests	Non-mandatory standardised tests	Teacher-developed tests	Teachers' judgemental ratings	Science performance	Equity in science performance
Mandatory standardised tests at least once a year		<b>0.49</b>	0.06	-0.07	0.12	0.20
Non-mandatory standardised tests at least once a year	<b>0.49</b>		-0.13	0.00	0.15	0.09
Teacher-developed tests at least once a month	0.06	-0.13		<b>0.25</b>	0.14	-0.23
Teachers' judgemental ratings at least once a month	-0.07	0.00	<b>0.25</b>		0.12	-0.05

1. The equity in science performance is 100 – the percentage of the variation in science performance explained by students' socio-economic status.

Note: Values that are statistically significant are indicated in bold (see Annex A3).

Source: OECD, PISA 2015 Database.

StatLink <http://dx.doi.org/10.1787/888933436006>

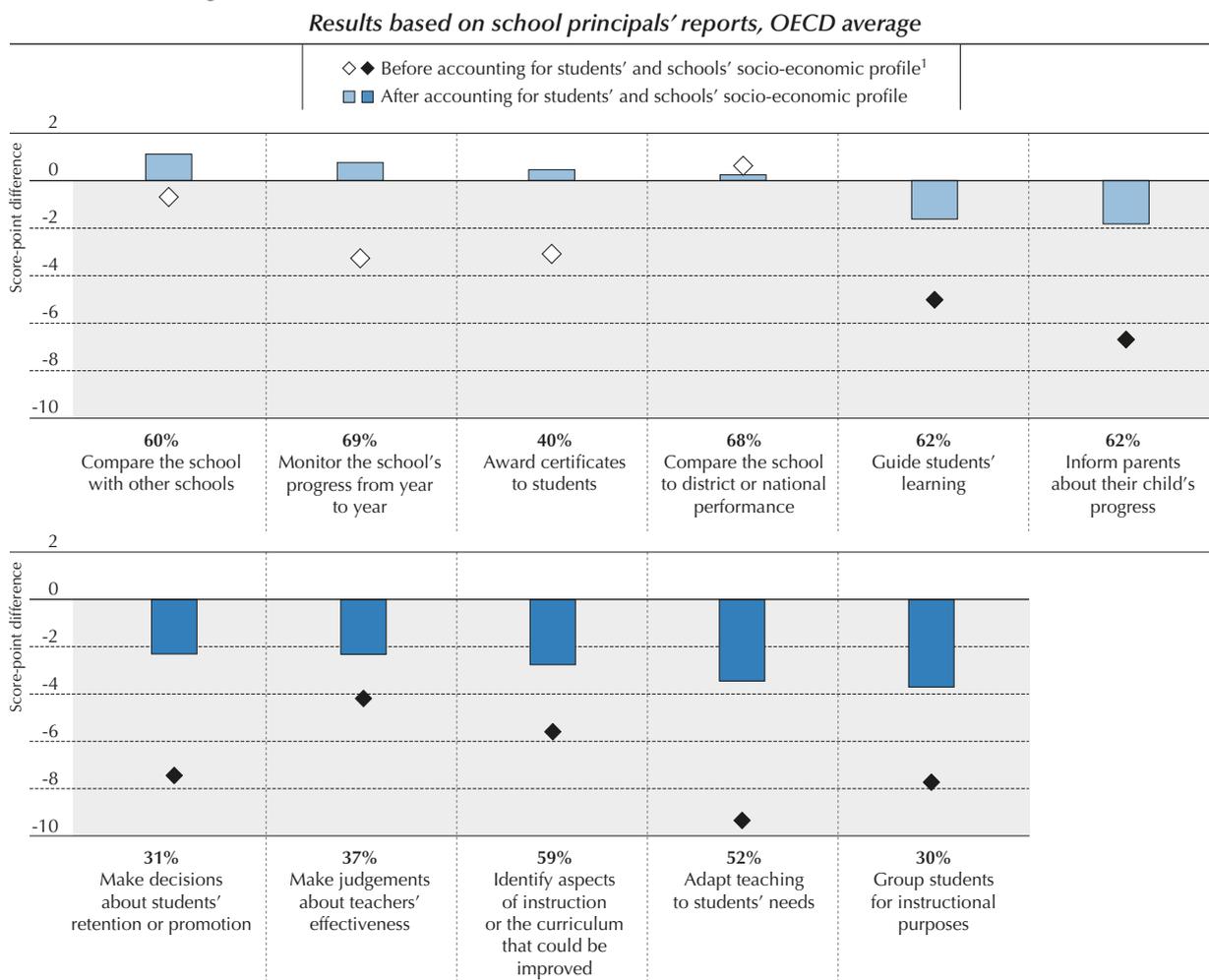


## Assessment practices and purposes

Following the question on the methods used to assess 15-year-old students, PISA asked school principals for what purpose(s) standardised and teacher-developed tests are used in their schools. They could choose from 11 suggested purposes, such as guiding students' learning, making decisions about students' promotion, grouping students for instructional purposes or comparing the school with other schools.

On average across OECD countries, standardised tests are used more frequently for monitoring the school's progress from year to year, followed by comparing the school to district or national performance, guiding students' learning, and informing parents about their child's progress (Figure II.4.24). They were least likely to be used for high-stakes purposes, such as making decisions about retaining or promoting students, grouping students for instructional purposes or making judgements about teachers' effectiveness. In Algeria, Lebanon, Moldova, Singapore and Tunisia, more than 75% of students are in schools whose principal reported that standardised tests are used to make decisions about retaining/promoting students, whereas in B-S-J-G (China), the Czech Republic, Iceland and Norway, less than 10% of students are in such schools (Table II.4.24). In Indonesia, Malta, New Zealand, the United Kingdom and Viet Nam, more than 70% of students are in schools whose principal reported that standardised tests are used to group students for instructional purposes, while in CABA (Argentina), Austria, Costa Rica, the Czech Republic, Finland and Luxembourg, less than 10% of students are in such schools.

Figure II.4.24 ■ Purposes of standardised tests and science performance



1. The socio-economic profile is measured by the PISA index of economic, social and cultural status.

Notes: Statistically significant differences are marked in a darker tone (see Annex A3).

Labels indicate the percentage of students in schools whose principal reported that standardised assessments are used for that particular purpose.

Purposes of standardised tests are ranked in descending order of the score-point difference, after accounting for students' and schools' socio-economic profile.

Source: OECD, PISA 2015 Database, Tables II.4.24 and II.4.25.

