



United Nations
Educational, Scientific and
Cultural Organization



UNESCO
INSTITUTE
FOR
STATISTICS



TECHNICAL
COOPERATION
GROUP



21 June 2021

TECHNICAL COOPERATION GROUP ON THE INDICATORS FOR SDG 4

TCG Members Meeting

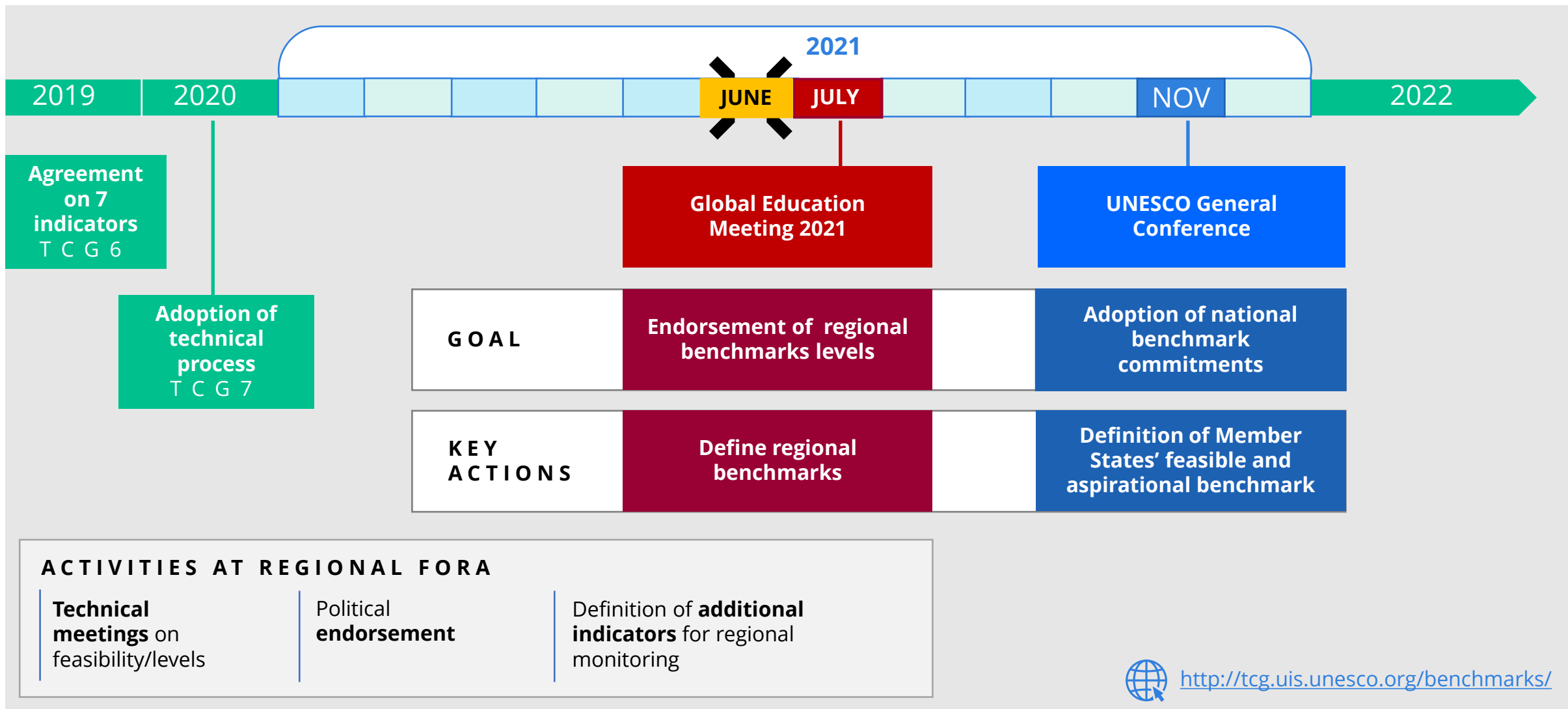
by TCG Secretariat

AGENDA

1	Welcome and Introduction	5 min
2	Progress updates since 7 th Meeting of the TCG in October 2020	10 min
3	Indicators update	10 min
4	Equity benchmark: options for discussion	30 min
5	Methodology for regional and global updates of indicators	50 min
6	Other issues / questions / discussion	10 min
7	Closing remarks	5 min



