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PISA in Focus

Where did reading proficiency improve over time?

Programme for International Student Assessment

OECD
BETTER POLICIES FOR BETTER LIVES

Where did reading proficiency improve over time?

- Eighteen long-time participants in PISA saw improvements, on average, in their students' reading performance since their first participation in PISA in the 2000s: Singapore improved over its (already) high performance in 2009; Estonia, Germany, Macao (China) and Poland moved from average or below-average performance in their first participation to above-average performance in more recent assessments; Portugal caught up to the OECD average between 2000 and 2018; and Albania, Chile, Colombia, Israel, Jordan, the Republic of Moldova, Montenegro, Peru, Qatar, Romania, the Russian Federation and Serbia moved closer to the OECD average over time.
- Six more countries – Argentina, the Czech Republic, Ireland, Slovenia, Sweden and Uruguay – moved to a more positive trajectory in recent years after a period of stagnation or decline.
- Of the ten countries where reading performance declined over time (including Sweden, where the recent recovery did not entirely offset the decline observed between 2000 and 2012), most witnessed the steepest declines among their weakest students. In particular, mean performance declined, and performance gaps widened, in Australia, Finland, Iceland, Korea, the Netherlands, the Slovak Republic and Sweden.

Evolving technologies have changed the ways people read and exchange information, whether at home, at school or in the workplace. When PISA assessed 15-year-olds' reading literacy for the first time, in 2000, only in two countries – Canada and Norway – did more than 50% of the population use the Internet. In 2009, about 15% of students in OECD countries, on average, reported that they did not have access to the Internet at home. By 2018, that proportion had shrunk to less than 5%. The growth in access to online services is likely to be even larger than suggested by these percentages, which hide the exponential growth in the quality of Internet services and the explosion of mobile Internet services over the past decade.

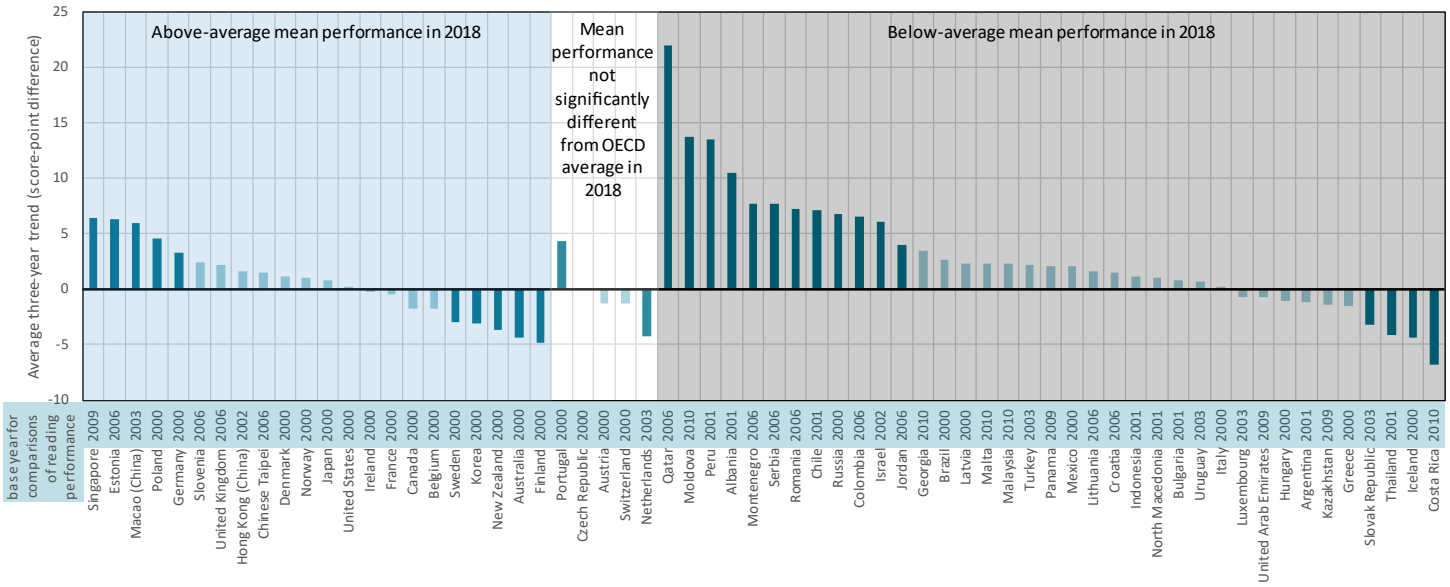
In many respects, the challenges that readers encounter today, in a highly digitalised environment, are greater than those encountered in the world of printed books, manuals and newspapers. To navigate successfully the information provided in electronic text formats, people need to use complex strategies to analyse, synthesise, integrate and interpret relevant information from multiple sources when they read. But are students – and education systems – rising to the challenge of mastering reading skills for the digital age?