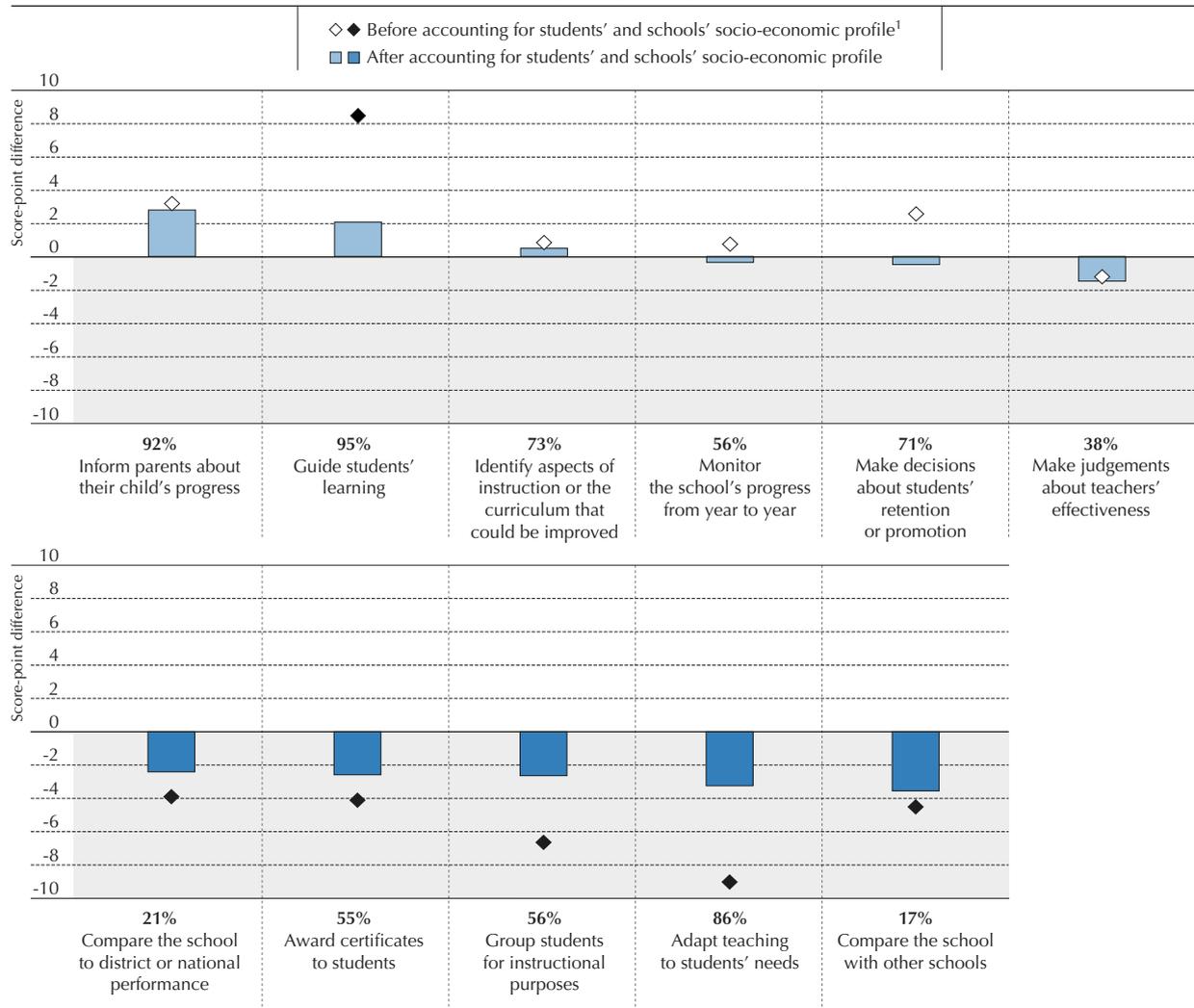
StatLink <http://dx.doi.org/10.1787/888933436018>



According to principals' reports, teacher-developed tests are also widely used for guiding students' learning and informing parents about their child's progress. On average across OECD countries, more than nine in ten students attend schools whose principal reported that teacher-developed tests are used for such purposes (Figure II.4.25). But, compared to standardised tests, teacher-developed tests are more frequently used for high-stakes purposes, such as making decisions about retaining or promoting students or grouping students for instruction, and less frequently used for comparing the school with other schools. In B-S-J-G (China), Denmark, Iceland, Norway and Sweden, teacher-developed tests are rarely used for making decisions about retaining/promoting students; in some of these countries, such as Iceland and Norway, this may just reflect the fact that students progress automatically to the next grade in primary and lower secondary education (European Commission, 2011) (Table II.4.24). In Austria, Finland, Slovenia and Sweden, fewer than one in three students attend schools where teacher-developed tests are used to group students for instruction, according to school principals. By contrast, in Israel, Jordan, Singapore, Thailand, the United Arab Emirates, the United Kingdom and Viet Nam, more than seven out of eight students attend schools where teacher-developed tests are used for this purpose.

Figure II.4.25 ■ Purposes of teacher-developed tests and science performance

Results based on school principals' reports, OECD average



1. The socio-economic profile is measured by the PISA index of economic, social and cultural status.

Notes: Statistically significant differences are marked in a darker tone (see Annex A3).

Labels indicate the percentage of students in schools whose principal reported that teacher-developed tests are used for that particular purpose.

Purposes of teacher-developed tests are ranked in descending order of the score-point difference, after accounting for students' and schools' socio-economic profile.

Source: OECD, PISA 2015 Database, Tables II.4.24 and II.4.26.

StatLink <http://dx.doi.org/10.1787/888933436023>



These tests are also frequently used to adapt teaching to students' needs (86% of students attend schools whose principal so reported) and to identify aspects of the instruction or curriculum that could be improved (73% of students attended schools whose principal so reported).

In summary, across OECD countries, high-stakes decisions and decisions on how to better teach students are based more frequently on teacher-developed tests; standardised tests are more frequently used to compare school achievement against local, regional, national or international standards.

On average across OECD countries, and after accounting for students' and schools' socio-economic profile, students score lower in science when their principals reported that standardised tests are used for grouping students for instructional purposes, adapting teaching to students' needs, identifying aspects of instruction or the curriculum that could be improved, making decisions about retaining or promoting students or making judgements about teachers' effectiveness (Figure II.4.24). Students score similarly in science regardless of whether or not their principals reported that standardised tests are used for comparing the school with other schools, monitoring the school's progress from year to year, awarding certificates to students, comparing the school's performance with district or national performance, guiding students' learning or informing parents about their child's progress.

Students score lower in science, on average across OECD countries, when their principals reported that teacher-developed tests are used for comparing the school with other schools, adapting teaching to students' needs, grouping students for instructional purposes, awarding certificates to students or comparing the school to district or national performance (Figure II.4.25). After accounting for the socio-economic profile of students and schools, there was no difference in student performance when teacher-developed tests were used for any of the other purposes considered. Although the differences in performance associated with the use of standardised and teacher-developed tests are significant in the cases described above, they amount to at most four score points after accounting for socio-economic status (10 score points before accounting for socio-economic status).

## ACCOUNTABILITY AND QUALITY ASSURANCE

The shift in public and government concern away from mere control over resources and curriculum towards a focus on outcomes and accountability has, in many countries, led to the establishment of standards of quality for educational institutions. In most OECD countries, evaluation and assessment systems not only focus on students, but also on teachers and school leaders; and the use of performance data to improve teaching and learning has expanded in recent years (OECD, 2013b).

The approaches to accountability typically involve standards, ranging from defining broad education goals to formulating precise performance expectations in well-defined subject areas; external monitoring of results; and rewards or sanctions (Woessmann et al., 2007). The key question is whether the policy of combining school autonomy with accountability is seen as an opportunity or as a burden by school leaders and teachers (Keddie, 2015). This will largely depend on the quality and motivation of school staff, the nature of the accountability systems, and how much schools are supported in their improvement actions (Huber, 2011).

PISA 2015 collected data on the nature of accountability systems, and the ways in which the resulting information is used for school improvement and made available to various stakeholders and the general public.

### The use of achievement data beyond school

Achievement data are used for accountability purposes involving some stakeholders in addition to schools, teachers, parents and students. School principals were asked to report on whether achievement data, such as the school's performance on tests or graduation rates, are posted publicly, tracked over time by an administrative authority or provided directly to parents. On average across OECD countries, achievement data are more frequently shared with parents (84% of students attend schools whose principals so reported) than tracked by an administrative authority (71% of students attend such schools) or posted publicly (44% of students attend such schools) (Table II.4.27). However there is considerable variation among countries. For example, in the Netherlands, New Zealand, the United Kingdom, the United States and Viet Nam, at least 75% of students are enrolled in schools that post data publicly, while in Austria, Belgium, Finland and Japan, fewer than 6% of students are enrolled in a school that posts data publicly.

Across PISA-participating countries and economies, posting data publicly is done somewhat more frequently in socio-economically advantaged and urban schools than in disadvantaged and rural schools (Figure II.4.25). In 15 out of 68 education systems, posting data publicly is more common in advantaged than in disadvantaged schools, and in 15



out of 54 education systems it is more common in urban than in rural schools. Posting data publicly is also more common in upper secondary than lower secondary schools, on average across OECD countries and in 15 of 57 education systems (Table II.4.30). There are no differences between advantaged and disadvantaged schools or between urban and rural schools in the degree to which school achievement data are tracked by administrative authorities (Table II.4.31). On average across OECD countries and in 17 out of 60 education systems, however, administrative authorities are more likely to track achievement data coming from public schools than from private schools.

