



**unesco**

Institute for Statistics

September 2023



# Background Information on Education Statistics in the UIS Database

## Table of Contents

<b>1</b>	<b>Objective</b> .....	<b>2</b>
<b>2</b>	<b>Data releases</b> .....	<b>2</b>
<b>3</b>	<b>Data sources</b> .....	<b>3</b>
<b>4</b>	<b>Overview of SDG indicators available</b> .....	<b>5</b>
<b>5</b>	<b>UIS surveys on education</b> .....	<b>6</b>
5.1	UIS Survey of Formal Education.....	6
5.2	UOE Survey of Formal Education.....	7
5.3	UIS Survey on Literacy and Educational Attainment.....	8
<b>6</b>	<b>Dynamic templates: Indicators with data collected from national sources</b> .....	<b>8</b>
6.1	Dynamic templates, workflows and data points produced .....	8
6.2	Validation of data and statistics in the Templates: Asia Pacific first phase .....	13
<b>7</b>	<b>Household surveys</b> .....	<b>14</b>
7.1	UIS produced indicators .....	14
7.2	Household survey datasets aggregated from partners .....	15
7.2.1	<i>ECLAC (Economic Commission for Latin America and the Caribbean)</i> .....	15
7.2.2	<i>Global Education Monitoring (GEM) Report</i> .....	16
<b>8</b>	<b>Labour force surveys: Indicator 4.3.1</b> .....	<b>17</b>
<b>9</b>	<b>Learning assessments and integration of data sources</b> .....	<b>19</b>
<b>10</b>	<b>Regional averages in the September 2023 data release</b> .....	<b>20</b>
<b>11</b>	<b>External data sets: Indicators aggregated from partner agencies</b> .....	<b>21</b>
11.1	External data sets: Inputs to indicators .....	21
11.2	External data sets: Inputs to estimate indicators.....	22
11.2.1	<i>Implementing a Hybrid Population data Policy</i> .....	22
11.2.2	<i>The UNPD World Population Prospects (WPP) 2022: Major change in estimation methodology</i> .....	22
11.2.3	<i>The impact of changes to estimation methodology in WPP 2022 on school age population (SAP)</i> .....	23
<b>12</b>	<b>Economic statistics</b> .....	<b>26</b>
<b>13</b>	<b>Methodological notes for education survey data</b> .....	<b>26</b>
13.1	Countries that reported data that could not be released.....	26
13.2	Methodological notes: Non-finance indicators.....	26
13.3	Methodological notes: Education finance indicators.....	27
<b>14</b>	<b>Country notes</b> .....	<b>28</b>
<b>15</b>	<b>UIS Resources</b> .....	<b>31</b>

## 1 Objective

This document serves as a reader's guide to help data users understand and interpret the education data disseminated by the UIS. It presents the following information:

- The list of symbols accompanying data.
- The annual data release cycles.
- The data sources used by the UIS and their updates, including population and economic data used to calculate education indicators.
- Specific country notes.
- The production process for learning assessment-based indicators.

The following symbols are used:

- (...) Data not available.
- (n/a) Category not applicable.
- (n) Magnitude nil or negligible.
- (+) National estimation.
- (‡) UIS estimation (For regional averages: partial imputation due to incomplete country coverage, ranging from 33% to 60% of population, depending on the indicator).

## 2 Data releases

As of September 2018, the UIS has moved to one education data release in September of each year, with new national and regional data. National data are also updated in February, completing the UIS publication of educational data for the round of surveys conducted in the previous reference year.

This release includes data collected from UIS surveys of national authorities, data processed from household surveys and learning assessments, and data collected from UIS partners. The release includes an update of country-level data as well regional averages for selected SDG 4 indicators and Other Policy Relevant Indicators (OPRI).

UIS data can be accessed in the following ways:

- [SDG 4 Data Explorer](#) on SDG 4 indicators provides easy to navigate dashboards organized by country or indicator and the possibility to download a long format database. There are tabs for regional averages and country profiles that include ISCED mappings.
- [Global Education Observatory](#) is an easy-to-use gateway to education data for the benchmark indicators<sup>1</sup>, including interactive visualizations that can be disaggregated by sex, region, and country. Data on COVID-19 are also available, as are links to other databases allowing users to access a wide array of information on equity in education (WIDE), SDG 4 indicators (SCOPE), and education levels (PEER/ISCED).

---

<sup>1</sup> The observatory currently presents seven benchmark indicators, out of a total of ten. Data on one of the remaining indicators are expected to become available in 2024. The two other remaining indicators are under development.

- [UIS data portal](#), houses internationally comparable data on all levels of education for more than 200 countries and territories. This includes country-level data as well as regional averages for Other Policy Relevant Indicators.
- [Bulk data download service](#) (BDDS) enables access to all UIS databases in comma-separated values (CSV) format. The BDDS files include both SDG 4 data and Other Policy Relevant Indicators data.
- [SDG 4 data resources](#) contains resources to visualize SDG data, benchmark data, and the repositories of national publications with administrative data on education and educational expenditure data.

Metadata for SDG 4 indicators are available at: <http://tcg.uis.unesco.org/methodological-toolkit/metadata/>

Stay informed on the latest data releases by signing up for the UIS email alert service at: <http://uis.unesco.org>

**Note:** As of 23 June 2020, the UIS SDMX API reached its End-of-Life (EOL) and is no longer up to date with the latest UIS datasets.

### 3 Data sources

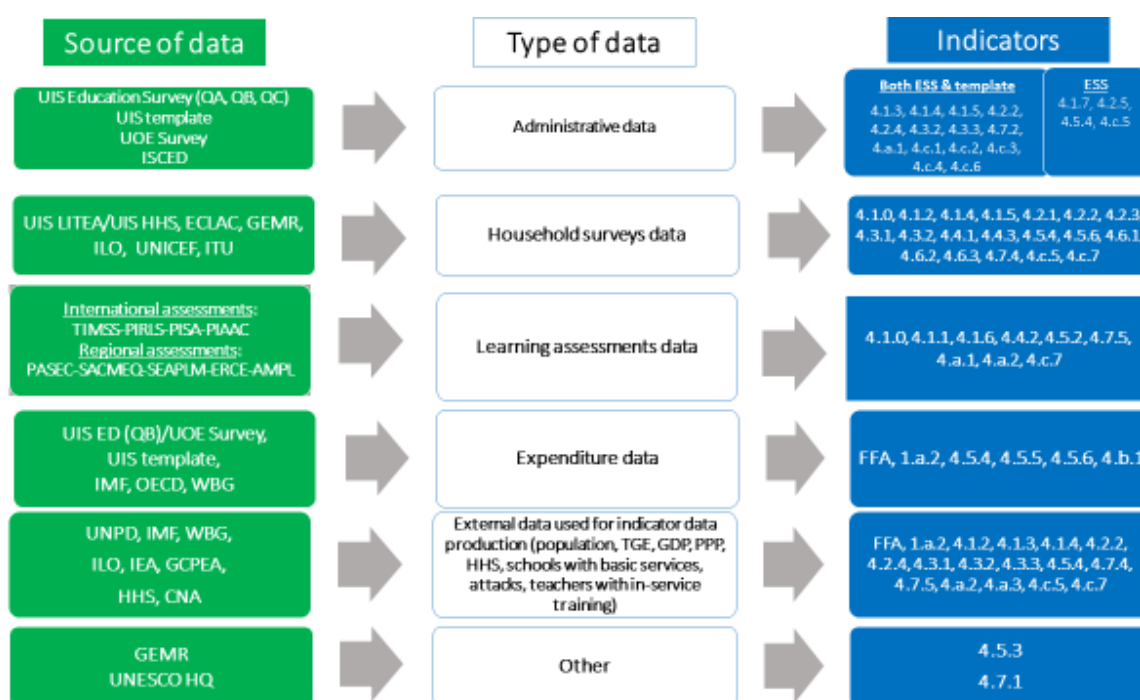
To produce internationally comparable education indicators, the UIS uses the main sources of data listed below. These data sources differ in their coverage as well as the timing and ways in which they are collected:

- **Administrative data** are based on information usually available from educational management information systems (EMIS) used by ministries of education for management and planning purposes and are typically updated on an annual basis. EMIS should typically cover many types of educational paths and levels, including early childhood education (ECE), basic education and secondary general education, higher education, and technical and vocational education and training (TVET). Most international monitoring of previous global development agendas (Education For All and the Millennium Development Goals) was based on administrative data produced by countries and compiled by international organizations on school EMIS, which has since been expanded. Although some administrative data, such as school feeding programmes and teachers' salaries, are usually available from non-EMIS sources in education ministries, these should ideally be linked to EMIS.
- **Household surveys** are an important source of data on access, participation, completion, literacy, and educational attainment. Surveys differ in terms of coverage, frequency, objectives and questionnaire design. In contrast to administrative data, they are collected less frequently, and by a variety of organizations and countries. Household survey data are usually available from non-EMIS sources outside of ministries but should also ideally be linked to EMIS.
- **Learning assessments** include national school-based assessments designed to measure specific learning outcomes at a particular age or grade considered relevant for national policymakers. They encompass cross-national initiatives (either regional or global) that are based on a common, agreed-upon framework and follow similar procedures to yield comparable data on learning outcomes. Assessment data can be collected from households. Skills surveys (ICT, literacy, etc.) can also provide relevant information on the adult population.