In a majority of countries and economies, mean reading performance neither improved nor declined since the 2000s

Some 64 countries and economies can compare the reading performance of their students in PISA 2018 to the reading performance of 15-year-old students in 2009 or in earlier PISA assessments. An improving trend in mean reading performance could be observed in only 18 countries and economies; a declining trend was observed in 10 countries and economies. In the majority of countries, as well as on average across OECD countries, reading performance remained stable, or moved with no clear direction of change.

Trend in mean reading performance

Average rate of change per three-year period



Notes: Only countries that participated in PISA 2018 and at least one assessment prior to 2010 are included in the figure.
Statistically significant trends are shown in a darker tone.
Countries and economies are grouped by performance in 2018 (above, around, and below the OECD average) and ranked in descending order of the average rate of change per three-year period.
Source: OECD, PISA 2018 Database, Table I.B1.10.
Statlink: *https://doi.org/10.1787/888934029090*

A majority (56) of these 64 countries and economies can compare their reading performance over 5, 6 or 7 assessments, spanning a period of 12 years or longer. But over such a long period, not all trajectories have been linear.

Jordan, Macao (China) and Russia saw a positive and accelerating trend in reading: student performance improved over time, and more so in recent PISA cycles than in earlier PISA cycles. In contrast, Korea, the Netherlands and Thailand had a negative and accelerating trend in reading: student performance declined over time, with most of the decline observed over the most recent period.

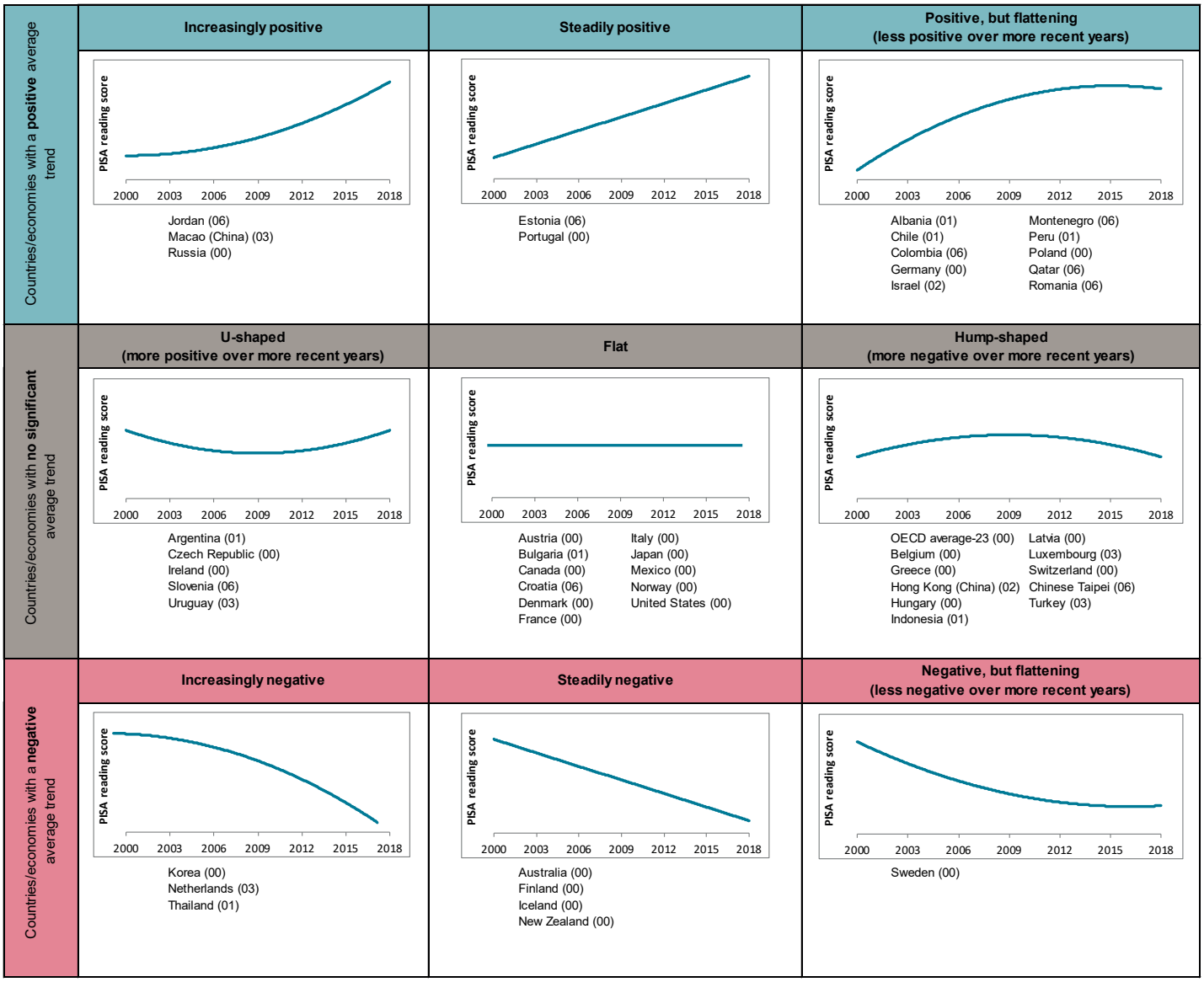
Improvements were more steady over the entire period in Estonia and Portugal. In contrast, in Albania, Chile, Colombia, Germany, Israel, Montenegro, Peru, Poland, Qatar and Romania, the overall trend was positive, but most of the improvement was observed over the early PISA assessments.