Between 2012 and 2015 there were no changes in the percentage of students in schools where achievement data are posted publicly or tracked over time by an administrative authority across OECD countries (Table II.4.29). However, there are 15 countries and economies where achievement data were posted publicly more extensively in 2015 than in 2012, including France, Hong Kong (China), Ireland and Portugal, and 12 countries where achievement data were posted publicly less extensively, including Korea, Montenegro, the Netherlands and Sweden. In nine countries and economies, including Hong Kong (China), Iceland, Indonesia and Greece, more students in 2015 than in 2012 attended schools whose achievement data were tracked over time by an administrative authority, while in another seven countries, including Luxembourg, Macao (China) and Slovenia, the opposite trend was observed.

On average across OECD countries, providing achievement data directly to parents is equally likely regardless of the socio-economic profile, type or location of the school (Table II.4.32). However, there are considerably more education systems where rural schools are more likely than urban schools to provide achievement data to parents (10 education systems) than there are education systems where urban schools are more like than rural schools to do so (2 education systems, including that in Turkey, where they are over 65 percentage points more likely to do so). Similarly, there are more countries and economies (17) where private schools are more likely than public schools to provide achievement data to parents than education systems where it is more common for public schools to do so (5).

In a great majority of education systems, students perform similarly in science regardless of whether the achievement data from their schools is tracked by an administrative authority or shared directly with parents (Tables II.4.31 and II.4.32). However, posting data publicly is positively associated with students' performance in science, on average across OECD countries, both before and after accounting for the socio-economic profile of students and schools (Figure II.4.26). There are also 13 education systems where students perform better in science, after accounting for socio-economic status, when their schools post data publicly.

### Quality-assurance and school-improvement practices

Schools also use measures other than student assessments to monitor the quality of the education they provide. PISA 2015 asked principals to report on whether their schools use various measures related to quality assurance and improvement. All measures combined, students in France, Italy, Luxembourg, Switzerland and Uruguay are least likely to be in schools where arrangements aimed at quality assurance and improvement at school are used, whereas students in Qatar, Singapore, Thailand, the United Arab Emirates and the United Kingdom are most likely to be in such schools (Figure II.4.27).

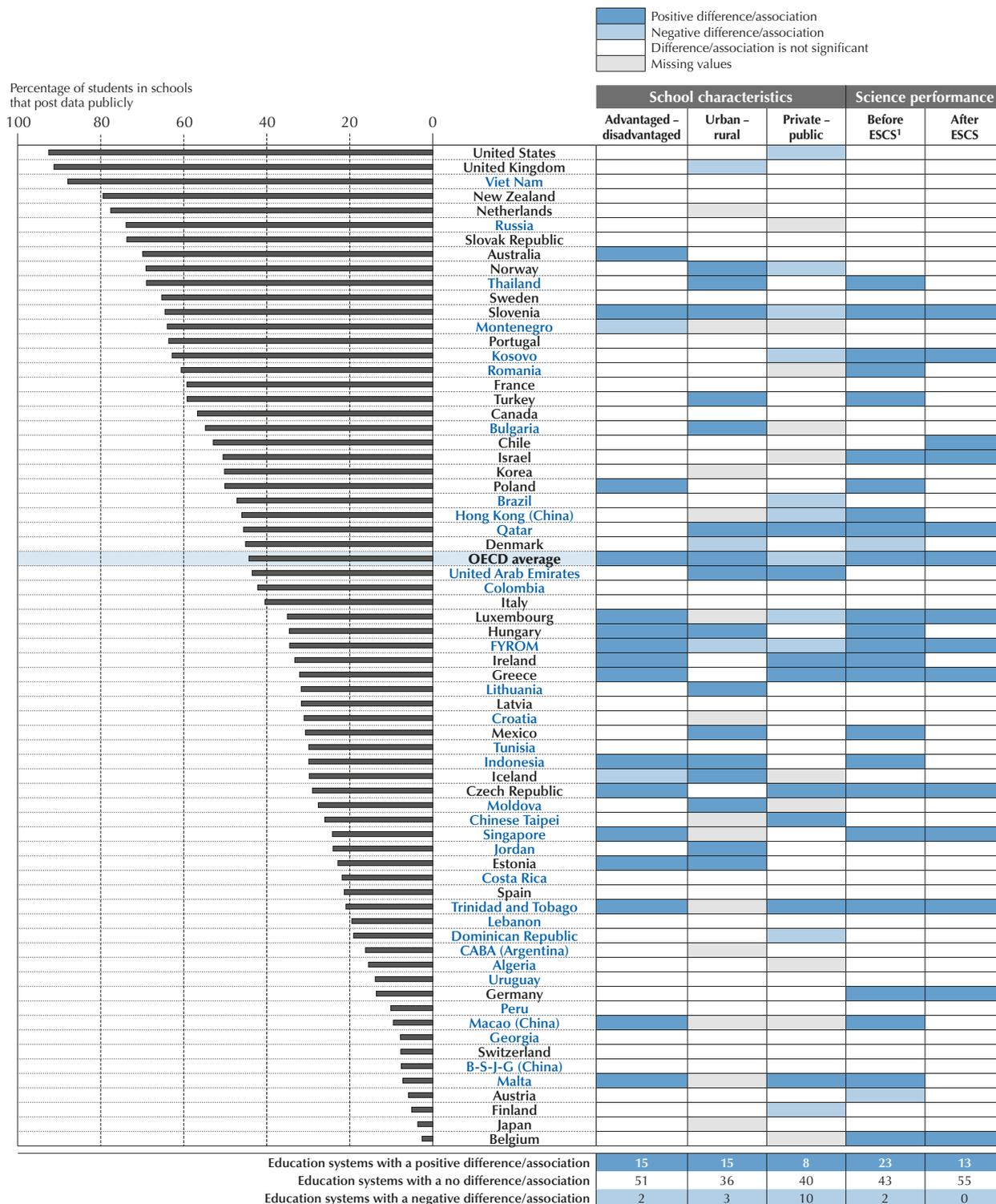
Almost all principals in PISA-participating countries and economies reported that internal evaluations or self-evaluations are used in their schools. On average across OECD countries, these evaluations are almost equally likely to originate from a school initiative or be mandated by an administrative authority (Table II.4.33). By comparison, external evaluations are more likely to be mandatory and less likely to be used by schools. On average across OECD countries, one in four students attends a school where they are not used.

At least nine out of ten students in OECD countries attend schools that systematically record data, such as attendance records (of teachers and students) and professional development, or that systematically record graduation rates and test results, for quality-assurance or school-improvement purposes. Interestingly, using systematic recording of data for quality-assurance or improvement purposes is less frequently observed in high-income countries, such as Austria, France, Greece, Italy, Japan, Luxembourg and Switzerland (Figure II.4.27).

Some studies consider the feedback from students to teachers and principals as essential for improving the school learning environment (Hattie, 2009); yet across OECD countries, one in three students attends a school that never uses this quality-assurance arrangement in written form; and in France, Luxembourg and Italy, fewer than one in three students attends a school that solicits written student feedback for quality-assurance purposes.



Figure II.4.26 ■ Posting achievement data publicly, school characteristics and science performance  
Results based on school principals' reports



1. ESCS refers to the PISA index of economic, social and cultural status.

Countries and economies are ranked in descending order of the percentage of students in schools where achievement data are posted publicly.

Source: OECD, PISA 2015 Database, Table II.4.30.