Learning assessments can be used to provide non-cognitive information as well, such as on home language, school infrastructure, students experiencing bullying, and teachers’ professional development.

- **Financial and expenditure data** contain information on different sources of income and expenditure, including government spending on education. This source commonly encompasses data on the construction and maintenance of schools, teacher salaries and household spending on education, such as supplies, transport and other costs. Some administrative data are typically available from non-EMIS sources within ministries but should ideally be linked to EMIS (e.g., school feeding programmes and teacher salaries), depending on how a country organizes their data.
- **Population data** are important as a source of population estimates (the number of persons by age and sex in a country). As of the September 2023 Release, the UIS is implementing a hybrid population data policy, whereby population estimates from the United Nations Population Division (UNPD) are used, but can be replaced for countries that are interested, by national population data that comply with a pre-defined data quality standards.

**FIGURE 1. MAPPING OF DATA SOURCE, DATA TYPE, AND SDG4 INDICATORS**



## 4 Overview of SDG indicators available

**TABLE 1. SUMMARY OF EDUCATION SDG INDICATORS DATA DIMENSIONS RELEASED**

Indicator	Indicator description			
	Is the indicator being reported for the first time? (Y/N)	Total number of countries for which the indicator is reported	Range of years for which data are available for the indicator	Dimensions of disaggregation
FFA	No	205	1970–2023	·
1.a.2	No	198	1970–2023	·
4.1.0	No	115	1995–2019	Sex
4.1.1	No	133	1995–2021	Sex, school location (urban/rural), socio-economic status (SES), immigrant status, language of the test at home
4.1.2	No	168	1990–2022	Sex, location (urban/rural), wealth and disability
4.1.3	No	216	1970–2023	Sex
4.1.4	No	219	1970–2023	Sex, location (urban/rural), wealth and disability
4.1.5	No	205	1970–2023	Sex, location (urban/rural), wealth
4.1.6	No	240	2014–2023	Subject (reading/mathematics)
4.1.7	No	216	1970–2023	Free and compulsory education
4.2.1	No	85	2010–2022	Sex
4.2.2	No	206	1970–2023	Sex, location (urban/rural), wealth
4.2.3	No	89	2005–2019	Sex, location (urban/rural), wealth
4.2.4	No	208	1970–2023	Sex
4.2.5	No	217	1970–2023	Free and compulsory education
4.3.1	No	158	2010–2022	Age, sex
4.3.2	No	213	1970–2023	Sex, location (urban/rural), wealth
4.3.3	No	204	1970–2023	Sex
4.4.1	No	96	2014–2021	ICT skills, sex
4.4.2	No	31	2012–2017	Sex
4.4.3	No	203	1970–2022	Sex, location (urban/rural)
4.5.1	No	225	1970–2023	Sex, location (urban/rural), wealth and disability
4.5.2	No	132	2013–2022	Sex, location (urban/rural), SES (wealthiest/poorest)
4.5.3	No	81	2020–2020	·
4.5.4	No	205	1970–2023	·
4.5.5	No	41	2010–2021	·
4.5.6	Yes	208	1970–2023	Source of funding (public, private –households; other private entities-, international -ODA; non-ODA-)
4.6.1	No	51	2006–2017	Sex, SES, native status
4.6.2	No	176	1970–2022	Sex, location (urban/rural)
4.7.1	No	70	2020–2020	·
4.7.2	No	87	2000–2023	·

Indicator	Indicator description			
	Is the indicator being reported for the first time? (Y/N)	Total number of countries for which the indicator is reported	Range of years for which data are available for the indicator	Dimensions of disaggregation
4.7.4	No	23	2016–2016	Sex, SES, location (urban/rural)
4.7.5	No	42	2015–2019	Sex, SES, location (urban/rural)
4.a.1	No	197	2000–2023	·
4.a.2	No	153	2003–2022	Sex, location (urban/rural), SES (wealthiest/poorest)
4.a.3	No	107	2013–2022	·
4.b.1	No	152	2006–2021	·
4.c.1	No	168	1970–2023	Sex
4.c.2	No	168	197–2023	·
4.c.3	No	159	1970–2023	Sex
4.c.4	No	159	1970–2023	·
4.c.5	No	55	2010–2021	·
4.c.6	No	103	1970–2023	Sex
4.c.7	No	95	2013–2022	Sex

## 5 UIS surveys on education

The UIS collects education statistics in aggregate form from official administrative sources at the national level. Collected information encompasses data on the structure of national educational programmes, access, participation, progression, teacher’s statutory compensation, school infrastructure, completion, literacy, educational attainment, and human and financial resources. These statistics cover formal education in public (or state) and private institutions (early childhood education, primary and secondary schools, and colleges, universities and other tertiary education institutions), and special needs education (both in regular and special schools).

These data are gathered annually by the UIS and its partner agencies through the following three major surveys which can be downloaded from the UIS website at <http://uis.unesco.org/en/uis-questionnaires>.

### 5.1 UIS Survey of Formal Education

The UIS education questionnaires are sent to UNESCO countries annually. The questionnaires are based on international standards, classifications, and measures that are regularly reviewed and modified by the UIS to address emerging statistical issues and improve data quality.

The Survey has the following four questionnaires:

- **UIS/ED/ISC11: National Education Systems.** This questionnaire collects information on the national education programmes and their classifications according to the 2011 revision of the [International Standard Classification of Education \(ISCED 2011\)](#).
- **UIS/ED/A: Students and Teachers (ISCED 0–4).** This questionnaire collects internationally comparable data on formal education at the early childhood, primary, secondary and post-secondary non-tertiary levels, necessary for the evaluation and monitoring of education systems worldwide. The data collected include the number of students disaggregated by education level, by type of institution, programme orientation, sex, age and grade; and data on classroom teachers by level of education and by training and qualification status, as well as their statutory salaries. The questionnaire also collects data on the number of schools with ICT services, basic hygiene facilities and the provisioning of life skills-based HIV and sexuality, as well as the number of schools with adapted infrastructures and materials for students with disabilities.
- **UIS/ED/B: Educational Expenditure (ISCED 0–8).** This questionnaire collects internationally comparable expenditure data on formal education from early childhood to tertiary education. Data are disaggregated by source of funding (government, international and private), destination of funding, by level of education, and by type of transaction and nature of expenditure.
- **UIS/ED/C: Students and Teachers (ISCED 5–8).** This questionnaire collects internationally comparable data on tertiary education. The data collected include the number of students by level of education, sex, and age; and the number of graduates by level of education and field of education. The questionnaire also collects the number of academic staff and the number of internationally mobile students.

In addition to questionnaires, the survey also provides guidelines to countries respondents to support quality data reporting.

Annual timeline of the 2023 Survey of Formal Education:

- Mail-out: 20 January 2023.
- Deadline for the submission of the non-finance data: 31 March 2023.
- Deadline for the submission of finance data: 30 April 2023.
- Formal reminders: 28 April 2023.
- Deadline for data submission to guaranty data inclusion in the September 2023 data release: 30 June 2023.
- Indicator review and validation: mid-July to mid-August 2023.
- Main data release: September 2023.
- Deadline for late data submission or updates for inclusion in the March 2024 data refresh: 2 January 2024.

## 5.2 UOE Survey of Formal Education

The UIS, the OECD and Eurostat (UOE) have jointly administered this annual data collection since 1993. The UOE questionnaire compiles data from high- and middle-income countries that are generally members or partner countries of the OECD or Eurostat. The UOE survey gathers more detailed education statistics.



### 5.3 UIS Survey on Literacy and Educational Attainment

The UIS gathers attainment data through its biennial literacy and educational attainment survey which is sent to all UNESCO countries. The questionnaires collect internationally comparable data used to calculate literacy and attainment rates as well as mean years of schooling. The data are derived from national population censuses and sample household surveys, including labour force surveys.

The UIS supplements literacy and educational attainment data provided by countries by calculating indicators based on information obtained from population censuses and international survey programmes such as the Multiple Indicator Cluster Survey (MICS) and the Demographic and Health Survey (DHS). The UIS also applies methodologies, such as the Global Age-specific Literacy Projections Model (GALP), to produce literacy estimates for years with missing data and to produce regional and global averages.