Even countries with no significant average trend may have seen a temporary slump in performance followed by a recovery, or a temporary improvement, followed by a return to prior levels of performance. Several countries/economies were able to move to a more positive trajectory in recent years after a period of stagnation or decline. Sweden showed an improving trend in reading between 2012 and 2018, reversing much of the earlier declines in mean performance. In addition, a U-shaped trajectory in mean reading performance was observed in Argentina, the Czech Republic, Ireland, Slovenia and Uruguay. Meanwhile, the trajectory of performance in 10 countries/economies described a reverse arc – and became more negative over more recent years (without, however, resulting in an overall negative trend). This was observed in Belgium, Greece, Hong Kong (China), Hungary, Indonesia, Latvia, Luxembourg, Switzerland, Chinese Taipei and Turkey.

In many countries and economies mean reading performance did not show significant improvement or deterioration over time, and performance remained stable (or oscillated around a stable mean) over at least five PISA assessments. Such a non-significant trajectory was observed in Austria, Bulgaria, Canada, Croatia, Denmark, France, Italy, Japan, Mexico, Norway and the United States.

Long-term trajectories of average performance in reading across PISA assessments

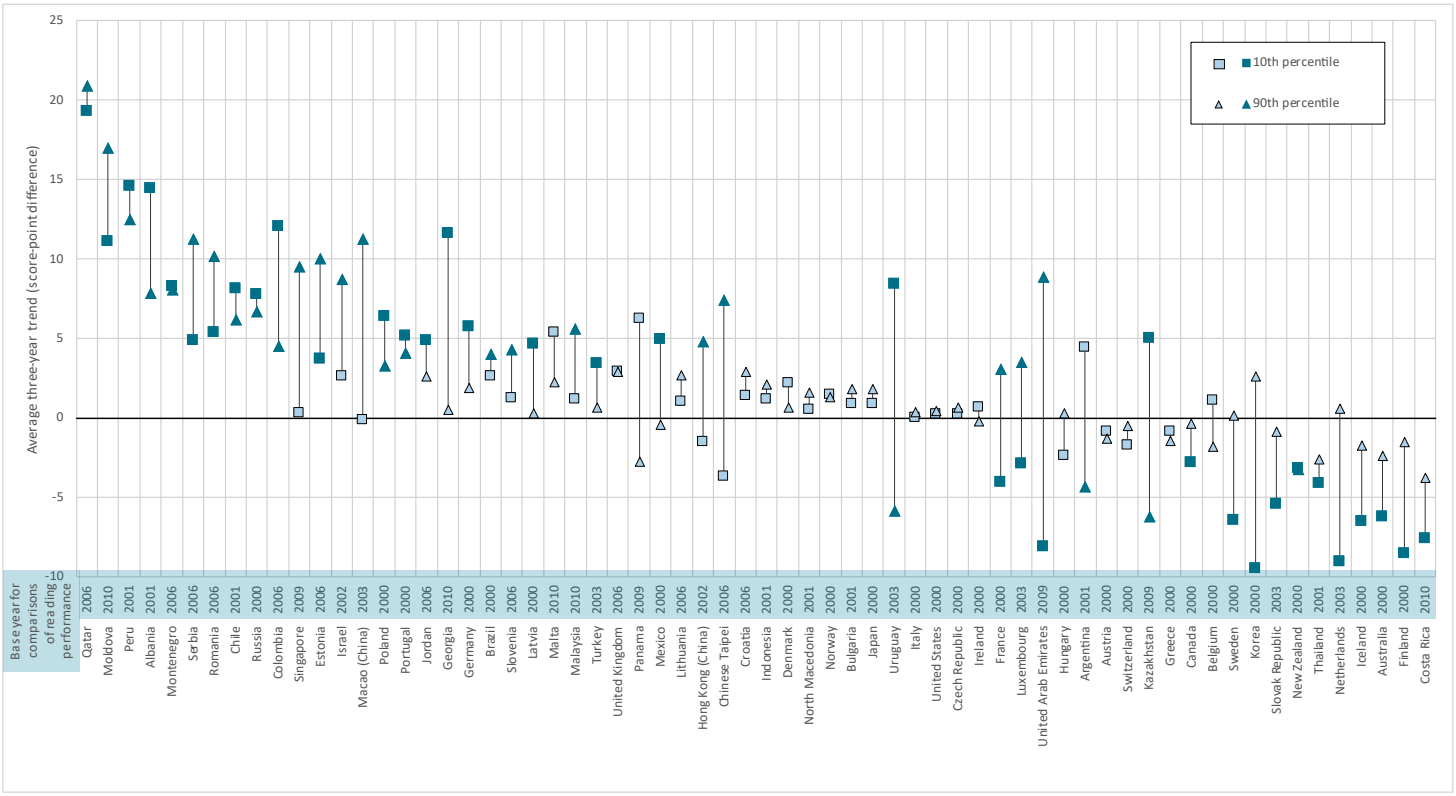
Direction and trajectory of trend in mean performance