StatLink <http://dx.doi.org/10.1787/888933436037>



Figure II.4.27 ■ Quality assurance and improvement actions at school

Results based on school principals' reports

	Less than half of students	From 50% to 75% of students	More than 75% of students	Percentage of students in schools where the following arrangements aimed at quality assurance and improvement at school are used							
	Internal evaluation/ Self-evaluation	External evaluation	Written specification of the school's curricular profile and educational goals	Written specification of student performance standards	Systematic recording of data (e.g. teacher/student attendance)	Systematic recording of student test results and graduation rates	Seeking written feedback from students	Teacher mentoring	Regular consultation with experts over a period of at least six months	Implementation of a standardised policy for science subjects	
<a href="#">Qatar</a>	99	97	96	100	100	100	94	100	93	97	
<a href="#">Thailand</a>	100	100	100	100	99	100	88	99	90	94	
<a href="#">United Arab Emirates</a>	100	100	98	99	100	100	90	97	84	95	
<a href="#">Singapore</a>	99	99	98	95	99	100	95	100	66	97	
<a href="#">United Kingdom</a>	100	97	97	98	100	100	91	98	84	84	
<a href="#">Russia</a>	100	99	100	100	98	100	81	100	76	94	
<a href="#">Indonesia</a>	98	92	98	90	99	99	93	99	90	88	
<a href="#">Albania</a>	100	97	99	95	99	100	92	96	72	95	
<a href="#">New Zealand</a>	99	97	96	93	98	99	96	97	78	77	
<a href="#">Romania</a>	100	98	99	97	99	100	93	94	66	85	
<a href="#">Korea</a>	100	86	99	100	98	95	92	95	73	84	
<a href="#">Moldova</a>	100	96	97	94	100	99	81	96	65	93	
<a href="#">Jordan</a>	98	80	96	97	99	99	89	98	80	79	
<a href="#">Montenegro</a>	91	99	98	91	100	96	71	100	78	84	
<a href="#">Australia</a>	99	81	97	92	99	99	81	98	78	82	
<a href="#">United States</a>	98	85	99	96	97	99	73	96	67	86	
<a href="#">Dominican Republic</a>	97	82	91	92	98	93	96	80	73	84	
<a href="#">Chinese Taipei</a>	95	93	97	93	98	99	76	90	73	71	
<a href="#">Viet Nam</a>	100	73	98	93	98	99	91	98	50	81	
<a href="#">Estonia</a>	100	91	96	68	96	95	92	98	51	86	
<a href="#">Kosovo</a>	91	83	88	85	93	96	79	95	73	88	
<a href="#">B-S-J-G (China)</a>	98	79	97	75	98	92	89	95	52	94	
<a href="#">FYROM</a>	99	99	84	80	91	93	83	95	73	70	
<a href="#">Slovak Republic</a>	97	62	97	92	100	98	75	99	63	83	
<a href="#">Croatia</a>	99	92	97	83	98	90	77	95	56	69	
<a href="#">Latvia</a>	100	96	93	83	100	100	86	80	39	77	
<a href="#">Israel</a>	95	88	99	79	99	97	56	97	60	83	
<a href="#">Hong Kong (China)</a>	100	94	97	81	99	98	83	83	48	67	
<a href="#">Macao (China)</a>	98	78	94	84	100	100	74	91	54	75	
<a href="#">Colombia</a>	100	90	92	94	97	95	88	78	53	59	
<a href="#">Bulgaria</a>	97	96	85	84	98	98	71	72	72	71	
<a href="#">Ireland</a>	100	95	88	68	94	98	50	83	76	81	
<a href="#">Brazil</a>	96	87	99	87	91	85	77	93	60	55	
<a href="#">Lebanon</a>	94	54	96	88	98	98	65	82	72	86	
<a href="#">Algeria</a>	99	50	93	86	96	99	81	97	46	80	
<a href="#">Czech Republic</a>	97	61	100	89	96	96	73	96	28	87	
<a href="#">Poland</a>	100	92	62	84	98	99	87	95	48	57	
<a href="#">Turkey</a>	94	79	91	84	96	100	85	66	49	75	
<a href="#">Malta</a>	99	90	94	67	98	96	53	90	66	60	
<a href="#">Portugal</a>	100	97	95	83	87	98	72	84	36	51	
<a href="#">Georgia</a>	98	72	95	87	95	98	79	52	49	76	
<a href="#">Mexico</a>	86	74	93	89	95	96	77	62	58	66	
<a href="#">Peru</a>	92	69	96	94	96	88	65	98	43	54	
<a href="#">Slovenia</a>	98	47	96	96	100	97	81	82	32	65	
<a href="#">Canada</a>	86	64	93	83	86	96	56	88	69	72	
<a href="#">Trinidad and Tobago</a>	83	74	91	83	97	98	45	84	56	76	
<b>OECD average</b>	93	75	89	79	91	93	69	78	48	63	
<a href="#">Hungary</a>	90	75	100	98	100	100	65	82	19	49	
<a href="#">Netherlands</a>	92	86	80	65	89	97	82	89	58	37	
<a href="#">Norway</a>	98	64	85	90	85	96	65	92	78	19	
<a href="#">Costa Rica</a>	90	63	90	81	97	95	70	71	49	63	
<a href="#">Tunisia</a>	87	69	62	81	95	99	48	93	49	83	
<a href="#">Sweden</a>	98	68	85	98	93	83	77	79	32	35	
<a href="#">CABA (Argentina)</a>	90	61	92	74	85	76	64	86	55	61	
<a href="#">Chile</a>	94	77	82	74	92	95	73	57	42	57	
<a href="#">Belgium</a>	85	86	95	61	89	91	51	82	47	55	
<a href="#">Japan</a>	98	76	96	68	81	90	85	83	15	45	
<a href="#">Denmark</a>	84	70	86	82	89	94	57	66	38	61	
<a href="#">Iceland</a>	100	93	84	90	98	97	50	22	39	52	
<a href="#">Lithuania</a>	100	80	97	70	99	89	75	59	22	33	
<a href="#">Austria</a>	89	41	80	68	83	83	90	75	62	55	
<a href="#">Germany</a>	88	72	92	76	87	94	61	40	33	66	
<a href="#">Spain</a>	88	74	85	83	90	97	77	41	27	39	
<a href="#">Greece</a>	81	21	72	49	81	85	43	88	87	85	
<a href="#">Finland</a>	95	57	80	73	89	84	74	66	10	62	
<a href="#">Uruguay</a>	90	47	84	67	98	96	58	70	22	33	
<a href="#">Luxembourg</a>	75	96	75	41	78	73	24	81	43	59	
<a href="#">Switzerland</a>	85	69	75	48	71	64	66	76	27	44	
<a href="#">France</a>	78	57	83	55	79	90	23	72	16	55	
<a href="#">Italy</a>	95	39	91	68	80	90	32	30	13	44	

Countries and economies are ranked in descending order of the percentage of students in schools using the arrangements aimed at quality assurance and improvement (average 10 arrangements).

Source: OECD, PISA 2015 Database, Table II.4.33.

StatLink  <http://dx.doi.org/10.1787/888933436045>



Teacher mentoring might help young teachers integrate smoothly into a new learning environment. Across OECD countries, four out of five students are in schools whose principals reported using teaching mentoring; but in Germany, Iceland, Italy and Spain, at least one in two students attend schools where teaching mentoring is not used, at least as a quality-assurance or improvement arrangement.

Students perform similarly in science regardless of whether their schools use or do not use most of the quality-assurance and improvements arrangements cited above (Table II.4.34). Out of the ten suggested arrangements, students in OECD countries whose principals reported using written specifications of the school's curricular profile and education goals; using systematic recording of student test results and graduation rates; seeking written feedback from students; or implementing a standardised policy for science subjects perform somewhat better in science than students whose principals reported not doing so. But after accounting for the socio-economic profile of students and schools, only when schools implement a standardised policy for science subjects do students score higher in science – by about three points, on average across OECD countries. Students also score lower in science, both before and after accounting for the socio-economic status of students and schools, when their schools consult experts over a period of at least six months for school-improvement purposes. Of course, schools with weaker academic performance may be more likely to consult external experts to improve student learning. The score-point differences are, in any case, small: after accounting for students' and schools' socio-economic profile, there is never more than 5 points' difference in performance between schools that do and schools that do not use each of the ten arrangements, and never more than 11 points' difference before accounting for the socio-economic profile of students and schools.