## 6 Dynamic templates: Indicators with data collected from national sources

The UIS has recently piloted an innovative and straight-forward approach to collect administrative and finance education data to support countries in the production of high-quality internationally comparable SDG 4 data and indicators.

The new approach is based on entering publicly available raw data into dynamic templates that automatically produce the related 23 indicators: 16 SDG 4 indicators and 7 OPRI indicators – or, put differently, 21 indicators on students, teachers, and schools, and 2 indicators on education expenditure.

This process allows countries to directly validate the indicators instantly generated and check their consistency over time. It also enables them to immediately view what indicators are missing, what data are needed to produce them and then to work on filling these data gaps. The templates are an excellent tool for capacity-building as they present the methodology of calculation of each indicator in detail, increasing countries' ownership of the produced data and indicators.

An interesting feature of the templates is that they offer countries the possibility of calculating population-based indicators either by using UNPD population or national population. They also let countries compare the indicators produced by the template with the ones previously published by the UIS. Finally, metadata collected in the templates may serve as a basis for a comprehensive inventory of all publicly available national publications and data sources.

### 6.1 Dynamic templates, workflows and data points produced

#### Administrative data template

The template collects data for 14 years (2010 to 2023) on students, teachers and schools. It is automatically prefilled with population data from UNPD, ISCED mapping data on the national education system (theoretical entrance age and duration of the national education programmes), and with indicator figures available at the UIS for comparison purposes. Indicators are automatically calculated with the indicator formulas embedded in the template.

The template includes the following:

- Metadata sheet: It presents the definition, calculation method and formula, and data required for every indicator; allows the comparison of UIS published indicators with the ones produced in the template from national data; and enables the selection of the source of population data (UNPD or national).
- Data source sheet: It compiles the names and links of all the national publications from which data were extracted and used to populate the template.
- Six sheets to collect students' data for each level of education from early childhood to tertiary education: data are disaggregated by age and sex in all sheets; the sheets on primary and secondary general programmes also include data disaggregated by grade and data on repeaters.
- A sheet to collect teachers' data from pre-primary to upper secondary education: data are disaggregated by sex and status of teachers (trained/qualified/newly recruited).
- A sheet to collect data on basic services in schools from primary to upper secondary education: electricity, internet and computers for pedagogical purposes, infrastructure and materials for students with disabilities, basic drinking water, single-sex basic sanitation facilities, basic handwashing facilities and life skills-based HIV and sexuality education.
- Two sheets with population data (national sources and UNPD): In the same sheets, the school-age population is calculated based on the population data and the national education system data (age of entry into a level, duration of level) should the country be interested in inputs their own national population estimates.
- Twenty-one sheets which contain the embedded formulas for the calculation of SDG 4 and OPRI indicators (See **Tables 2** and **3**).

### Finance data template

The finance template collects data for 14 years (2010 to 2023) on government expenditure on education and total government expenditure. The template is prefilled with GDP data from the World Bank and with indicator figures available at the UIS for comparison purposes. Indicators are automatically calculated with the indicator formulas embedded in the template. The template allows the calculation of [two indicators](#): *Proportion of total government spending on essential services (education) (SDG 1.a.2)*; and *Government expenditure on education as a percentage of GDP (Education 2030 Framework for Action)*.

In addition to a metadata sheet, the template includes only one sheet of data – 'Educational expenditure'. It is enough to provide data for only two data points in this sheet to get the indicators: total government expenditure on all sectors (including education) and total government expenditure on education. The information is presented for all levels of education combined from early childhood to tertiary and for all levels of government combined – central, regional, and local. The data can be provided based on the revised estimates/budget or actual expenditure. The sheet enables comparison between the indicators produced and the ones published by the UIS.

Tables 2 and 3 present the SDG 4 and OPRI indicators and variables in the administrative data and finance templates.

**TABLE 2. SDG 4 INDICATORS AND VARIABLES IN THE ADMINISTRATIVE DATA AND FINANCE DATA TEMPLATES**

Variables for SDG indicators	Administrative data template														Finance data template	
	4.1.3	4.1.4	4.1.5	4.2.2	4.2.4	4.3.2	4.3.3	4.7.2	4.a.1	4.c.1	4.c.2	4.c.3	4.c.4	4.c.6	1.a.2	% GDP
National education system	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Population data	x	x		x	x	x	x									
Enrolment by sex	x	x	x	x	x	x	x				x		x			
Enrolment by age		x	x	x	x		x									
Enrolment by grade	x		x													
Repeaters by sex and grade	x															
Teachers by sex										x		x		x		
Trained teachers by sex										x	x					
Qualified teachers by sex												x	x			
Newly recruited teachers by sex														x		
Schools by type of facility								x	x							
Educational expenditure															x	x
Total government expenditure															x	
Gross domestic product (GDP)																x

**TABLE 3. OPRI INDICATORS AND VARIABLES IN THE ADMINISTRATIVE DATA TEMPLATE**

Variables for OPRI indicators	Administrative data template						
	Number of students	Gross enrolment ratio	Total net enrolment rate	Out-of-school children	Enrolment by programme orientation	Number of teachers	Percentage of female teachers
National education system	x	x	x	x	x	x	x
Population data		x	x	x			
Enrolment by sex	x	x	x	x	x		
Enrolment by age			x	x			
Enrolment by programme orientation					x		
Teachers by sex						x	x

### Template workflows

The following workflows are implemented to produce globally comparable data:

1. Design and development of the two dynamic templates.
2. Completion of both templates with data and metadata published by countries.
3. Production of a database with data and metadata for all covered countries.
4. Creation of repositories for the official data sources available at the country level:
  - Repository of education expenditure reports:  
<https://tcg.uis.unesco.org/data-resources/repository-education-budgets/>
  - Repository of education indicators report:  
<https://tcg.uis.unesco.org/data-resources/repository-education-indicators/>
5. Curation of compiled data to remove outliers.

### Data points from the templates

**Tables 4** and **5** show the number of data points for SDG 4 indicators and OPRI by SDG region derived from the templates. These data points are included in the September 2023 data release additional to the data produced by the UIS Education Formal Questionnaire.

**TABLE 4. NUMBER OF DATA POINTS FOR SDG 4 INDICATORS BY REGION DERIVED FROM THE ADMINISTRATIVE DATA AND FINANCE DATA TEMPLATES**

SDG Region	SDG 4 indicators														Finance data template	
	Administrative data template														% GDP	1.a.2
	4.1.3	4.1.4	4.1.5	4.2.2	4.2.4	4.3.2	4.3.3	4.7.2	4.a.1	4.c.1	4.c.2	4.c.3	4.c.4	4.c.6		
Asia (Eastern and South-eastern)	518	1,159	393	205	759	249	123	79	669	707	215	549	161	206	81	52
Asia (Central and Southern)	568	1,144	489	189	742	288	99	45	660	850	244	506	158	93	84	60
Africa (sub-Saharan)	291	1,609	281	148	389	168		2	186	262	87	349	119	4	208	216
Oceania	266	554	272	84	480	18		22	337	211	54	282	63	62	57	37
Latin America and the Caribbean	58	307	141	14	181	101	6			153	41	74	25		171	160
Northern America and Europe	6	4			4	10									17	10
Asia (Western)		17	6		6	3									15	11
Africa (Northern)															20	24
World	<b>1,707</b>	<b>4,794</b>	<b>1,582</b>	<b>640</b>	<b>2,561</b>	<b>837</b>	<b>228</b>	<b>148</b>	<b>1,852</b>	<b>2,183</b>	<b>641</b>	<b>1,760</b>	<b>526</b>	<b>365</b>	<b>653</b>	<b>570</b>

**TABLE 5. NUMBER OF DATA POINTS FOR OPRI INDICATORS BY REGION DERIVED FROM THE ADMINISTRATIVE DATA TEMPLATE**

SDG Region	Other Policy Relevant Indicators (OPRI)							
	Distribution of enrolment by programme orientation	Gross enrolment ratio	Number of students	Number of teachers	Out-of-school children	Percentage of female teachers	Total net enrolment rate	Gov. exp. on education as a % of GDP (by education level)
Asia (Eastern and South-eastern)	724	2,249	2,427	1,023	1,250	340	735	270
Asia (Central and Southern)	705	1,534	2,646	1,213	1,268	384	636	274
Africa (sub-Saharan)	681	1,597	1,982	430	1,639	139	940	246
Oceania	299	675	1,095	347	566	112	260	100
Latin America and the Caribbean	328	854	966	284	355	71	234	224
Northern America and Europe	101	304	223	36	4	12	6	35
Asia (Western)	46	44	50	6	17		17	
Africa (Northern)								
<b>World</b>	<b>2,884</b>	<b>7,257</b>	<b>9,389</b>	<b>3,339</b>	<b>5,099</b>	<b>1,058</b>	<b>2,828</b>	<b>1,149</b>