ON TRACK TO ENDORSE THE REGIONAL BENCHMARKS APPROACH IN NOVEMBER 2021













BENCHMARKS – REGIONAL ACTIVITIES

AFRICA	ASIA AND THE PACIFIC	ARAB STATES	LATIN AMERICA
<p>October 2020: consultations UIS & the African Union Commission</p> <p>February 2021: consultations experts from the AU member states, the Regional Economic Communities (RECs) and key stakeholders</p> <p>May-June 2021:UIS and IPED set up 5 regional meetings on regional benchmarking process in each regions (5)</p>	<p>UIS partnered with UNESCO Bangkok and Learning and Education2030+ Networking Group in establishing regional benchmarks for the region.</p> <p>Regional partners: ASEAN, SEAMEO, SAARC, SPC Pacific Community</p> <p>Oct-Nov 2020: regional consultation and technical team meetings</p> <p>Mar-April 2021: sub-regional consultations and country feedback</p>	<p>UIS partnered with UNESCO Beirut in establishing regional benchmarks for the region, together with regional partners such as ABEGS, RCEP</p> <p>End of 2020: High-level meetings</p> <p>Early 2021: Consultation with regional stakeholders and one-to-one meetings with Ministries of Education</p>	<p>UIS partnered with UNESCO Santiago in establishing regional benchmarks for the region, together with regional partners such as ECLAC, OEI, CARICOM, CECC-SICA</p>
<ul style="list-style-type: none"> • Agreement on all proposed indicators for regional benchmarks • Additional indicators proposed 	<ul style="list-style-type: none"> • Agreement on all proposed indicators for regional benchmarks • Additional indicators proposed 	<ul style="list-style-type: none"> • Commitment to the benchmarking process • Proposed benchmarks shared with Member States 	
Regional benchmarking consultations on SDG4 and CESA 16-25 with Members States	Summary Report of Asia and Pacific Regional Technical Consultation on Regional benchmarks for SDG4	Name of a report like for Africa & Asia Pacific?	Continental Overview: Bridging Latin America and the Caribbean Monitoring Frameworks and the SDG 4



BENCHMARK TARGETS WILL BE SET AT NATIONAL AND REGIONAL LEVELS FOR EACH PRIORITY POLICY AREA

Priority policy areas	 GLOBAL SDG 4 benchmark indicators	 REGIONAL
 Basic education	4.1.1 MINIMUM PROFICIENCY in reading and mathematics 4.1.2 COMPLETION RATE 4.1.4 OUT-OF-SCHOOL RATE	
 Pre-primary	4.2.2 PARTICIPATION IN ORGANIZED LEARNING a year before primary education entry	
 Teachers	4.c.1 QUALIFIED TEACHERS	
 Expenditure	1.a. 2/FFA EDUCATION EXPENDITURE (% GDP / % budget)	Africa: +2 (R&D - TVET)
 Equity	Equity	
 Higher education/ TVET		Africa: +2 (NEET - STEM) AP: +3 (Part. Youth and Adults in ed.& training 12m. - GER - STEM) Europe: +2 (Part. Adults in learning 12m - Tertiary EA)
 Skills for work		Africa: +1 (Participation TVET grads in LF) AP: +1 (Participation youth and adults in TVET) Europe: +2 (Work skills for VET grads – computer & info literacy)
 Learning environment		Africa: +2 (electricity / Internet / computers - washing)




BENCHMARKS DASHBOARDS

Technical Cooperation Group on the Indicators for SDG 4

HOME ABOUT US METHODOLOGICAL TOOLKIT DATA RESOURCES SDG4 BENCHMARKS OUTREACH COVID-19

Summary of progress



The progress dashboard provides an **indicative** presentation format, which shows how it could be used to monitor progress by country, once benchmarks have been agreed. This dashboard is an example: its values do not represent actual levels or rates of progress.

The format will allow the following:

- Identify whether a country lacks data completely or does not have sufficient data to establish a trend (asterisks in grey).
- Establish whether countries are on course to meet the benchmark or not – and by what margin (indicated in red and green).
- Establish whether countries are moving sufficiently fast towards the benchmark (arrows of different direction and slope). Defining whether the rate of progress is sufficiently fast remains to be addressed.

