PISA IN FOCUS 27

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Does it matter which school a student attends?

- Successful education systems are able to guarantee that all students succeed at high levels.
- Across OECD countries, around 60% of the overall, country-level variation in student performance can be traced to differences in how well students who attend the same school can be expected to perform.
- About 40% of the variation in student performance in OECD countries is observed between schools; but among high-performing countries, differences in performance are generally smaller than those in the average OECD country.

High achievement for all students and schools is possible.

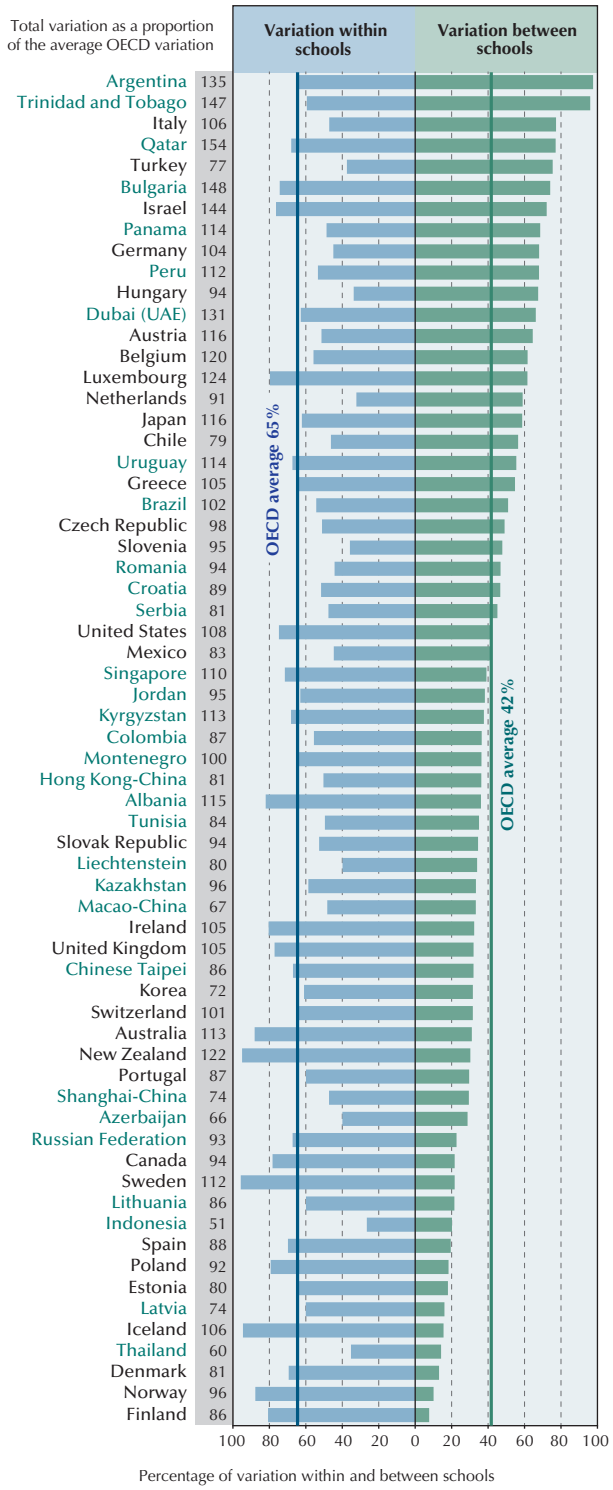
A country's or economy's score on the PISA test indicates the average performance of that country's students and, in turn, those students' capacity to participate fully in society and contribute meaningfully to an increasingly knowledge-based global economy. Analysis of data collected through PISA also reveals the extent to which students in a particular country/economy – or even in a particular school – differ in their proficiency in reading, mathematics and science. Just as average performance varies markedly across education systems, so do the differences, or variations, in student performance. In some education systems, most students have similar levels of proficiency; in others, student performance varies far more widely.

Analyses of PISA results show that countries and economies can achieve high average performance without having wide disparities in student performance. The education systems in Korea and Shanghai-China, for example, not only have above-average performance in reading, but also relatively small differences between the scores of the highest- and the lowest-achieving students. They are not the only education systems that share this profile: in 10 out of the 17 countries and economies that have above-average performance in reading, variations in performance are smaller than the average variation observed across OECD countries.

PISA IN FOCUS

Variation in student reading performance between and within schools

Expressed as a percentage of the variation in student performance across OECD countries