## 6.2 Validation of data and statistics in the Templates: Asia Pacific first phase

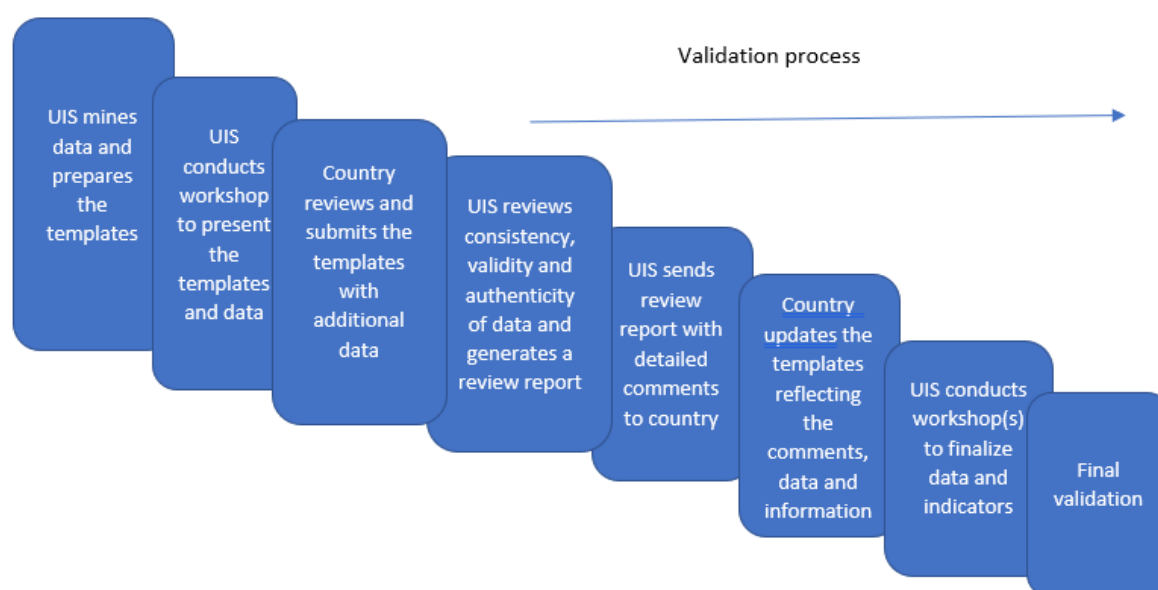
The piloting of the new education templates have been continued and the countries that have validated their data through them are: Bangladesh, Bhutan, India, Kazakhstan, Kyrgyzstan, Maldives, Nepal, Pakistan, Sri Lanka, Uzbekistan (Central and Southern Asia), Brunei Darussalam, Cambodia, Lao People's Democratic Republic, Malaysia, Mongolia, Philippines, Thailand, Timor-Leste, Viet Nam (Eastern and South-Eastern Asia), Fiji, Micronesia (Federated States of), Samoa, Tonga, and Vanuatu (Oceania).

It is necessary that the data input into the templates through data mining and data provided by country focal points are validated properly with countries. In this regard, a UIS team carefully reviewed the templates submitted by the countries and checked the consistency of the data with historical data and metadata. In addition, the team also ran a series of data checks to ensure data quality and validity. Based on this validation process, a review report was prepared with detailed comments and suggestions on the data provided and sent to the countries to provide more data and explanation, including data sources, reference documents, and available metadata at the national level, as pointed out in the review.

Countries reviewed the report and provided additional data and information. At least one follow-up meeting was organized to review the updated data and statistics in the template. Based on the discussion, countries provided additional data, revised previous submissions and information, and finalized the template in consultation with their senior officials.

The UIS Regional Field Network is crucial for an efficient and quality validation process. During the validation process, UIS field offices worked closely with country focal points to compile data from various sources and ensure the data provided are accurate and valid. UIS field offices were regularly in touch with country focal points through various channels to support completion of the templates and their validation.

**FIGURE 2. UIS VALIDATION PROCESS**



## 7 Household surveys

### 7.1 UIS produced indicators

For the indicators listed below, some national values **are calculated by the UIS from household survey** and population census data. Observations derived from survey and census data are identified as such in the UIS database.

- SDG Indicator 4.1.5: Percentage of children over-age for grade (primary education, lower secondary education)
- SDG Indicator 4.3.1: Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex.
- SDG Indicator 4.3.2: Gross enrolment ratio for tertiary education, by sex.
- SDG Indicator 4.4.3: Educational attainment rates by level of education
- SDG Indicator 4.5.1: Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated.

- SDG Indicator 4.5.4: Education expenditure per student by level of education and source of funding.
- SDG Indicator 4.5.6: Expenditure on education by source of funding (public, private, international) as a percentage of GDP

## 7.2 Household survey datasets aggregated from partners

Two data sets are produced by partners and aggregated in the UIS database: the data set from ECLAC and the data set from the GEM Report.

### 7.2.1 ECLAC (*Economic Commission for Latin America and the Caribbean*)

The indicators below produced by ECLAC based on household surveys were aggregated in the database:

- SDG Indicator 4.1.2: Completion rate (primary education, lower secondary education, upper secondary education).
- SDG Indicator 4.1.4: Out-of-school rate (one year before primary, primary education, lower secondary education, upper secondary education).
- SDG Indicator 4.1.5: Percentage of children over-age for grade (primary education and lower secondary education).
- SDG Indicator 4.2.2: Participation rate in organized learning (one year before the official primary entry age), by sex.
- SDG Indicator 4.3.2: Gross enrolment ratio for tertiary education, by sex.
- SDG Indicator 4.6.2: Youth/adult literacy rate.
- OPRI indicator 'Total Net Attendance Rate'.

ECLAC produced a dataset with the following indicators<sup>2</sup>:

- Completion rates (CR) by level of education (ISCED 1, 2 and 3).
- Net attendance rates (NAR) by level of education (ISCED 1, 2 and 3).
- Total net attendance rates (TNAR) by level of education (ISCED 2 and 3).
- Out-of-school rate (OOSR) by level of education (ISCED 1, 2 and 3).
- Participation rate in organized learning one year before the official primary entry age.
- Gross enrolment ratio for tertiary education.
- Percentage of children over-age for grade (ISCED 1 and 2)
- Youth/adult literacy rate

All indicators are disaggregated by sex, income quintiles, urban and rural areas, and include the corresponding parity indexes for the respective dimensions.

Countries processed by ECLAC include: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela. The latest available data corresponds to the year 2021, except in Chile, El Salvador and Mexico (2020), Honduras (2019), and Guatemala, Nicaragua and Venezuela (2014).

---

<sup>2</sup> This section was prepared by ECLAC.



### Note on comparability of data for 2020

Surveys collected in 2020 were subject to special conditions for the data collection, due to the pandemic and the restrictions that it implied for mobility and face-to-face interviews. During this period, most countries were able to implement the surveys using telephone interviews but faced changes in the survey sample and higher non-response rates or used modified questionnaires. These changes may affect the comparability of data with previous years.

Some examples include:

- Bolivia: Change in the way of collecting information on school attendance. Also, increased the number of observations of missing data.
- Colombia: March and April have fewer observations in attendance and level of education than last year.
- El Salvador: This survey did not collect information between April and June.

### 7.2.2 Global Education Monitoring (GEM) Report

The indicators below were aggregated in the UIS release database<sup>3</sup>:

- SDG Indicator 4.1.2: Completion rate (primary education, lower secondary education, upper secondary education).
- SDG Indicator 4.1.4: Out-of-school rate (primary education, lower secondary education, upper secondary education).
- SDG Indicator 4.1.5: Percentage of children over-age for grade (primary education).
- SDG Indicator 4.2.2: Participation rate in organized learning (one year before the official primary entry age), by sex.
- SDG Indicator 4.3.2: Gross attendance ratio for tertiary education.
- SDG Indicator 4.6.2: Youth/adult literacy rate.