### Consequences of internal and external evaluations

School principals who reported that their school uses internal evaluations for quality-assurance or improvement purposes were then asked about the consequences of these evaluations, including whether the school implemented measures in the areas of education staff, curriculum, quality of teaching, parental engagement or equity and, if they did not, whether it was because the results of the internal evaluation were successful or for other reasons.

Across OECD countries, schools that conduct internal evaluations are more likely to implement measures in the areas of student achievement, quality of teaching and learning, and teacher professional development (Figure II.4.28). In the Dominican Republic, Indonesia, Korea, Peru, Thailand and Viet Nam, several areas are affected by the measures implemented following an internal evaluation, while in Denmark, Finland, Slovenia and Switzerland, few areas are affected. However, these four countries are among the top five PISA-participating education systems where, according to principals, no changes were made because results were deemed satisfactory. For example, in Finland, almost three in four students attend a school where no measures regarding the education staff were implemented following an internal evaluation because the results were satisfactory, and more than six in ten students attend a school where no measures regarding the equity in school and curriculum implementation were implemented due to satisfactory results (Table II.4.35).

School principals who reported that external evaluations are used in their schools were also asked if a series of statements related to these evaluations apply to their school: "The results of external evaluations led to changes in school policies"; "Data were used to plan specific actions for school development"; "Data were used to plan specific actions for the improvement of teaching"; "Measures were promptly implemented"; or "The impetus triggered by the external evaluation disappeared very quickly at [our] school".

Across OECD countries, principals were most likely to agree that data are used to plan specific actions for school development and the improvement of teaching. They were least likely to report that the impetus triggered by the external evaluation disappeared very quickly at their school. In Greece, Luxembourg and Tunisia, principals were least likely to report that actions followed external evaluations (Figure II.4.29). In Luxembourg, for instance, only one in ten students (64% of students across OECD countries) attends a school whose principal reported that measures were promptly implemented following an external evaluation.

Given that schools are more likely to implement measures if they detect problems following their internal and external evaluations, it should hardly be surprising that students score lower in science if their school implements measures for improvement. Before accounting for the socio-economic status of students and schools, students score between 4 and 13 points lower in science, on average across OECD countries, depending on the area targeted for action following an internal evaluation (Tables II.4.36). After accounting for the socio-economic profile of students and schools, students score about four points lower when the measures following an internal evaluation address issues related to parents' engagement with school, student achievement and equity in school.

Figure II.4.28 ■ **Actions following internal evaluations**

Results based on school principals' reports

	Percentage of students in schools where the following were affected after an internal evaluation							
	Education staff	Implementation of the curriculum	Quality of teaching and learning	Parental engagement in school	Teacher professional development	Student achievement	Students' cross-curricular competencies	Equity in school
Indonesia	95	95	97	82	95	99	77	78
Viet Nam	93	90	98	67	97	95	90	84
Thailand	87	89	92	84	85	95	92	86
Korea	84	88	85	82	91	92	76	71
Dominican Republic	76	78	84	88	75	91	84	75
Peru	68	78	90	85	81	92	76	79
Singapore	84	89	94	73	92	92	74	43
Macao (China)	77	88	93	51	97	90	84	58
B-S-J-G (China)	87	78	90	64	88	86	65	69
United Arab Emirates	64	78	90	81	89	84	73	62
Chile	61	76	89	65	72	92	82	73
FYROM	60	68	88	83	87	82	66	62
Israel	85	80	81	31	86	84	77	71
Russia	65	63	81	70	77	87	86	60
Mexico	66	64	77	72	73	91	76	70
Montenegro	67	59	85	73	79	91	70	62
Georgia	54	78	84	82	80	88	55	66
Qatar	67	61	73	70	81	87	77	65
Colombia	53	75	84	71	62	87	78	68
Trinidad and Tobago	61	83	90	76	76	84	53	52
Hong Kong (China)	62	84	94	44	79	90	70	41
Brazil	52	56	85	85	60	86	67	72
Moldova	56	66	86	65	76	85	70	53
Chinese Taipei	59	75	79	56	81	77	70	59
United Kingdom	57	76	86	68	86	87	53	41
Iceland	65	71	77	52	69	79	72	57
Kosovo	42	66	72	73	80	75	65	70
Lithuania	49	60	90	81	63	85	65	44
Latvia	55	55	81	69	74	84	65	46
Algeria	54	71	52	51	77	76	64	83
Estonia	63	71	74	69	62	67	65	56
Jordan	49	69	64	71	70	79	58	67
Netherlands	73	60	83	55	82	85	53	33
Portugal	65	39	78	69	58	85	64	54
Costa Rica	40	62	77	63	62	76	59	65
New Zealand	42	71	77	60	84	86	37	44
United States	46	70	73	59	77	83	51	39
Lebanon	55	64	60	54	77	67	62	55
Japan	69	63	75	42	66	74	62	41
CABA (Argentina)	43	78	76	65	47	70	60	52
Slovak Republic	46	59	66	60	75	75	54	47
Romania	38	42	67	75	72	82	60	41
Sweden	77	49	73	28	65	78	44	62
Australia	39	72	83	51	78	80	39	30
Croatia	42	51	75	55	66	80	56	44
Turkey	54	52	68	66	47	80	45	57
Spain	41	50	78	53	65	75	57	33
Uruguay	32	36	70	61	57	72	61	60
<b>OECD average</b>	48	54	68	49	64	70	51	40
Germany	38	57	77	58	62	61	61	26
Norway	46	61	82	35	66	77	38	23
Canada	25	48	60	45	70	76	44	45
Italy	27	53	60	27	71	74	51	47
Belgium	56	56	58	40	55	54	54	29
Albania	39	44	52	57	58	68	38	43
Poland	38	37	66	62	50	65	48	26
Tunisia	42	55	43	36	65	51	35	65
Ireland	34	61	72	37	58	66	41	23
France	21	24	37	52	49	77	64	50
Malta	11	48	73	47	54	62	38	37
Bulgaria	31	36	51	35	63	62	54	37
Austria	39	57	71	26	57	57	34	26
Greece	26	36	43	50	44	51	50	49
Luxembourg	19	39	50	31	54	64	55	33
Hungary	49	36	59	35	48	54	35	28
Czech Republic	42	45	54	27	61	54	27	18
Slovenia	32	34	57	37	47	44	35	19
Denmark	49	21	49	27	61	42	20	3
Finland	19	29	40	48	40	28	38	26
Switzerland	29	31	50	19	43	27	31	21

Countries and economies are ranked in descending order of the percentage of students in schools implementing measures following an internal evaluation (average 8 areas/processes). Source: OECD, PISA 2015 Database, Table II.4.35.

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Figure II.4.29 ■ Consequences following external evaluations