[Frequently Asked Questions \(FAQs\)](#)

SDG4 Benchmarks Country Table

Region	Country	4.1.1. reading grades 2/3	4.1.1. reading primary	4.1.1. reading lower sec.	4.1.1. math grades 2/3	4.1.1. math primary	4.1.1. math lower sec.	4.1.4 completion primary	4.1.4 completion lower
AMU	Algeria	*	*	*	*	*	*	*	*
	Libya	*	*	*	*	*	*	*	*
	Mauritania	*	*	*	*	*	*	↑	*
	Morocco	↗	*	*	↗	*	↗	*	*
	Tunisia	*	*	↗	↗	*	↗	↑	*

Indicator: (All)
Region: (All)
Incomegroup: (All)
Country: (All)
Arrow: * Null



GLOBAL DASHBOARD



REGIONAL DASHBOARD



COUNTRY DASHBOARD

<http://tcg.uis.unesco.org/benchmarks-dashboard/>



INDICATOR UPDATE

INDICATOR	RELEASED IN FEBRUARY
4.5.2	Percentage of students <u>in a) early grades, b) at the end of primary, and c) at the end of lower secondary education</u> who have their first or home language as language of instruction.
4.5.3	<i>New name</i> Existence of funding mechanisms to reallocate education resources to disadvantage populations
	Development of a qualitative indicator with a three-point scale
4.a.2	Percentage of students experiencing bullying in the last 12 months in a) <u>primary, and b) <u>lower secondary education</u></u>
4.c.5	Use statutory teacher salaries as interim reporting strategy until further methodological work is done. OECD countries reported using Education at a Glance data. - Initiate a collaboration between the UIS and ILO in order to advance in the definition of indicator guidelines for a long-term approach to report
4.c.7	The use of TALIS for OECD countries in TCG6 and had been extended. Approval of the use of TALIS and Learning Assessments for all countries.
4.a.1	Use learning assessments to fill data gaps for the sub-indicators of SDG 4.a.1: a) electricity, b) the Internet, c) computers for educational purposes, and e) basic drinking water <i>Approval of new metadata by IAEG-SDG January 2021</i>