**Table 6** summarizes the data coverage from ECLAC and GEM Report databases:

**TABLE 6. SUMMARY OF ECLAC AND GEMR INDICATORS COVERAGE**

Indicators		Source		Countries (#)
		ECLAC	GEMR	
SDG 4	4.1.2	2000–2021	1996 and 1999–2021	156
SDG 4	4.1.4	2000–2021	2000–2022	150
SDG 4	4.1.5	2000–2021	2000–2021	116
SDG 4	4.2.2	2000–2021	2005–2016 and 2018–2021	86
SDG 4	4.3.2	2000–2021	2000–2021	142
SDG 4	4.6.2	2000–2021	2000–2001 and 2003–2021	106
OPRI	Total Net Attendance Ratio	2000–2021		18

<sup>3</sup> Data are downloaded from the World Inequality Database on Education website (<https://www.inequalities.org/>), consulted on 31 July 2023.

Finally, over 30,000 data points to report against SDG Indicator 4.1.2 on completion rates have been added using the Adjusted Bayesian Completion Rates [estimation model](#) using household survey data produced by the GEM Report.

A minority of household surveys contain information on the disability status of respondents. Currently 20 surveys provide disaggregated disability data for completion rates and out-of-school rates, where possible.

## 8 Labour force surveys: Indicator 4.3.1

SDG Indicator 4.3.1 is calculated based on the household-based survey data compiled by the Department of Statistics of the International Labour Organisation (ILO), which maintains a global database on national Labour Force Surveys or other relevant household surveys covering the labour market. The ILO database contains information on educational attendance of the working-age population aged 15 years and above, disaggregated by sex and by four main age groups: 15-24 years old, 25-54 years old, 55-64 years old, and 64 years and above. The variable of interest, educational attendance, classifies the working-age population into three mutually exclusive and exhaustive groups: (1) attending school; (2) not attending; (3) not elsewhere classified. SDG Indicator 4.3.1 is calculated for the age group 15-64 since the educational attendance estimates for most countries are zero for the age group 65 years and above. **Table 7** shows the number of data points for Indicator 4.3.1 available for each SDG region. From UIS September 2022 Data refresh to September 2023, the number of new data points increased by 11.4%. These new data points include the participation rate in formal and non-formal education by sex (total, female, male) and the corresponding adjusted gender parity index.

From 2010 to 2022, there are 185 countries for which the ILO database on educational attainment contains data for at least one year, and of which 159 have reliable data for estimating the SDG Indicator 4.3.1. **Table 8** contains detailed information on the data sources used by countries, national acronyms, and ILO acronyms. For 131 countries, the data source for SDG Indicator 4.3.1 is Labour Force Survey (LFS); for 31 countries, the data source is Household Income and Expenditure Survey (HIS); for 14 countries, the data source is Household Survey (HS); for 4 countries, the data source is Population Census.

**TABLE 7. NUMBER OF SDG 4.3.1 DATA POINTS ADDED FOR THE PERIOD 2010–2022 BY SDG REGION**

SDG region	New data points added (comparison between September 2022 and September 2023)	Total data points for SDG Indicator 4.3.1 from 2010 to 2022*	% of new data points (from September 2022 to September 2023)
Africa (Northern) and Asia (Western)	161	1,645	9.8%
Africa (Sub-Saharan)	210	2,365	8.9%
Asia (Central and Southern)	84	1,130	7.4%
Asia (Eastern and South-eastern)	228	1,836	12.4%
Europe and Northern America	1,137	9,259	12.3%
Latin America and the Caribbean	389	4,286	9.1%
Oceania	184	508	36.2%
<b>Total</b>	<b>2,393</b>	<b>21,029</b>	<b>11.4%</b>

\*Note: the number of data points refers to reliable estimates.

**TABLE 8. NATIONAL DATA SOURCES AND THE RESPECTIVE ACRONYMS**

National Acronym	Data source name	ILO Acronym	Number of countries
CENSUS	Population Census	Census	4
CMPHS	Continuous Multi-Purpose Household Survey	LFS	1
CPS	Current Population Survey	LFS	1
EAPS	Economically Active Population Survey	LFS	1
ECAM	Household Survey	HS	1
ECE	Continuous Employment Survey	LFS	2
ECH	Continuous Household Survey	HIES	2
ECVM	Living Standards Survey	HIES	2
ECVMAS	Households Living Conditions Survey after the Earthquake	HIES	1
EDAM	Djiboutian Household Survey	HS	1
EFT	Labour Force Survey	LFS	1
EH	Household Survey	HIES	1
EHCVM	Harmonized Survey on Household Living Conditions	HIES	3
EHM	Household Sample Survey	LFS	1
EHPM	Household Survey of Multiple Purposes	HS	1
EICV	Integrated Household Survey on Living Conditions	HIES	1
EMICOV	Monitoring Survey of the Modular and Integrated Survey of Household Living Conditions	HIES	1
EML	Labour Force Survey	LFS	1
EMNV	National Household Survey on Measuring Living Conditions	HIES	1
EMOP	Continuous Household Employment Survey	LFS	1
ENAO	National Household Survey	HS	2
ENCFT	Continuous National Labour Force Survey	LFS	1
ENE	National Employment Survey	LFS	1
ENEI	Monthly Employment and Income Survey	LFS	1
ENEMDU	National Survey on Employment, Unemployment and Underemployment	LFS	1
ENES	National Employment Survey	LFS	1
ENESI	Survey 1-2-3, Employment, informal sector and household's living conditions	LFS	6
ENFT	National Labour Force Survey	LFS	1
ENOE	National Occupation and Employment Survey	LFS	1
ENPE	National Population and Employment Survey	LFS	1
ENSE	National Survey on the Employment Situation	LFS	1
EPA	Labour Force Survey	LFS	1
EPH	Permanent Household Survey (Urban)	LFS	2
EPHPM	Continuous Multi-Purpose Household Survey	HS	1
ERIESI	Regional Integrated Survey on Employment and the Informal Sector	LFS	3
ESPA	Labour Force Survey	LFS	1
EULFS	EU Labour Force Survey	LFS	31

National Acronym	Data source name	ILO Acronym	Number of countries
EUS	Employment, Unemployment Survey	LFS	1
GEIH	Integrated Household Survey	LFS	1
GHS	General Household Survey	HS	1
HBS	Household Budget Survey	HIES	1
HIES	Household Income and Expenditure Survey	HIES	12
HSES	Household Socio-Economic Survey	HIES	2
IE	Employment Survey	LFS	1
HIS	Integrated Household Survey	HS	3
LCS	Living Conditions Survey	HIES	1
LFS	Labour Force Survey	LFS	62
LMPS	Labour Market Panel Survey	LFS	1
LSS	Living Standards Survey	HIES	1
MTHS	Multi-Topic Household Survey	HS	1
NHBS	National Household Budget Survey	HIES	1
NHIES	Household Income and Expenditure Survey	HIES	1
NLFS	National Labour Force Survey	LFS	1
NSS	National Sample Survey	HS	1
PLFS	Periodic Labour Force Survey	LFS	1
PNAD	National Household Sample Survey	HS	1
PNADC	Continuous National Household Sample Survey	HS	1
QLFS	Quarterly Labour Force Survey	LFS	1
QUIBB	Core Welfare Indicators Questionnaire	HIES	2
SES	Socio Economic Survey	HIES	1
SLC	Survey on Living Conditions	HIES	2

## 9 Learning assessments and integration of data sources

Some national values are calculated/compiled by the UIS and/or its partners from learning assessments while other data sources are flagged with footnotes to identify the data sources in the UIS database. The indicators calculated and their metadata are:

- SDG Indicator 4.1.0: Proportion of children/young people prepared for the future, by sex.
- SDG Indicator 4.1.1: Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex.
- SDG Indicator 4.1.6: Administration of a nationally representative learning assessment (a) in Grade 2 or 3; (b) at the end of primary education; and (c) at the end of lower secondary education.

- SDG Indicator 4.2.1: Proportion of children aged 24-59 months who are developmentally on track in health, learning and psychosocial well-being, by sex.
- SDG Indicator 4.2.3: Percentage of children under 5 years experiencing positive and stimulating home learning environments.
- SDG Indicator 4.4.1: Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill.
- SDG Indicator 4.4.2: Percentage of youth/adults who have achieved at least a minimum level of proficiency in digital literacy skills.
- SDG Indicator 4.5.1: Parity indices (female/male, rural/urban, bottom/top wealth quintile, and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated.
- SDG Indicator 4.5.2: Percentage of students in a) early grades, b) at the end of primary, and c) at the end of lower secondary education who have their first or home language as language of instruction.
- SDG Indicator 4.5.3: Existence of funding mechanisms to reallocate education resources to disadvantaged populations.
- SDG Indicator 4.6.1: Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex.
- SDG Indicator 4.7.4: Percentage of students in lower secondary education showing adequate understanding of issues relating to global citizenship and sustainability.
- SDG Indicator 4.7.5: Percentage of students in lower secondary showing proficiency in knowledge of environmental science and geoscience.
- SDG Indicator 4.a.1: Proportion of schools offering basic services, by type of service.
- SDG Indicator 4.a.2: Percentage of students experiencing bullying in the last 12 months in a) primary, and b) lower secondary education.
- SDG Indicator 4.c.5: Average teacher salary relative to other professions requiring a comparable level of qualification.
- SDG Indicator 4.c.7: Percentage of teachers who received in-service training in the last 12 months by type of training.