Results based on school principals' reports

	Percentage of students in schools whose principal reported that the following statements apply to the most recent external evaluation in the school				
	Apply				Do not apply
	The results of external evaluations led to changes in school policies	Data were used to plan specific actions for school development	Data were used to plan specific actions for the improvement of teaching	Measures were promptly implemented	The impetus triggered by the external evaluation "disappeared" very quickly at our school
Singapore	92	99	96	92	87
Indonesia	89	99	100	96	77
Chinese Taipei	95	95	94	93	83
Ireland	83	96	94	93	89
Thailand	89	98	98	92	76
United Arab Emirates	85	98	98	94	75
Hong Kong (China)	89	99	100	84	76
United Kingdom	77	95	93	96	84
Montenegro	74	100	100	94	76
Colombia	79	98	98	79	85
Brazil	84	95	97	80	80
FYROM	79	97	95	88	76
Dominican Republic	83	92	92	90	78
Peru	87	93	95	88	71
Viet Nam	86	94	94	80	74
B-S-J-G (China)	54	95	96	90	90
Macao (China)	71	91	93	87	82
Qatar	70	96	92	91	73
Portugal	83	94	95	66	84
Australia	73	90	86	84	87
Slovak Republic	67	85	89	86	89
Lithuania	56	95	92	83	90
Mexico	68	94	94	78	81
New Zealand	63	94	89	86	82
Chile	70	96	97	69	77
Russia	41	96	96	79	96
United States	57	94	90	83	80
Jordan	82	91	95	79	56
Moldova	62	82	91	84	83
Netherlands	74	85	91	63	86
Trinidad and Tobago	71	89	87	69	79
Norway	82	93	85	47	88
Israel	68	88	89	71	78
Spain	47	92	96	77	81
Bulgaria	46	87	82	86	91
Turkey	65	78	81	81	85
Romania	53	88	84	86	77
Iceland	56	85	85	72	90
Sweden	66	85	85	64	84
Korea	54	83	87	78	80
Germany	47	94	86	66	82
Canada	51	86	80	66	85
Latvia	26	94	89	67	89
Austria	32	88	87	70	87
Costa Rica	62	79	77	68	76
OECD average	54	82	80	64	83
Albania	51	85	84	61	76
Lebanon	57	86	80	76	58
Malta	39	91	71	66	85
Poland	43	94	79	42	92
Estonia	29	83	75	76	81
Kosovo	48	70	84	68	69
Algeria	33	80	86	70	69
Slovenia	35	83	80	55	84
Czech Republic	53	76	82	44	78
Belgium	58	68	69	61	73
Japan	23	79	68	63	93
Croatia	53	57	71	62	77
Georgia	31	75	77	63	74
Switzerland	43	70	67	67	71
Italy	55	61	60	51	84
Finland	43	76	64	44	82
Denmark	37	78	75	25	90
France	65	57	51	51	77
Hungary	32	53	58	51	91
CABA (Argentina)	40	62	61	38	74
Uruguay	36	56	63	31	69
Tunisia	39	37	35	47	85
Greece	30	54	48	40	66
Luxembourg	31	44	42	10	63

Countries and economies are ranked in descending order of the percentage of students in schools where the statements apply / do not apply (average 5 statements).  
Source: OECD, PISA 2015 Database, Table II.4.37.

StatLink  <http://dx.doi.org/10.1787/888933436066>



Similarly, students score lower in science in schools whose principals agreed with the statements related to external evaluations, particularly those that imply that measures are taken following an external evaluation (Table II.4.38). For example, when principals agreed that data are used to plan specific actions for improving teaching, students score four points lower in science, after accounting for the socio-economic profile of students and schools.

## SCHOOL LEADER AND TEACHER APPRAISAL

Improving the quality and equity of schooling depends to a large extent on the motivation and performance of school leaders and teachers. Evaluating the quality of an education system therefore entails not only assessing students' learning, but also the performance of the system's teachers and school leaders.

### School leader appraisal

School leaders are largely responsible for managing the school budget, personnel and school policies. School leadership, however, has been increasingly recognised for the important role it can play in improving the learning environment in schools, in communicating a vision and a culture of continuous learning, and in supporting the work of teachers – all of which can have a positive impact on students' performance (OECD, 2015b). Principals are the most common school leaders in many schools as they hold the highest leadership position in the organisation. But other staff members, such as deputy school directors or department heads, might also assume important leadership roles in their schools for their experience or recognised ability to influence other staff and lead the organisation towards its goals (OECD, 2015b). This section describes some characteristics of school leader appraisals in various countries and economies, such as whether they are regulated by legislation or other policy frameworks, how extensively they are used, who evaluates them, and whether such appraisals are used for the purposes of professional development or for career advancement.

System-level data show that in nearly half of the countries and economies with available data, the appraisal of school leaders is included in legislation or policy frameworks at the primary (34 out of 57 education systems), lower secondary (33 out of 57 education systems) and upper secondary levels (31 out of 56 education systems) (Table II.4.58). These proportions are smaller than those related to teacher appraisal, but they are still considerable, and illustrate the importance governments give to evaluating their school managers.

In Australia, Denmark, FYROM and Latvia, even though there is no legislation on this matter, the practice of appraising school leaders is widespread. In Israel and the Netherlands, legislation applies only to some levels of education, but appraisals are also carried out at the other levels as well. In all of these countries and economies, such policies and practices are implemented countrywide, with a few exceptions: in Canada and the United States, they are implemented at the provincial/territorial or state level, respectively; in England and in FYROM, the legislation or similar practices applies to some schools only. One in every three countries and economies reported not having either legislation or similar practices related to school leader appraisals. The vast majority of countries and economies with available data reported that at least 90% of their school leaders undergo appraisals (16 out of 19 education systems). In Spain, 70% of their school leaders are appraised (across all education levels) while in Colombia 20% are (at the lower and upper secondary levels). The discussion that follows focuses on the appraisal of school leaders at the lower secondary level.

The appraisal of school leaders is mandatory in half of the countries and economies with available data (27 out of 54 education systems) (Table II.4.60). In most cases, the appraisals occur at least once a year, but appraisals every three to four years are not uncommon. In Croatia and Poland, such appraisals occur on a voluntary basis. Responsibility for evaluating school leaders lies most frequently at the central level of government (in 13 out of 30 education systems), but in most cases, central education authorities carry out such appraisals in conjunction with other education authorities/actors. In particular, local education authorities (9 education systems) and school boards and committees (8 education systems) are frequent partners in evaluating school leaders. Since the definition of school leaders includes, but is not limited to, school principals/directors, it is not surprising that in nine systems, the principals are in charge of appraising other leaders in their schools (e.g. deputy school directors, department heads or head teachers). Education systems often rely on intermediate agencies (eight education systems) and external evaluators (seven education systems) for conducting the appraisal of school leaders, but always in conjunction with education authorities and local actors.

In 16 out of 25 education systems, the results of the appraisals are reported to inform the professional development of school leaders; in 17 out of 26 education systems, results have an impact on school leaders' career progression (Table II.4.66). Only in Colombia, Macao (China), Mexico, Singapore and the Slovak Republic are the results of evaluations systematically used to develop a professional development plan or reported to result in such plans for some school leaders. In twelve systems, the results of the appraisal can influence decisions about the promotion of school leaders, while in nine systems, they can have an impact on the speed at which school leaders progress through their careers.



In Belgium (Fr.), Croatia, Israel and New Zealand, appraisal results are used to inform professional development plans, but have no influence on the career advancement of school leaders. In Malta, although appraisals are included in legislation or in policy frameworks, the results of the appraisals do not have any influence on the professional development or career advancement of school leaders.

The consequences for school leaders who fail to obtain positive appraisal results range from having a promotion deferred (13 education systems), salary increases withheld (9 education systems) or a permanent contract denied (8 education systems) to more severe sanctions, such as being transferred to another school (10 education systems), dismissed (9 education systems) or suspended (7 education systems). Most frequently, however, having a negative appraisal leads to further appraisal (17 education systems) or to compulsory training (8 education systems).

## Teacher appraisal

“Teacher appraisal is the evaluation of individual teachers to make a judgement about their competencies and performance and to provide feedback to support the improvement of their practices” (OECD, 2013b). As teachers are a key factor in student achievement, raising the quality and equity of schooling depends to a large extent on making sure that teachers are highly skilled, well resourced, and motivated to perform at their best (OECD, 2013b, 2015b). Recently, education systems have been moving away from the notion of appraisals as a form of controlling the work of teachers towards using appraisals to improve the quality of teaching, help design more effective professional development plans, and assist with decisions regarding teachers’ promotions, salary increases and tenure. Educators in some countries are engaged in intense debates regarding the best way to assess teacher effectiveness and the difficulties and potential risks involved in linking teachers’ performance to their students’ test scores. Still, if well designed, teacher appraisals can help improve schools by providing greater opportunities for feedback to teachers, which can help them engage in their own career advancement (OECD, 2015b).

System-level data reveal that in most countries and economies with available data (47 out of 58 education systems), teacher appraisal is legislated or required by policy at the primary, lower and upper secondary levels (Table II.4.47). Legislation is implemented at the provincial/territorial level in Canada and is a state-level decision in the United States; in England (United Kingdom), legislation applies to public schools, but teacher appraisal is widely practised in private institutions as well. In all other countries where related legislation or policy frameworks exist, teacher appraisal is implemented countrywide. In Argentina, Bulgaria, Denmark, Estonia, Hong Kong (China), Norway and Chinese Taipei, there is no legislated teacher appraisal, but similar practices are common. Only Germany, Iceland, Luxembourg and Scotland (United Kingdom) reported not having legislated teacher appraisal or similar practices.