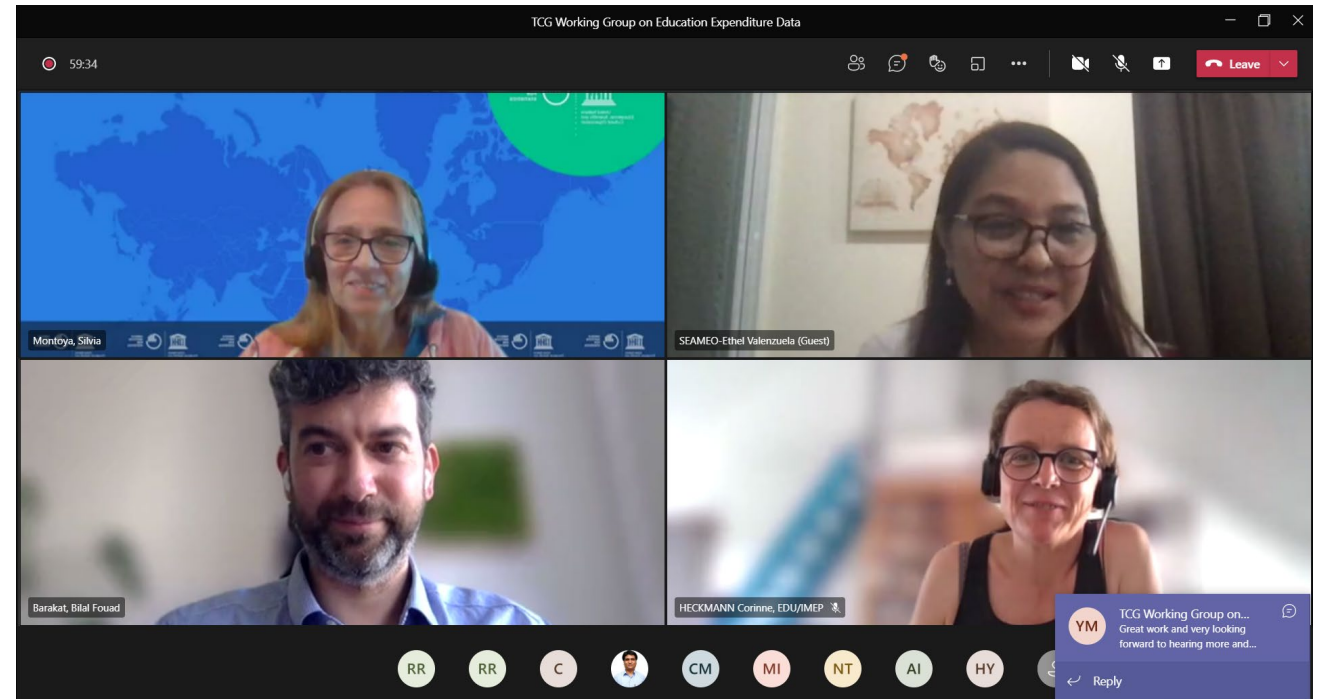


WEBINAR ON THE GUIDANCE FOR DATA COLLECTION FOR INDICATORS 4.7.4 AND 4.7.5 IN A WEEK



MEETING WITH TCG WORKING GROUP ON EDUCATION EXPENDITURE

- Shared progress on the action plan presented in TCG WG in October 2020 towards filling data gaps
- Described analytical steps and recommendations
- Assessed the impact of coverage and made a recommendation for filling data gaps



INDICATORS AND METADATA

Government expenditure on education as a percentage of total government expenditure (global indicator 1.a.2)

$$= \frac{\text{Government expenditure on education}}{\text{Total government expenditure}}$$

Government expenditure on education as a percentage of GDP

$$= \frac{\text{Government expenditure on education}}{\text{Total GDP}}$$



PROCESS TO REPORT SDG 4 INDICATORS BASED ON NATIONAL DATA

1. Identification of countries for alternative data collection

- Review and analyze data availability and trends in UIS and BOOST/PER

2. Collect/compile data from publicly available data sources

- Development of a standard template to compile the data from alternative sources

3. Adjust and verify with countries based on international definition and standards



STEPS TAKEN

1. International data source (IMF/WBG/SCR)

- Data mining
- Definition and metadata
- Analysis of difference and identification of trends
- Validation...

2. National

- Definition and metadata
- Analysis of difference and identification of trends
- Validation...