For more information on the data production cycle of these SDG 4 Indicators, please refer to: [http://tcg.uis.unesco.org/wp-content/uploads/sites/4/2020/08/CN\\_LOS\\_DataProduction-.pdf](http://tcg.uis.unesco.org/wp-content/uploads/sites/4/2020/08/CN_LOS_DataProduction-.pdf)

## 10 Regional averages in the September 2023 data release

The September 2023 data release includes time series regional averages from 1990 to 2022. The regional estimates are based on the latest SDG, World Bank income groups, and GPE regional composition. For more details about the current UIS methodology of regional average calculation, see: <https://tcg.uis.unesco.org/wp-content/uploads/sites/4/2020/10/TCG-7-I-2-UIS-methodology-for->

[aggregation-of-national-education-data-to-regional-and-global-estimates.pdf](#). Regional averages for out-of-school rates (SDG 4.1.4) are based on estimates produced by the UIS and the GEM Report to harmonize information from Education Management Information Systems (EMIS) and Household Surveys, the two main data sources used to produce out-of-school rates. The Technical Cooperation Group on SDG 4 Indicators (TCG) approved to use the regional averages estimated by this innovative method. The UIS released the regional averages for SDG 4.1.4 in its SDG 4 data browser.

The latest estimated rates and numbers of out-of-school by country and by SDG regions are also accessible on [VIEW](#). The new methodology is outlined in the joint UIS/GEM Report [Policy Paper / Fact Sheet](#).

Moreover, since 2023, releases included new data on **indicators**:

- **Regional averages for Indicator 4.1.1** in all levels and domains **from 2000 to 2019** produced by the UIS team.
- **Regional Averages for Indicator 4.1.2** aggregated from the GEM Report team **from 2000 to 2020** and available at <https://education-estimates.org/completion/>
- **Regional averages for Indicator 4.1.0**, or the proportion of children/young people prepared for the future, from **2000 to 2019**, that need regional averages for learning and completion are also included in the September 2023 data release.

## 11 External data sets: Indicators aggregated from partner agencies

### 11.1 External data sets: Inputs to indicators

The UIS compiles data for some Sustainable Development Goal 4 indicators directly from partner organizations, such as:

#### ***IMF, OECD, WBG***

- **SDG Indicator Education 2030 FFA:** Government expenditure on education as a percentage of GDP
- **SDG Indicator 1.a.2:** Proportion of total government spending on essential services (education)

#### ***OECD***

- **SDG Indicator 4.5.5:** Percentage of total aid to education allocated to least developed countries.
- **SDG Indicator 4.b.1:** Volume of official development assistance flows for scholarships by sector and type of study.

#### ***Global Coalition to Protect Education from Attack***

- **SDG Indicator 4.a.3:** Number of attacks on students, personnel and institutions.

#### ***Global Education Monitoring Report (GEM Report)***

- **SDG Indicator 4.5.3:** Existence of funding mechanisms to reallocate education resources to disadvantaged populations.

**UNESCO Section for Education for Sustainable Development (Division for Peace and Sustainable Development, Education sector)**

- **SDG Indicator 4.7.1:** Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education and (d) student assessment.

## 11.2 External data sets: Inputs to estimate indicators

### 11.2.1 Implementing a Hybrid Population data Policy

As of the September 2023 release, the UIS has started the implementation of a hybrid population data policy endorsed by the Technical Cooperation Group (TCG) on SDG 4 indicators in March 2023 at its post-9<sup>th</sup> meeting consultation<sup>4</sup>. Under this new policy, countries would have the possibility to request that the UIS use their national population data for the calculation of their population-based indicators in place of the World Population Prospects estimates from the United Nations, Department of Economic and Social Affairs (UNDESA) Population Division (UNPD), which was previously the main source of population data used by the UIS.

The implementation started with the countries which previously made a request to the UIS for that purpose, and with countries for which the coverage of UNPD population data is different from the one of their national education data. The implementation of the policy will be gradually expanded to other interested countries in future UIS data releases.

For this September 2023 release, the source of population estimates from UNDESA Population Division is the *World Population Prospects (WPP) 2022, scenario of 1 January* (<https://population.un.org/wpp/>).

### 11.2.2 The UNPD World Population Prospects (WPP) 2022: Major change in estimation methodology

Between the WPP 2019 and the WPP 2022, the UNPD made considerable upgrades to its estimation methodology. According to the UNPD online methodological report ([https://population.un.org/wpp/Publications/Files/WPP2022\\_Methodology.pdf](https://population.un.org/wpp/Publications/Files/WPP2022_Methodology.pdf)), *“In order to improve the standards, transparency and replicability of the World Population Prospects and in response to growing demand for more granular demographic indicators, several major methodological enhancements have been implemented in the 2022 Revision. Chief among these is a transition from the historical practice of estimating and projecting population for five-year age groups and over five-year periods of time towards a framework defined by single-years of age and one-year periods of time. Additional enhancements include: a more systematic and comprehensive compilation of country-level empirical data for each demographic component, the application of probabilistic models for estimating key fertility and mortality indicators; a new protocol for evaluating and adjusting census population counts; a new accounting for “crisis” mortality impacts, such as those due to conflicts, natural disasters and epidemics, including the COVID-19 pandemic; a new model life table system to estimate mortality for countries affected by HIV and AIDS; the application*

---

<sup>4</sup> See [https://tcg.uis.unesco.org/wp-content/uploads/sites/4/2023/03/TCG9\\_Consultation-Results\\_Report\\_2023.03\\_FINAL.pdf](https://tcg.uis.unesco.org/wp-content/uploads/sites/4/2023/03/TCG9_Consultation-Results_Report_2023.03_FINAL.pdf), <https://tcg.uis.unesco.org/9th-meeting-of-the-tcg/>.

*of standardized methods for estimating levels and patterns of net international migration; and the upgrade of probabilistic projection models of fertility and mortality for annual time series.”<sup>5</sup>*

Also, as part of the WPP 2022 revision, UNPD has developed and implemented a new census evaluation and adjustment protocol which was systematically applied to all countries/areas since the 1950s up to the most recent census available by age/sex for each location. The methodology is summarized in our online methodological report.

For 2020 onward for most countries, UNPD did not have census data because most countries postponed their census due to the pandemic. As a result, the size of the cohorts of children in school ages for most countries are based on (adjusted) censuses conducted in the previous 5-10 years.

### **11.2.3 The impact of changes to estimation methodology in WPP 2022 on school age population (SAP)**

The changes to estimation methodology in the WPP 2022 has a huge impact on school age population at all levels of education.

The biggest impact is observed for primary education, with almost 20 million more children globally. School-age population increased also for the other educational levels but to a less extent than for primary education (see **TABLE 9**).

The above-mentioned differences between UNPD WPP 2019 and UNPD WPP 2022 do not seem to be related to the date of reference of age used to produce the population estimates<sup>6</sup> as there are differences of similar magnitude when UNPD WPP 2019 is compared to UNPD 2022 (with 1 July) (see the last column of TABLE 9). For example, when the SAP for primary from UNPD WPP 2019 is compared to the one from UNPD WPP 2022 (1 July), the relative increase is **2.7%** – which is close to the **2.9%** obtained when comparing UNPD WPP 2019 and UNPD WPP 2022 (with 1 January). The same observation is also noticed at country level.

These differences between UNPD WPP 2019 and UNPD WPP 2022 (regardless of the month used for age reference for population estimate) seem to be due to a large extent to the upgrades in population estimates methodology made by UNPD in the WPP 2022.

---

<sup>5</sup> See the *World Population Prospects 2022: Methodology of the United Nations population estimates and projections* ([https://population.un.org/wpp/Publications/Files/WPP2022\\_Methodology.pdf](https://population.un.org/wpp/Publications/Files/WPP2022_Methodology.pdf), p.iii). Further technical details about the methodology are explained in an online technical paper accessible at ([https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/undesd\\_pd\\_2022\\_tp-methodprotocol.pdf](https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/undesd_pd_2022_tp-methodprotocol.pdf)).

<sup>6</sup> The UNPD WPP 2019 use 1 July as age reference while the UNPD WPP 2022 provide population estimates based on 2 scenarios of age reference dates: 1 July and 1 January. For the UIS September 2023 data release, the UNPD WPP 2022 1 January scenario is used as standard population data source.



