Reader’s Guide

Data underlying the figures
The data referred to in this report are presented in tables available on line and listed in Annex B.

Three symbols are used to denote missing data:

- **c** There are too few observations or no observation to provide reliable estimates (i.e. there are fewer than 30 students or fewer than 5 schools with valid data).
- **m** Data are not available. These data were not submitted by the country or were collected but subsequently removed from the publication for technical reasons.
- **w** Data have been withdrawn or have not been collected at the request of the country concerned.

Country coverage
This publication features data on 72 countries and economies, including all 36 OECD countries and 36 partner countries and economies.

Lithuania acceded to the OECD on 5 July 2018 and was not an OECD member at the time this publication was prepared. Accordingly, Lithuania is shown as a partner country and is not included in the OECD average.

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.

Two notes were added to the statistical data related to Cyprus:

**Note by Turkey:** The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the “Cyprus issue”.

**Note by all the European Union Member States of the OECD and the European Union:** The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

...
B-S-J-G (China) refers to the four PISA-participating Chinese provinces of Beijing, Shanghai, Jiangsu and Guangdong.

FYROM refers to the Former Yugoslav Republic of Macedonia.

For the countries below, when results are based on students’ or school principals’ responses (see Annex A4 of Volume I [OECD, 2016(1)] for more information):

Argentina: Only data for the adjudicated region of Ciudad Autónoma de Buenos Aires (CABA) are reported in figures and in the text. Results for Argentina are reported in tables only.

Kazakhstan: Results for Kazakhstan are reported in tables only.

Malaysia: Results for Malaysia are reported in tables only.

**International averages**

The OECD average corresponds to the arithmetic mean of the respective country estimates. It was calculated for most indicators presented in this report. For some indicators, data may not be available for all countries, or specific categories may not apply. Readers should, therefore, keep in mind that the term “OECD average” refers to the OECD countries included in the respective comparisons. In cases where data are not available or do not apply to all sub-categories of a given population or indicator, the “OECD average” may be consistent within each column of a table but not necessarily across all columns of a table.

In analyses involving data from multiple years, the OECD average is reported on consistent sets of OECD countries, and several averages may be reported in the same table. For instance, the “OECD average-35” refers to the average across all 35 OECD countries, and is reported as missing if fewer than 35 OECD countries have comparable data; the “OECD average-34” includes only 34 OECD countries that have non-missing values across all the assessments for which this average itself is calculated. This restriction allows for valid comparisons of the OECD average across the same countries over time. As noted previously, Lithuania was not an OECD member at the time this publication was prepared. Accordingly, Lithuania is not included in the OECD average.

**Rounding figures**

Because of rounding, some figures in tables may not add up exactly to the expected totals. Totals, differences and averages are always calculated on the basis of exact numbers and are rounded only after calculation.

All standard errors in this publication have been rounded to one or two decimal places. Where the value 0.0 or 0.00 is shown, this does not imply that the standard error is zero, but that it is smaller than 0.05 or 0.005, respectively.
**Reporting student data**
The report uses “15-year-olds” as shorthand for the PISA target population. PISA covers students who are aged between 15 years 3 months and 16 years 2 months at the time of assessment and who are enrolled in school and have completed at least 6 years of formal schooling, regardless of the type of institution in which they are enrolled, whether they are in full-time or part-time education, whether they attend academic or vocational programmes, and whether they attend public or private schools or foreign schools within the country.

**Reporting school data**
The principals of the schools in which students were assessed provided information on their schools’ characteristics by completing a school questionnaire. Where responses from school principals are presented in this publication, they are weighted so that they are proportionate to the number of 15-year-olds enrolled in the school.

**Focusing on statistically significant differences**
This report discusses only statistically significant differences or changes (at the 5% level of significance), unless explicitly stated. These are denoted in darker colours in figures and in bold font in tables.

**Abbreviations used in this report**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dif.</td>
<td>Difference</td>
</tr>
<tr>
<td>% dif.</td>
<td>Percentage-point difference</td>
</tr>
<tr>
<td>% pts</td>
<td>Percentage points</td>
</tr>
<tr>
<td>Score dif.</td>
<td>Score-point difference</td>
</tr>
<tr>
<td>S.D.</td>
<td>Standard deviation</td>
</tr>
<tr>
<td>S.E.</td>
<td>Standard error</td>
</tr>
<tr>
<td>ESCS</td>
<td>PISA index of economic, social and cultural status</td>
</tr>
<tr>
<td>ISCED</td>
<td>International Standard Classification of Education</td>
</tr>
<tr>
<td>ISCO</td>
<td>International Standard Classification of Occupations</td>
</tr>
<tr>
<td>ISEI</td>
<td>International Socio-Economic Index of Occupational Status</td>
</tr>
</tbody>
</table>

**Categorising students and schools according to their socio-economic profile**
PISA classifies students into several categories according to their socio-economic status. For the purpose of the analyses in this report two different definitions were used. The first definition (used in Chapters 2 to 4) identifies:

- **Socio-economically disadvantaged students** as those whose value on the PISA index of economic, social and cultural status (ESCS) is among the bottom 25% of students within their country or economy.
- **Socio-economically advantaged students** as those whose ESCS is among the top 25% of students within their country or economy.
The same logic is employed for the socio-economic profile of schools:

- **Socio-economically disadvantaged schools** are schools in the bottom 25% of the national distribution of the school-level ESCS index, which is calculated as the average ESCS index among students in a school.

- **Socio-economically advantaged schools** are schools in the top 25% of the national distribution of the school-level ESCS index.

In some analyses included in this report (as in the sections “Genesis and growth of the achievement gap during students’ lives” and “Equity in the attainment of upper secondary and tertiary education” in Chapter 2; and throughout Chapter 5), alternative definitions were used to identify advantaged and disadvantaged students. Socio-economic status in these analyses is measured by parents’ education or by the number of books at home:

- Socio-economically disadvantaged students are those with fewer than 100 books in their home/whose parents did not complete tertiary education.

- Socio-economically advantaged students are those with more than 100 books in their home/with at least one parent who completed tertiary education.

The definitions of the socio-economic profiles of schools in Chapter 5 are related to the socio-economic status of students:

- Disadvantaged schools are those where the share of students with tertiary-educated parents is in the bottom quarter of the national distribution.

- Advantaged schools are those where the share of students with tertiary-educated parents is in the top quarter of the national distribution.

**Further documentation**

For further information on the PISA assessment instruments and the methods used in PISA, see the *PISA 2015 Technical Report* (OECD, 2017[2]).

**Statlinks**

This report uses the OECD StatLinks service. Below each table and chart is a URL leading to a corresponding Excel™ workbook containing the underlying data. These urls are stable and will remain unchanged over time. In addition, readers of the e-books will be able to click directly on these links and the workbook will open in a separate window, if their Internet browser is open and running.

**Reference**