Data on the percentage of teachers appraised at the lower and upper secondary levels were available for 29 countries. In four of these education systems, less than 30% of teachers are appraised; in seven, between 31% and 75% of teachers are appraised; and in 18, more than 75% of teachers are appraised (in 13 of these countries, all teachers are appraised).

The appraisal of teachers may be related to various stages of their career and serve different purposes. Countries were asked to report on five types of appraisal (Tables II.4.48 to II.4.50), described below. The discussion concerning mandatory requirements and frequency of appraisals focuses on lower and upper secondary levels:

- **Regular appraisal:** This typically involves an internal school process, regulated by general labour-law provisions requiring the teachers’ employers to regularly appraise the performance and results of their employees. It is the most widely used form of appraisal, practiced at the primary, secondary and upper secondary levels in 39 of 55 education systems with available data (it is mandatory in 34 systems). Appraisals are conducted annually or more frequently in half of the education systems where it is mandatory; in nine countries, they are carried out every two to four years. They are voluntary in Belgium (French community), the Czech Republic, Lithuania and Poland.
- **Teachers on probation:** This is specific to new teachers and involves a teacher’s entry into the profession. This is the next most common form of appraisal, reported to be used in 31 out of 55 education systems. It is mandatory in 27 education systems and conducted with varying frequency: they are performed periodically in 16 of these systems and at more ad hoc frequency in the other 11 systems. This type of appraisal is voluntary in Ireland and Slovenia.
- **Appraisal for promotion:** This is often voluntary and takes place in relation to decisions on employment status (most countries integrate this activity with regular appraisal). It is used in 23 of 52 education systems. Compared to the aforementioned forms of appraisal, appraising teachers to inform decisions about promotion is mandatory in fewer countries (13). It is conducted at least once a year in six of these countries, once every three years or less frequently in another six, and it is mandatory, though not regularly conducted, in Austria. Appraisal for promotion is voluntary in Colombia, the Czech Republic, Hungary, Lithuania, Mexico, the Netherlands, Peru, Poland and Slovenia.



- Teacher registration:** This is the process designed to determine and officially confirm a teacher as competent for teaching. It is used in 21 of 54 education systems (it is mandatory in 17 systems). In six countries, it must be carried out at least once a year; it is conducted periodically, but less often, in three countries (the corresponding data are not available for the remaining countries/economies where it is mandatory). Teacher registration is voluntary in Ireland and in the Netherlands.
- Appraisal for rewards:** It involves teacher appraisal explicitly designed to identify a select number of high-performing teachers to reward and acknowledge (OECD, 2015b). This is the least-used form of appraisal (in 18 of 53 education systems). It is mandatory in only eight countries, namely FYROM, Georgia, Korea, Macao (China), Singapore, Turkey, the United Arab Emirates and Uruguay, and it occurs annually in most cases. Appraisals for reward schemes are voluntary in Chile, Hungary, Lithuania, Mexico, Montenegro, Peru, Slovenia and Sweden.

Figure II.4.30 ■ **Obligation to undertake teacher appraisal and frequency, lower secondary (2015)**

	Types of teacher appraisal				
	Completion of probation	Regular appraisal	Teacher registration	Appraisal for promotion	Reward schemes
<b>OECD</b>					
Austria					
Belgium (Fl.)					
Belgium (Fr.)					
Chile					
Czech Republic					
England (UK)					
France					
Greece					
Hungary					
Ireland					
Israel					
Italy					
Japan					
Korea					
Mexico					
Netherlands					
New Zealand					
Poland					
Portugal					
Slovak Republic					
Slovenia					
Spain					
Sweden					
Turkey					
<b>Partners</b>					
Brazil					
Colombia					
Croatia					
Dominican Republic					
FYROM					
Georgia					
Kazakhstan					
Lithuania					
Macao (China)					
Malta					
Montenegro					
Peru					
Qatar					
Singapore					
Thailand					
United Arab Emirates					
Uruguay					

Note: Only countries and economies with available data are shown.

Source: OECD, PISA 2015 Database, Table II.4.49.



In practice, countries often adopt a combination of several forms of appraisal. Three out of five education systems reported using at least three types of appraisal. In FYROM, Macao (China), the Netherlands, Slovenia, the United Arab Emirates and the United States, all types of teacher appraisal are included in legislation or in policy frameworks (Table II.4.47).

### **Who is responsible for appraising teachers?**

The responsibility for carrying out teacher appraisals varies across countries, depending on the type of appraisal in question. Across all types, the school principal/director is the most common evaluator, except for appraisals concerning reward schemes, where education authorities (central, regional or local) play this role slightly more often (13 countries compared to 7 countries where the principal is the primary evaluator). Regular appraisals are mostly the responsibility of principals (28 out of 39 education systems), central authorities (17 countries), and school organising bodies (15 countries), but other local players (school leaders, supervisors and peer evaluators) are often cited.

The most common evaluators for completion of probation appraisals are the principal (21 out of 31 education systems) and the teacher's supervisor (15 countries), followed by central authorities (9 countries). Evaluating teachers for promotion and for reward schemes tends to be the responsibility of the principal, central authorities and school organising bodies. Appraisals for teacher registration are most commonly carried out by central authorities (11 of 22 countries) and principals (12 countries). Across all types of appraisal, others also play a role, including school boards or committees, teacher professional organisations or other evaluators external to the school (peer evaluators from another school, accredited external evaluators or an intermediate agency). Evaluating teachers, regardless of the type of appraisal, was rarely reported to be the exclusive responsibility of a single actor. Most often, a number of players participate in the appraisal process.

### **Impact of teacher appraisals**

Participating countries and economies also reported on whether the five types of appraisal have an impact on teachers' professional development and whether they affect teachers' career advancement and pay levels. Across the types of appraisal, at least half of the countries with available data reported that the results of teacher appraisals affect teachers' career advancement, particularly the appraisal for promotion and the completion of probation (8 in 10 education systems), followed by reward schemes, teacher registration, and regular appraisal (6 in 10 education systems) (Table II.4.55). As expected, the types of appraisal more often reported to affect pay levels are those related to reward schemes and promotions (approximately 8 in 10 education systems), but in at least half of the countries with available data, regular appraisals also have an impact on teachers' pay levels. These are also the types of appraisal more frequently cited as used to inform teachers' professional development along with appraisal for promotion.

Appraisals for teacher registration, while affecting career advancement in 6 in 10 countries, is less frequently reported to affect teachers' pay levels (1 in 4 countries) and to inform teachers' professional development (2 in 5 countries), which is otherwise a common use of results for every other type of appraisal (6 in 10 countries). Of all forms of appraisal, the results of appraisals for promotion are the most cited (at least 7 in 10 countries) as being used for professional development and as having an impact on the teachers' career advancement and pay levels.

Teachers who fail to obtain a satisfactory review in their appraisals can be faced with various negative consequences that may affect the approval or renewal of their contract, the speed at which they progress through their career, which schools they are allowed to teach in, and their salary, among others areas of their professional life. Specifically, underperformance in regular appraisals most frequently leads to further appraisals (in 23 education systems) and compulsory training (in 15 education systems), but in 14 countries, it can prevent teachers from being promoted or slow their career progression, and in 13 countries, it can lead to dismissal.

Teachers who fail their probation assessment may not be granted a permanent contract (17 education systems), be dismissed (18), be recommended for further appraisal (17) or compulsory training (9) or be denied the status of registered or certified teacher (9 education systems). Underperformance in appraisals for promotion and rewards schemes most often results in a deferral of promotion or the withdrawal of salary increments (in at least three in five countries) and in further appraisal; only rarely do such negative reviews lead to more drastic measures, such as the loss of a contract or of registered status, dismissal, suspension or school transfer. Teachers who are not successful in their appraisal for registration can be denied the status of registered/certified teacher (14 education systems) or may not have their permanent contract renewed (9 countries); in 7 countries, they are recommended for further appraisal.