**TABLE 9: CHANGE AT THE GLOBAL LEVEL IN THE SCHOOL-AGE POPULATION BY LEVEL OF EDUCATION, EXAMPLE OF YEAR 20207**

Level of education	School-age population: UNPD WPP 2022 (1 January reference)	School-age population: UNPD WPP 2019 (1 July reference)	Absolute difference	Relative difference	Relative difference between UNPD WPP 2019 and UNPD WPP 2022 (with 1 July reference)
Pre-primary	337,024,296	330,556,424	6,467,872	1.96%	2.00%
Primary	704,584,694	684,821,844	19,762,850	2.90%	2.70%
Lower secondary	380,392,597	375,461,913	4,930,684	1.30%	0.90%
Upper secondary	372,419,213	367,528,850	4,890,363	1.30%	1.20%
Tertiary education	497,108,034	493,553,108	3,554,926	0.70%	0.50%

**Sources of population data and exceptional cases: the UN Population Division (UNPD) remains the standard source of population data at the UIS. With the implementation of the hybrid population data policy, the following exceptional cases are worth mentioning (see Table 9):**

- No UNPD population estimates are available. This is the case for some small countries (Liechtenstein, Monaco).
- Population data by UNPD represent a geographically larger area than education data. Without adjustment, this would lead to an underestimation of population-based indicators. Countries in this group include Azerbaijan, Cyprus, Republic of Moldova and Serbia.
- Analysis of past WPP by the UIS revealed important inconsistencies between education data and UNPD population estimates by single year of age that affected the accuracy of population-based indicators for some countries. To help address this issue, UNPD refined the methodology of population estimates and projections in the WPP 2022 by making some major changes from 5-year age groups and 5-year time intervals to true annual time series by single ages and birth cohorts (see [https://population.un.org/wpp/Publications/Files/WPP2022\\_Methodology.pdf](https://population.un.org/wpp/Publications/Files/WPP2022_Methodology.pdf)). Yet, the above-mentioned inconsistencies may still exist in a handful countries.
- Countries that requested the use of their national data and that provided data complying with the predefined UIS quality requirements.

### **Process for accepting national population data, instead of UNPD data, for UIS education statistics**

Under the new UIS policy of population data, and to facilitate countries' requests, the UIS prepared a proposal which included guidance and table format for countries to submit the necessary population data and metadata to the UIS. Countries reported data needed to comply with the proposed standard

<sup>7</sup> 2020 was chosen because it is the most recent year for which UIS has data from both UIS Formal Education Survey and UOE data collection.

criteria for accepting national population data, otherwise the UIS would continue to use UNPD population estimates.

For this release, the source of population data used to calculate education indicators are presented in **Table 10**, including countries that have submitted data directly to the UIS and that respected the established acceptance criteria.

**TABLE 10. SOURCES OF POPULATION DATA FOR UIS INDICATOR CALCULATION**

Source of population data	No. of countries	Criteria used
United Nations Population Division (UNPD): World Population Prospect 2022, released in July 2022	196	The UNPD is the main source of population data used by the UIS for all countries, with the exception of the countries below in this column.
National statistical offices submitting data directly to the UIS (through the UIS DEM template)	18	<ul style="list-style-type: none"> <li>- Azerbaijan</li> <li>- China, Hong Kong Special Administrative Region</li> <li>- China, Macao Special Administrative Region</li> <li>- Curacao</li> <li>- Cyprus</li> <li>- Dominican Republic</li> <li>- Liechtenstein</li> <li>- Malta</li> <li>- Mauritius</li> <li>- Oman Qatar</li> <li>- Republic of Moldova</li> <li>- San Marino</li> <li>- Serbia</li> <li>- Singapore</li> <li>- Thailand</li> <li>- Ukraine</li> <li>- Uruguay</li> </ul>
National data collected through UOE data collection	38	<ul style="list-style-type: none"> <li>- Australia</li> <li>- Austria</li> <li>- Belgium</li> <li>- Brazil</li> <li>- Bulgaria</li> <li>- Canada</li> <li>- Chile</li> <li>- Colombia</li> <li>- Costa Rica</li> <li>- Croatia</li> <li>- Czechia</li> <li>- Denmark</li> <li>- Estonia</li> <li>- Finland</li> <li>- France</li> <li>- Germany</li> <li>- Iceland</li> <li>- Israel</li> <li>- Japan</li> <li>- Latvia</li> <li>- Lithuania</li> <li>- Luxembourg</li> <li>- Mexico</li> <li>- Netherlands</li> <li>- New Zealand</li> <li>- Norway</li> <li>- Poland</li> <li>- Portugal</li> <li>- Republic of Korea</li> <li>- Romania</li> <li>- Slovakia</li> <li>- Slovenia</li> <li>- Spain</li> <li>- Sweden</li> <li>- Switzerland</li> <li>- Türkiye</li> <li>- United Kingdom of Great Britain</li> <li>- United States of America</li> </ul>
Eurostat population database	1	<p><b>Country with important inconsistencies between education data and UNPD data that make indicator values implausible.</b></p> <ul style="list-style-type: none"> <li>- Ireland</li> </ul>

## 12 Economic statistics

Data on economic indicators, such as gross domestic product (GDP) and purchasing power parity (PPP), are World Bank estimates as of June 2023. For countries where GDP estimates are not published by the World Bank, data are obtained from the December 2022 release by the United Nations Statistics Division (UNSD). This data release uses the purchasing power parities (PPP) conversion factor, GDP (local currency unit per international dollar), of the most recent World Bank International Comparison Program of 2017. Data on total general government expenditure (all sectors) come from the April 2023 release of the International Monetary Fund's (IMF) World Economic Outlook database.

## 13 Methodological notes for education survey data

### 13.1 Countries that reported data that could not be released

**Tables 11** below presents a summary of the number of countries for which data were reported but not released, grouped by key causes for the Education Surveys.

**TABLE 11. FORMAL EDUCATION SURVEY – SUMMARY OF CAUSES PREVENTING THE PUBLICATION OF DATASETS**

Issues preventing the publication of parts of datasets recently received for reference year 2021 or 2022	Number of countries
Trend is not consistent and no explanation available (26) or countries requesting to suppress the data (2)	28
Inconsistency between population estimate and the submitted enrolment data	10
Coverage issues	2

**Note:** the table includes only countries where the data received is not published. There are new data being published for 135 countries.

### 13.2 Methodological notes: Non-finance indicators

Education data and indicators are based on the [International Standard Classification of Education \(ISCED\) 2011](#). ISCED 2011 was implemented starting with the 2014 education data collection and covers the entire formal education system, including both formal initial education programmes and formal adult education programmes. For the years before 2014, the UIS Survey of Formal Education did not cover formal adult education programmes. Data for countries involved in the UOE data collection did not cover formal adult education programmes for the years 2004–2012. These limitations should be taken into consideration when comparing time series data.

Prior to 2018, data for SDG Indicator 4.3.3 *Participation rate in technical and vocational programmes (15- to 24-year-olds), by sex* do not include enrolment in technical and vocational short-cycle tertiary programmes (ISCED 5) as the UIS only collected data up to ISCED level 4 – although the indicator covers all technical and vocational programmes. As of 2018, the UIS started collecting and incorporated enrolment at the ISCED 5 level in the calculation of this indicator. On average, participation rates are

approximately 1.6% higher with inclusion of the ISCED 5 programmes. Caution is required when comparing this indicator over time.

There are cases where an indicator should not exceed a maximum theoretical value (e.g., the adjusted net enrolment rate) but inconsistencies between demographic and school data may have resulted in the indicator exceeding the theoretical limit. In these cases, “capping” has been applied, while maintaining the same gender ratio. For more details, please refer to the definition of capping in the [UIS Glossary](#).

Since the September 2020 data release, the UIS has replaced all parity indices, including the gender parity index, by adjusted parity indices. Adjusted parity indices are limited to a range of 0 to 2, are symmetrical around 1, and are therefore easier to interpret. Unadjusted parity indices, which were disseminated previously, have no upper bound and are not symmetrical around 1.

### 13.3 Methodological notes: Education finance indicators

Expenditure on early childhood education or from international sources – both of which are often comparatively small – have been treated as negligible in cases where data were in fact missing. In these cases, the totals may be underestimated.

The number of students considered in the calculation of SDG Indicator 4.5.4 on initial funding per student is the number of full-time and part-time students.

**SDG Indicator 4.5.6** Expenditure on education by source of funding (public, private, international) as a percentage of GDP, is newly added to the SDG 4 Framework. The metadata on the indicator presenting details and technical guidelines are accessible on the TCG webpage at: <https://tcg.uis.unesco.org/methodological-toolkit/metadata/>.