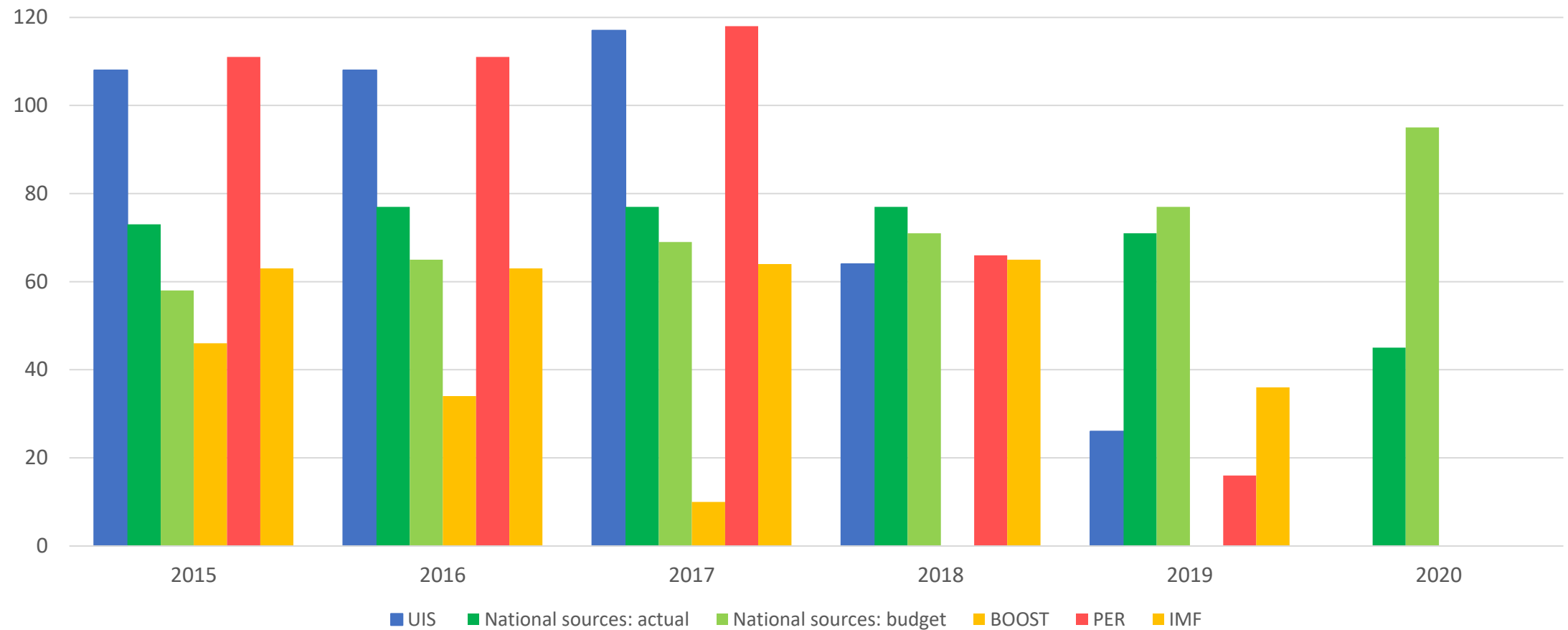


WORKFLOW - SDG 4 INDICATORS BASED ON NATIONAL DATA

- Template with:
 - indicator formulas;
 - relevant ISCED information (theoretical entrance age and duration of ISCED levels); and
 - data from other sources (population, GDP)
- Mining national data sources
- Insertion of raw data and metadata in the templates
- Working meetings with countries for mutual learning, remaining filling of gaps
- Generation of indicators values, annotated metadata points
- Validation of values and metadata points of indicators produced



