



EU-27 Education Systems (EU27-ES) database

June 2025

The EU27-ES database provides a structured and harmonised collection of indicators describing the evolution of education systems across 27 European Union countries from 1995 to 2024. It has been conceived to support academic research in comparative education, economics of education, and public policy analysis by offering consistent and long-term data suitable for both cross-sectional and panel analyses.

The EU27-ES database focuses on the 27 countries that currently form the European Union, excluding non-member countries. Covering a continuous 30-year period from 1995 to 2024, the dataset includes annual observations for each of the following EU Member States: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden. The longitudinal scope enables the identification of both long-term trends and structural discontinuities within and across national education systems.

Item	Value
Countries included	27 (EU)
Years analysed	1995 - 2024
Number of variables	391
Total number of observations	739

The construction of the database is based on the integration of official secondary sources. The majority of indicators are derived from Eurostat, complemented by variables from the OECD (including data from *Education at a Glance*, PISA indicators, and youth transitions), the IEA (notably TIMSS and PIRLS achievement data), the World Bank (including UNESCO and ILOSTAT datasets), and additional academic repositories such as Scopus (SciVal). The selection criteria prioritised data reliability, temporal coverage, and international comparability. For transparency and reproducibility, all indicators include hyperlinks to their original sources.

The EU27-ES database includes a total of 391 variables, drawn from the full range of institutional sources previously mentioned (Eurostat, OECD, IEA, World Bank/UNESCO/ILOSTAT, and Scopus). These variables are organised according to a thematic structure detailed in the accompanying [*codebook*](#), which is provided as an Excel file composed of three distinct sheets.

The first sheet, titled "**Summary**", provides a general overview of the sources used. It lists the database codes for each group of variables, along with the corresponding Digital Object Identifier (DOI), the date of data

extraction, and the institutional source from which each dataset was obtained. The second sheet, "**Structure**", acts as a thematic index of the database. It groups variables by domain (e.g. enrolment, performance, expenditure) and serves as a navigational shortcut to quickly identify relevant sections in the full codebook. Given that the complete variable list spans over 340 rows, this intermediate structure improves usability and thematic clarity. The third and main sheet is the actual "**Codebook**", which contains the full list of variables, each accompanied by its code, label, and detailed description. For each variable, the associated DOI is also provided. In cases where two DOIs are listed, this indicates that the variable was constructed by merging two separate datasets – this occurs exclusively with Eurostat data, and reflects the methodological effort to build continuous time series from datasets published under different ISCED classification frameworks (pre- and post-2012).

The database covers a broad spectrum of thematic domains relevant to education systems, including public investment in education, enrolment patterns, educational attainment, and labour market outcomes by qualification level. It also includes information on teaching staff and personnel, school infrastructure, and student achievement in international large-scale assessments, i.e., PISA, TIMSS, and PIRLS. In addition, a range of contextual indicators related to demographic, socio-economic, and regional characteristics is included. Where data availability permits, indicators are disaggregated by sex, age cohort, educational level, or institutional setting, allowing for a nuanced analysis of trends and inequalities across time and space. A more detailed specification of the variable groups is provided in the following section of this report.

A substantial share of the variables in the EU27-ES database derives from Eurostat, whose education datasets underwent a major revision following the introduction of the ISCED 2011 classification (implemented from 2012 onwards). The International Standard Classification of Education (ISCED) provides a framework to categorise educational programmes across countries and levels. The reform introduced greater granularity, particularly in pre-primary, upper-secondary, and post-secondary non-tertiary education, enabling more accurate cross-national comparisons. For each Eurostat indicator, two separate data series exist, one covering the years prior to 2012, and one post-2012, based on the new ISCED framework. In the construction of the EU27-ES database, whenever feasible, these two series were merged to provide a continuous time series over the full 1995-2024 period. Where such alignment was not possible, the database includes only the post-2012 series, given its higher internal coherence and greater disaggregation (e.g., by ISCED level and age group). This approach preserves the quality and reliability of the data, even at the cost of limiting historical coverage for certain indicators.

Thematic structure of the EU27-ES database

1. Achievements

- *PISA*: Results from the Programme for International Student Assessment, assessing competencies of 15-year-olds in reading, mathematics, and science.
- *TIMSS*: Trends in International Mathematics and Science Study, measuring student performance in Grades 4 and 8.
- *PIRLS*: Progress in International Reading Literacy Study, focusing on reading skills of Grade 4 students.

2. Students

- *Enrolment*: Data on student participation across ISCED levels, disaggregated by age, gender, and education level.

- *Graduates*: Statistics on the number and share of students completing specific education cycles.

3. Results

- *Employment rate*: Share of individuals employed by educational attainment level.
- *NEET*: Youth (15–29) not in education, employment, or training.
- *Low achievement*: Proportion of students performing below baseline proficiency in international assessments in PISA test.
- *Early leavers*: Students who leave education and training prematurely (before completing upper secondary education).

4. Human Resources

- *Teachers*: Indicators on number of teaching staff and academic staff.

5. Scopus

- *Scholarly output*: Volume of academic publications.
- *Citation*: Impact of publications as measured through citation indices.
- *Collaboration*: International or institutional collaboration in scientific production.

6. Expenditure

- *COFOG*: Government expenditure on education based on the Classification of the Functions of Government.
- *As GDP*: Education spending as a share of national GDP.
- *Per student*: Expenditure per enrolled student.
- *PPS*: Purchasing Power Standards to adjust for cost-of-living differences.
- *Funding*: Composition and sources of educational funding.
- *Financial aid*: Public support mechanisms such as grants and subsidies to students or families.
- *Tertiary*: Expenditure and funding structures in higher education.

7. Contextual Factors

- *Gross enrolment ratio*: Enrolment as a percentage of the population in the official age group.
- *School life expectancy*: Expected number of years a child will spend in formal education.
- *Labour force*: Indicators on the size and characteristics of the active population.
- *GDP per capita*: Economic output per person.
- *Population*: Demographic indicators including school-age cohorts.
- *Final consumption*: Total consumption expenditure, including private and public components.