Individual schools perform very differently from each other…

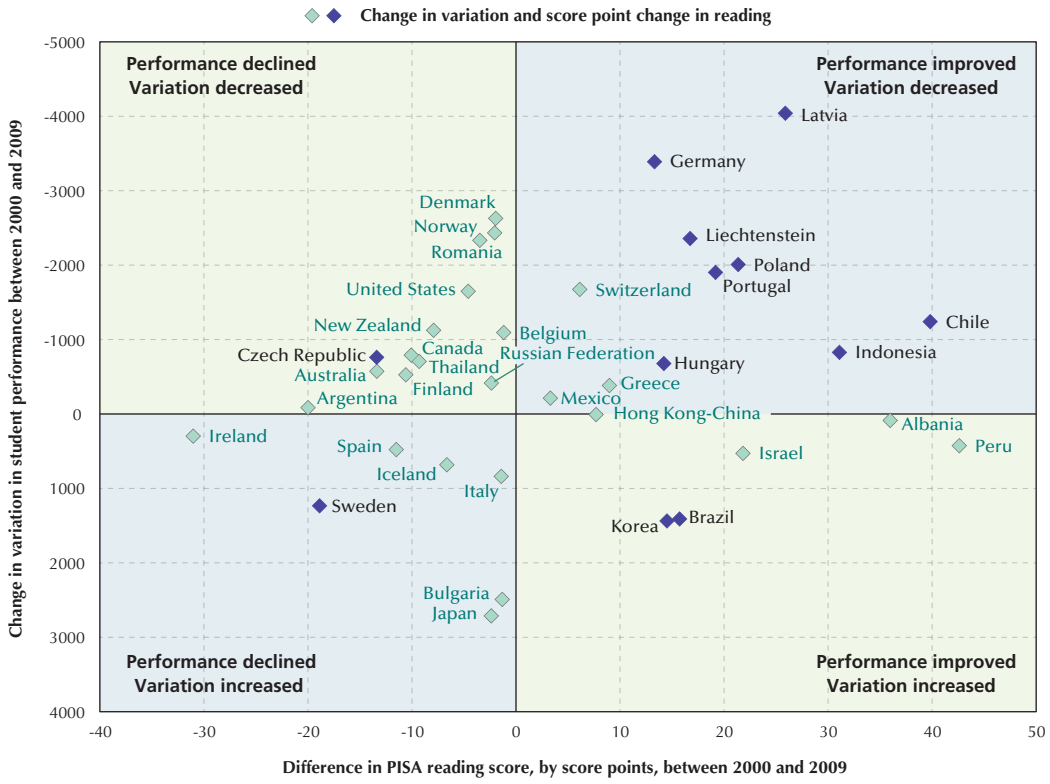
Countries and economies differ in the source of variations in student performance. Do the variations stem from differences in the performance of students who attend the same school, or between students in different schools? Across OECD countries, around 60% of the overall, country-level variation in student performance can be traced to differences in how well students who attend the same school can be expected to perform, while around 40% of the overall variation can be ascribed to differences in the expected performance of students who attend different schools. Among high-performing countries, considerable between-school variation is found in only three countries: Belgium, Japan and the Netherlands. Between-school differences account for as little as 8% of the variation in student performance in Finland, 10% in Norway, and less than 20% in Estonia, Iceland and Poland. Greater variation in performance among schools does not necessarily imply greater inequities between them; but wide disparities in student and school performance can signal unacceptable social inequities if those differences are related to school or student characteristics, such as socio-economic status, immigrant background or the language spoken at home.

Note: *Countries are ranked in descending order of the between-school variation.*

Source: OECD PISA 2009 database, Table II.5.1.

StatLink http://dx.doi.org/10.1787/888932343627

Changes in overall reading performance and in variation in student performance between 2000 and 2009



Note: *Countries in which both the change in variation and the score-point change in reading are statistically significant are marked in a darker tone.*
Source: OECD PISA 2009 database, Tables V.2.1 and V.4.1.
StatLink http://dx.doi.org/10.1787/888932360005

...and some education policies widen those differences.

Differences in performance between schools can result from many factors. These include socio-economic differences between students who attend urban schools and those who attend rural schools, and/or differences between the policies of provinces or states in federal education systems or differences in the ways national guidelines are implemented on the ground. For example, in Germany, large differences in the expected performance of students who attend different schools are related to differences in the education policies of federal states and to the education systems' policies of selecting students for different pathways through education, usually vocational or academic, based on students' marks. In Italy, variations in the expected performance of students who attend different schools are often related to differences in the profiles of the communities the schools serve and in how national guidelines are translated into practice in different regions. Variations can also be linked to school-system characteristics that are more difficult to quantify, such as differences in the quality or the effectiveness of the instruction provided.

Improving a country's performance can be achieved by improving all students' performance.

PISA also tracks how variations in student performance have evolved over time. Across OECD countries, the average variation in student reading performance narrowed by 3% between 2000 and 2009, because most of the countries that improved their performance during that period did so by improving the performance among low-achieving students. Among the countries whose average reading performance changed between 2000 and 2009, Chile, Germany, Hungary, Indonesia, Latvia, Liechtenstein, Poland and Portugal recorded marked improvements in average performance and substantial decreases in the variation of student performance. Korea and Brazil saw both improvements in average performance and increases in the variation in student performance. In Sweden, average performance declined over the period as variation in student performance increased, while in the Czech Republic, the levels of both average performance and overall variation decreased. The relative proportions of between- and within-school variation remained similar for most countries between 2000 and 2009. Of the countries that saw improvements in performance during that period, only Poland recorded a marked decrease in between-school variation, while Sweden recorded a large increase.

The bottom line: A country's or economy's overall performance in PISA is only one measure of the effectiveness of its education system. The degree of variation in student performance within a school and between schools gives a much clearer indication of the extent to which the education system succeeds in offering a quality education to all of its students. PISA results show that high performance or rapid improvements can be achieved without widening the gap in performance between the highest- and lowest-achieving students.

For more information

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See OECD (2010), *PISA 2009 Results: Overcoming Social Background: Equity in Learning Opportunities and Outcomes,* (Volume II), PISA, OECD Publishing.

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