Figure II.4.31 ■ **Monitoring teaching practices**

Results based on school principals' reports

	Percentage of students in schools that use the following methods to monitor teaching practices			
	Tests or assessments of student achievement	Teacher peer review	Principal or senior staff observations of lessons	Observation of classes by inspectors or other persons external to the school
Jordan	97	94	99	99
Moldova	100	95	99	94
Qatar	100	95	98	88
United Arab Emirates	97	90	100	93
B-S-J-G (China)	97	92	99	91
Dominican Republic	90	90	100	95
Romania	97	87	99	90
Korea	95	96	97	84
Viet Nam	99	94	99	78
United Kingdom	97	95	100	78
Russia	100	100	100	69
Thailand	100	99	99	61
FYROM	86	76	100	97
Indonesia	88	89	97	85
Macao (China)	94	100	98	56
Albania	100	94	99	53
Algeria	94	65	96	91
Costa Rica	95	93	91	65
Kosovo	87	90	98	68
Hong Kong (China)	98	93	99	53
Lithuania	97	88	99	55
Netherlands	97	80	99	64
Singapore	100	93	100	42
United States	95	72	100	64
New Zealand	91	96	98	45
Latvia	97	88	99	46
Lebanon	86	73	93	77
Bulgaria	97	37	100	92
Peru	78	90	92	63
Croatia	76	74	100	74
Montenegro	69	91	100	61
Uruguay	70	76	91	81
Trinidad and Tobago	92	77	96	52
Belgium	78	74	90	76
Austria	86	77	94	55
Czech Republic	93	70	100	48
Tunisia	81	62	71	95
Mexico	95	86	81	46
Hungary	79	79	97	50
Georgia	94	95	97	18
CABA (Argentina)	82	75	98	46
Slovak Republic	81	88	99	25
Australia	86	93	91	20
Israel	97	62	90	42
Poland	99	63	99	26
Turkey	92	56	95	41
Malta	80	45	94	65
Sweden	73	74	95	33
Slovenia	79	78	97	16
OECD average	81	66	81	42
Norway	83	80	75	31
Chinese Taipei	82	70	82	34
Switzerland	59	67	95	45
Chile	76	69	92	28
Brazil	90	81	65	28
Estonia	76	60	96	29
France	61	51	49	99
Denmark	88	52	87	25
Ireland	81	46	48	76
Canada	75	55	95	25
Japan	62	55	89	41
Germany	80	45	88	32
Portugal	86	77	41	31
Colombia	89	65	59	21
Luxembourg	63	35	77	33
Italy	75	90	26	5
Iceland	76	10	72	26
Spain	71	27	32	39
Greece	57	44	14	28
Finland	44	14	42	5

Countries and economies are ranked in descending order of the percentage of students in schools that use the methods to monitor teaching practices (average 4 methods).

Source: OECD, PISA 2015 Database, Table II.4.39.

StatLink  <http://dx.doi.org/10.1787/888933436079>



## TEACHER EVALUATIONS AT SCHOOL

In addition to the data provided by education authorities, PISA 2015 also asked school principals to report on whether the following methods were used to monitor the practice of science teachers in their schools during the previous academic year: tests or assessments of student achievement; teacher peer review of lessons plans, assessment instruments, and lessons; principal or senior staff observations of lessons; and observation of classes by inspectors or other persons external to the school. On average across OECD countries, 81% of students attend schools whose principals reported that tests or assessments of student achievement and principal or senior staff observations of lessons were used to monitor the practice of teachers; 66% attend schools that used teacher peer reviews of lesson plans, assessment instruments or lessons; and 42% attend schools where classes were observed by inspectors or other persons external to the school (Figure II.4.31).

In general, there are wide differences in the extent to which schools use different methods of monitoring teacher practices (Figure II.4.31). In Finland, for instance, only 44% of students attend schools whose principal reported that tests or assessments of student achievement were used to monitor teacher practices during the previous year (81% of students across OECD countries). Based on principals' reports, almost all schools in Macao (China), Russia and Thailand used teacher peer reviews, but in Finland, Iceland and Spain, fewer than one in three students attends such schools. In 49 education systems, at least nine out of ten students attend schools whose principal or senior staff observed lessons, but in Greece, Italy and Spain, fewer than one in three students attends such schools. In Finland and Italy, inspectors or other persons external to the school almost never observed classes, according to school principals.

There are small differences in how extensively the four methods of monitoring teacher practices are used by type of school, school location and schools' socio-economic profile (Tables II.4.40 to II.4.43). Across OECD countries, advantaged and urban schools monitor teaching practices through student assessments more often than disadvantaged and rural schools do, while teacher peer review is more commonly used in private, urban and advantaged schools.

In most countries and economies, students score similarly in science regardless of whether or not their schools use the four types of monitoring teacher practices (Tables II.4.40 to II.4.43). Across the four monitoring methods and all education systems, there are only four cases where using a particular method is associated with an increase of more than 20 score points in science performance, after accounting for the socio-economic profile of students and schools. In Jordan and the United Kingdom, students score at least 25 points higher when their school principals reported that teacher peer reviews were used in their schools during the previous year. In Kosovo, students score 37 points higher when the principal or senior staff observed lessons; and in Bulgaria, students score 25 points higher when the principal reported that inspectors or other persons external to the school observed classes.



## Notes

1. Other actors in education governance include parents (see chapter 3), local communities, NGOs, trade unions, researchers, the media and international organisations, among others (Burns and Köster, 2016).
2. Some caution is advised when interpreting the school principals' reports on the responsibilities for school governance. Decision-making arrangements vary widely across countries, so the questions posed to school principals were general; thus, responses may depend on how school principals interpreted the questions. For example, what is meant by "considerable responsibility" may not be interpreted in the same way by different school principals; the nature of school governing boards varies considerably across countries (see Box II.4.2); and, when school principals were asked who has considerable responsibility for formulating the school budget, some school principals might have related this question to the regular budget of the school, while others may have related the question to supplementary budgets, i.e. contributions from parents or the community.
3. If more than 50% of students attend schools whose principal reported that a given actor had considerable responsibility over an education policy, the actor is considered as mainly responsible for that policy.
4. The six tasks categorised as responsibilities for resources (selecting teachers for hire, firing teachers, establishing teachers' starting salaries, determining teachers' salary increases, formulating the school budget and deciding on budget allocations within the school) are given equal weight.
5. The three tasks categorised as responsibilities for curriculum (choosing textbooks, deciding which courses are offered and determining course content) are given equal weight.
6. The index of school autonomy is the percentage of tasks for which "principals", "teachers" and/or "school governing board" have considerable responsibility. The calculation is based on all 12 tasks included in the school questionnaire. A value of "0" indicates that principals, teachers or school governing boards hold no responsibilities for school governance; a value of "50" indicates they have considerable responsibility for half of the tasks; and a value of "100" indicates they have considerable responsibility for all tasks. Higher values indicate more autonomy for school principals and/or teachers.
7. See Boxes II.2.1, II.2.2 and II.2.3 in Chapter 2 for a description of how PISA defines socio-economically disadvantaged and advantaged schools, public and private schools, and urban and rural schools.
8. System-level data that are not derived from the PISA 2015 student or school questionnaire are extracted from the OECD's annual publication, *Education at a Glance*, for those countries and economies that participate in that periodic data collection. For other countries and economies, a special system-level data collection was conducted in collaboration with PISA Governing Board members and National Project Managers.
9. Educational authorities in the Flemish and French Communities of Belgium, and in England and Scotland (in the United Kingdom) are considered as separate educational systems. Hence, in this section, there are 37 OECD education systems at the system level, as opposed to 35 OECD countries and education systems.
10. Information is not available for the following partner countries: Albania, Algeria, B-S-J-G (China), Indonesia, Jordan, Kosovo, Lebanon, Lithuania, Malaysia, Moldova, Romania, Russia, Trinidad and Tobago and Viet Nam.

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