AVAILABILITY OF DATA BY DATA SOURCE AND YEAR - 2015-2020

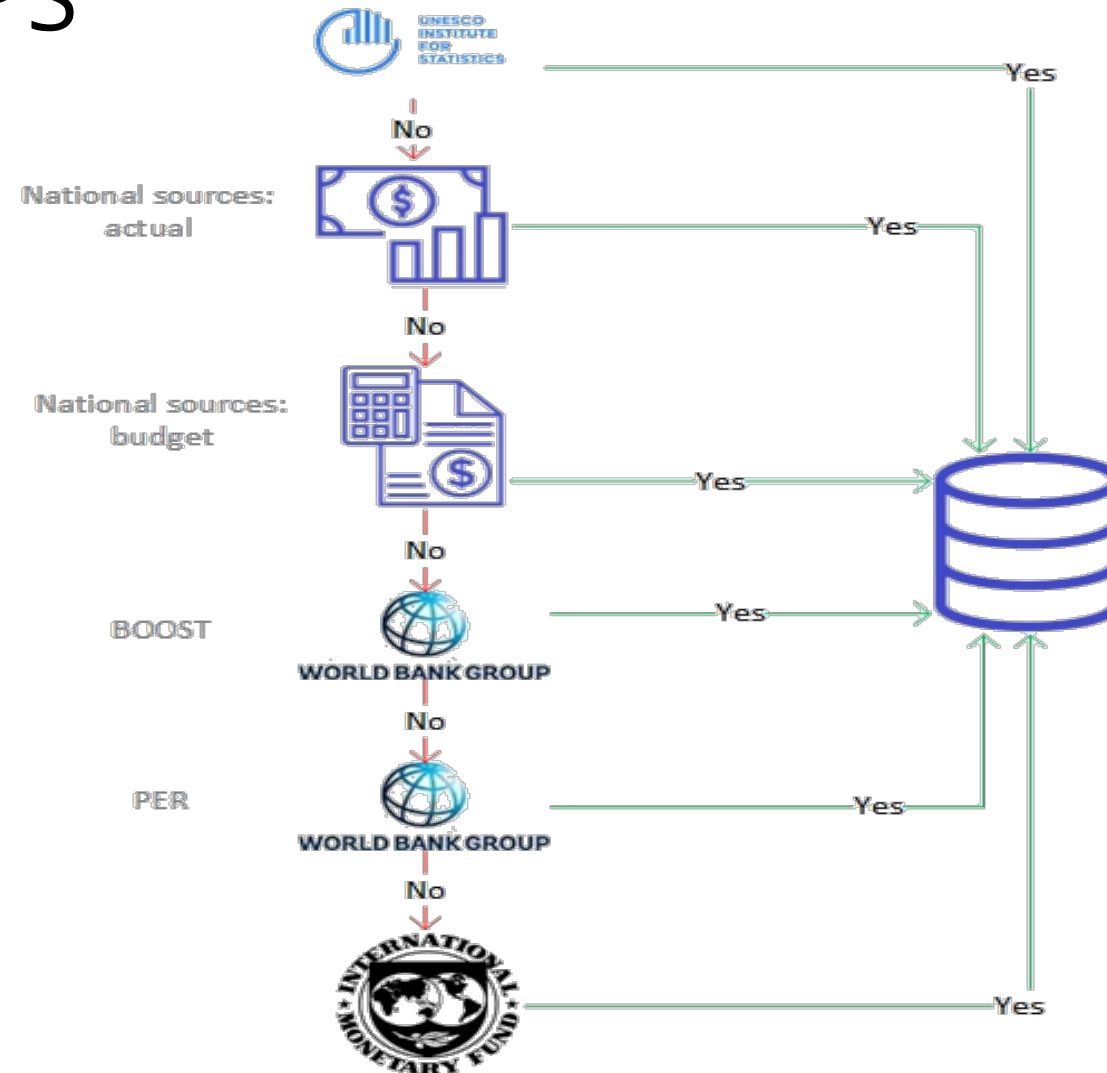


ANALYSIS

- Comparison between UIS database figures and the one generated for the doubloon countries to identify differences
- Comparison between different non-national sources and UIS (analysis of metadata, definitions and values)
- Analysis of National sources (actual/budget)
- Generation of an order of imputation and recommendations including the decisions tree, correction factors and imputation



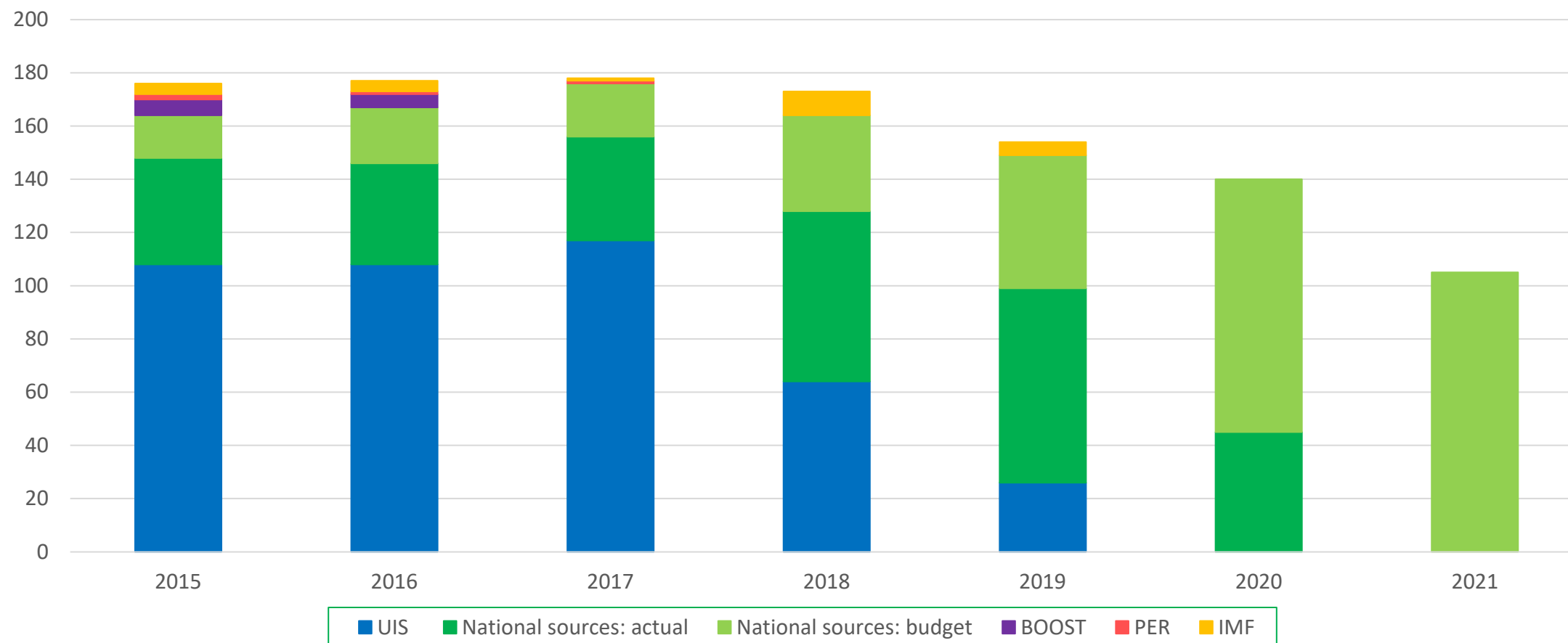
RECOMMENDATION OF DECISION TREE TO FILL THE DATA GAPS



Note: "yes"/"no" refer to availability of data.