Notes: Figures are for illustrative purposes only; actual trendlines for each country/economy are available at http://www.oecd.org/pisa/publications/pisa-2018-snapshots.htm. Countries and economies are grouped according to the overall direction of their trend (the sign and significance of the average three-year trend) and to the rate of change in the direction of their trend (the sign and significance of the curvature in the estimate of quadratic trends). Only countries and economies with data from at least five PISA reading assessments are included. Not all countries and economies can compare their students' performance over the same period. For each country/economy, the base year, starting from which reading results can be compared, is indicated in parentheses next to the country's/economy's name ("00" = 2000, "01" = 2001, etc.). Both the overall direction and the change in the direction may be affected by the period considered.
OECD average-23 refers to the average of all OECD countries with valid data in all seven assessments; Austria, Chile, Estonia, Israel, Luxembourg, the Netherlands, the Slovak Republic, Slovenia, Spain, Turkey, the United Kingdom and the United States are not included in this average.
Source: OECD, PISA 2018 Database, Table I.B1.10.
Statlink: *https://doi.org/10.1787/888934028729*

Where did performance gaps widen and where did they shrink?

Average rate of change in performance at the top (90th percentile) and bottom (10th percentile) of the performance distribution



Notes: Only countries that participated in PISA 2018 and at least one assessment prior to 2010 are included in the figure.
Statistically significant trends are shown in a darker tone. The difference between a significant and a non-significant trend does not always correspond to a significant difference.
Countries and economies are ranked in descending order of the trend in mean performance.
Source: OECD, PISA 2018 Database, Table I.B1.13.
Statlink: https://doi.org/10.1787/888934029090

In countries where performance declined, the steepest declines were often among the weakest students

Of the ten countries where reading performance declined over time, many witnessed the steepest declines among their weakest students. In Australia, Costa Rica, Finland, Iceland, Korea, the Netherlands, the Slovak Republic, Thailand and Sweden, performance remained stable over time among the highest-performing students, but performance declined among the lowest-performing students. As a result, performance gaps widened in these countries, and significantly so in Australia, Finland, Iceland, Korea, the Netherlands, the Slovak Republic and Sweden.

Meanwhile, among countries and economies that saw either improving or stable trends, no typical pattern of widening or shrinking performance gaps could be observed. Gaps between high- and low-performing students widened in some countries/economies, including in Macao (China), Singapore and the United Arab Emirates, where performance improved faster among high-performing students; but they shrank in a number of others, including, for example, Albania, Argentina and Latvia, and remained stable in most countries/economies.

The bottom line

Over the past 20 years, the importance of becoming a good reader in order to develop one's knowledge and potential has not diminished. But how and what people read has changed dramatically since 2000. Written information now involves not only ink on the printed page; most of the time, it involves electronic signals on screens.

The good news is that in almost all countries/economies, high-performing students are expanding their repertoire of skills as the demand for more complex reading processes increases. However, trends in achievement among low-performing students, and the widening of performance disparities in many countries, are worrying. Students who need extra support and attention must be identified early on, to ensure that learning gaps observed today don't widen into larger social and economic inequalities in the future.

For more information

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See: OECD (2019), "Which countries have improved and which countries have declined in performance over their participation in PISA?", in *PISA 2018 Results (Volume I): What Students Know and Can Do*, OECD Publishing, Paris

https://doi.org/10.1787/cf74dac9-en

Coming next month: Are students' career expectations aligned with their skills?

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