Following the approval of the TCG and the IAEG-SDG on the new metadata multiple sources have been used to report for two benchmark indicators, Framework for Action, Government expenditure on Education as a percentage of GDP; and global Indicator 1.a.2, Government expenditure on Education as a percentage of Total Government Expenditure. More information is available in the [metadata document](#).

## 14 Country notes

**Azerbaijan:** Education data for the years 1998 to 2021 do not cover Nagorno-Karabakh, whereas the 2022 World Population Prospects data do. The population data used for the calculation of indicators were provided by national authorities and exclude Nagorno-Karabakh.

**Belgium:** Due to the change in how internationally mobile students are defined, as of 2013 in Belgium, the historical trend of inbound mobile students' needs to be interpreted with caution.

**Bolivia, Plurinational State of:** Population-based indicators should be interpreted with caution due to concerns regarding the coherence between national enrolment data and population estimates from the 2022 World Population Prospects.

The rate of out-of-school adolescents of lower secondary (ISCED 2) and upper secondary (ISCED 3) age does not include data on students enrolled in tertiary education (ISCED 5 to 8). This means that the number of out-of-school youth could be overestimated.

### **Brazil:**

A break in the time series of pre-primary and primary indicators occurred in 2013 due to the following changes in the national education system:

- The duration of pre-primary education changed from 3 years to 2 years.
- The entry age to primary education changed from 7 years to 6 years and the duration from 4 years to 5 years.

**China:** Two Special Administrative Regions – Hong Kong and Macao – are reported separately from data for China. The country asked the UIS not to publish data derived from PISA as this only covers four provinces (Beijing, Shanghai, Jiangsu, and Guangdong).

**Cyprus:** Education data for Cyprus do not cover areas that are not under control of the national government. The population data used for the calculation of indicators were provided by national authorities and only cover the population living in government-controlled areas.

**Czechia:** On the basis of Article 33 of the Charter of Fundamental Rights and Freedoms, which is part of the Constitution of Czechia, citizens have the right to free education at basic and secondary schools (ISCED levels 1 to 3), regardless of whether they are studying longer than the standard period of study, including in cases where a citizen is studying a second (third, fourth, ...) programme at secondary school. The 13 years of free education published by the UIS show the theoretical ideal passage through the education system. It would be stated quite correctly that free education at ISCED levels 1 to 3 is not limited.

**Ecuador:** The source of the education data used is the *Archivo Maestro de Instituciones Educativas* (AMIE). Indicators were calculated with a capping factor and with national population estimates. Therefore, indicators for Ecuador are not comparable with the data officially published by the country.

**Estonia:** The country has an integrated pre-primary education programme. Pupil's age is used as a proxy to disaggregate data for early childhood educational programmes between ISCED 0 category 1 (early childhood educational development) and ISCED 0 category 2 (pre-primary). Enrolment of children aged 2 years and younger is mapped as early childhood educational development and enrolment of children aged 3 years and older is mapped as pre-primary. The number of repeaters since 2008 are calculated with a different methodology than the one used for previous years.

Therefore, the time series are not comparable. For 2013, the ages for enrolment in early childhood education were calculated as of 1 September and not as of 1 January as in later years.

**France:** There is a change in methodology in 2006 and 2013 that limits the comparability of time series for SDG Indicator 4.3.3 *participation rate in technical and vocational programmes (15- to 24-year-olds), by sex*.

**Germany:** As of 2009, there is no concept of repeaters in grades 1 to 2 of primary education. This explains a decrease in 2009 in the time series “Percentage of repeaters in primary education”.

**Kazakhstan:** As of 2020, the structure of the national education system has changed. The entrance age to primary education was set at 6 years old since the reference year 2020 (the school year 2019/2020). Consequently, the theoretical ages in effect starting in 2020 are 6 to 9 years for primary education, 10 to 14 years for lower secondary education, and 15 to 16 years for upper secondary education. Breaks in the time series between 2019 and 2020 can be explained by the change in the education structure.

**Lithuania:** for 2005 and from 2007 to 2012, enrolment (ENRL) for primary education includes only full-time students. And, for 2004 to 2012, ENRL for secondary education (lower and upper) includes only full-time students as well.

**Malaysia:** Data from SEA-PLM 2019 for SDG Indicator 4.5.2 Percentage of students in a) early grades, b) at the end of primary, and c) at the end of lower secondary education who have their first or home language as language of instruction is not published as per country request to SEAMEO.

**Mexico:** A break in the time series of pre-primary indicators occurs in 2014 due to the following changes in the national education system:

- The entry age to pre-primary education changed from 4 to 3 years.
- The duration of pre-primary education changed from 2 to 3 years.

**Norway:** The country has an integrated early childhood education programme. Pupils’ ages are used as a proxy to disaggregate data for early childhood educational programmes between ISCED 0 category 1 (early childhood educational development) and ISCED 0 category 2 (pre-primary). Enrolment of children up to 2 years of age is mapped to early childhood educational development and enrolment of children aged 3 years and older is mapped to pre-primary.

**Palestine:** Education data do not cover East Jerusalem, whereas the 2019 Revision of the World Population Prospects data do. Population-based indicators may be underestimated and therefore should be interpreted with caution.

**Peru:** The country asked the UIS to not publish data for PISA 2015 and 2018.

**Republic of Moldova:** Education data do not cover Transnistria, whereas the 2019 Revision of the World Population Prospects data do. The population data used to calculate indicators were provided by national authorities and exclude Transnistria. Additionally, as of 2014, information provided by the country has been revised to use usual residential population.

**Russian Federation:** As of 2015, information provided by the Russian Federation includes statistical data for the Autonomous Republic of Crimea and the city of Sevastopol, Ukraine, temporarily occupied by the Russian Federation. The population data used for the calculation of indicators were from the UN Population Division and do not cover the Autonomous Republic of Crimea and the city of Sevastopol.

**Serbia:** Education data do not cover Kosovo, whereas the 2022 World Population Prospects do. The population data used for the calculation of indicators exclude Kosovo.

**Singapore:** Education data starting from 2016 refer to residents (citizens and permanent residents) with local addresses and those were away from Singapore for a cumulative period of less than 6 months in the past 12 months prior to the reference date (end of June each year). The data should only be used for the purpose of computing education indicators and should not be compared against other population data published by the Singapore government.

**Ukraine:** Education data do not cover Crimea and the part of Donbass that has not been under government control since 2015, whereas the 2022 World Population Prospects do. Population data excluding these areas are not available for the moment. Consequently, the UIS is not able to produce indicators from 2015 onwards.

**United Republic of Tanzania:** Education data do not cover Zanzibar, whereas the 2022 World Population Prospects data do. The population of Zanzibar is approximately 3% of the total population of the United Republic of Tanzania. Population-based indicators are underestimated and should therefore be interpreted with caution.

**United States of America:** Policies on free/compulsory education may vary by state/subnational unit. Free education at ISCED 0 category 2 (pre-primary) is offered for one year in the majority of states and, in some cases, a second year of pre-Kindergarten is also free. Therefore, free/compulsory education estimates are a valid representation of the US average but vary by state.

## 15 UIS Resources

SDG 4 Data Explorer: <http://sdg4-data.uis.unesco.org/>

Technical Cooperation Group for SDG 4 Indicators (TCG): <http://tcg.uis.unesco.org>

Global Education Observatory: <http://geo.uis.unesco.org>

UIS education glossary: <http://uis.unesco.org/en/glossary?wbdisable=true>

UIS survey page: <http://uis.unesco.org/uis-questionnaires>

### **Tools**

- SDG4 data governance – Technical Cooperation Group (TCG) on SDG 4 indicators (<https://tcg.uis.unesco.org/>)
- Metadata (<https://tcg.uis.unesco.org/methodological-toolkit/metadata/>)
- Global Education Observatory (<https://geo.uis.unesco.org/>)
- Data browser (<http://sdg4-data.uis.unesco.org/>)
- Country profiles (<https://tcg.uis.unesco.org/country-profile-new/>)
- Dashboard to bridge global and regional education monitoring frameworks (<https://tcg.uis.unesco.org/dashboard/>)

### **Publications**

- SDG 4 Data Digest 2021: National SDG 4 benchmarks: fulfilling our neglected commitment (<https://unesdoc.unesco.org/ark:/48223/pf0000380387>)
- Setting Commitments: National SDG 4 benchmarks to transform education (2022) (<https://unesdoc.unesco.org/ark:/48223/pf0000382076>)
- SDG4 Scorecard progress report on national benchmarks: Focus on early childhood (2023) (<https://unesdoc.unesco.org/ark:/48223/pf0000384295>)
- Regional reports to bridge global and regional education monitoring frameworks (<https://tcg.uis.unesco.org/regional-frameworks-for-sdg4/>)