NUMBER OF COUNTRIES WITH DATA PER YEAR 2015-2021



Note: SDG Indicator 1.a.2



REPOSITORY OF EDUCATION EXPENDITURES

Technical Cooperation Group on the Indicators for SDG 4

HOME ABOUT US METHODOLOGICAL TOOLKIT DATA RESOURCES SDG4 BENCHMARKS OUTREACH COVID-19

Repository of Education Budgets

The repository of education budgets consolidates open source information of documents on finance pertaining to the education sector for more than 100 countries.

The repository was built by performing an initial search of actual and budgeted education and total government expenditure on relevant government websites. Then, the UIS reached out country partners to obtain additional and pertinent information. All documents collected and publicly available were added and consolidated on an online repository.

To navigate this dashboard:

- From the 'Region' drop-down menus, select one of the region definition or type of classification: SDG regional group, UN Economic Social Commission, or the World Bank income classification.
 - Details on the regional groupings
- From the 'Country' drop-down menu, select the country of your choice.

Repository of Education Expenditure Reports

United Nations Educational, Scientific and Cultural Organization

UNESCO INSTITUTE FOR STATISTICS

SDG Region

(All)

EC Region

(All)

WB Region

(All)

Country

(All)

Year

☒ (All)

☒ 2015

☒ 2016

☒ 2017

☒ 2018

☒ 2019

☒ 2020

☒ 2021

Country	Year	Actual Expenditure	Budget
Afghanistan	2015		
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
Angola	2015		
	2016		
	2017		
	2018		



BENCHMARKS: INDICATOR ON EQUITY

6 BENCHMARK INDICATORS

- Part of the SDG 4 monitoring framework
 - Strictly true for 5 of the indicators (minimum proficiency level, completion rate, out-of-school rate, pre-primary education attendance rate and trained teachers), while the sixth (finance indicators) was selected from SDG 1 and the Education 2030-SDG Framework for Action.
- High coverage
- Universally relevant for policy

EQUITY BENCHMARK INDICATOR

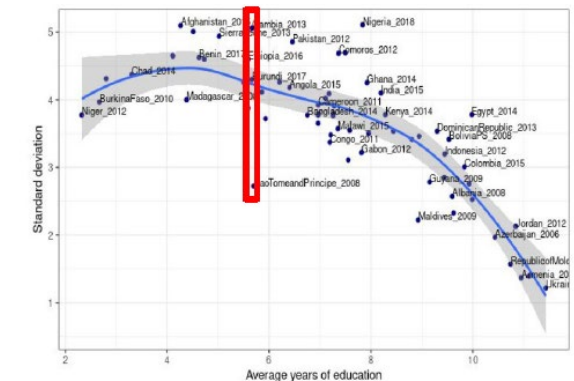
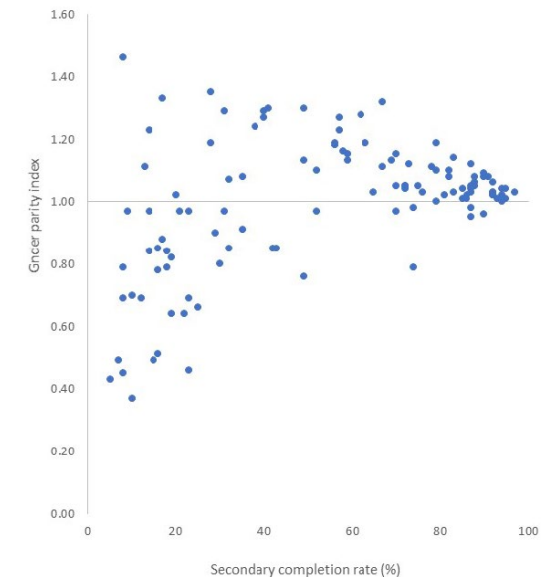
- Underlying indicator
- Measure used to describe the type and size of inequality in the distribution of the indicator.



BENCHMARKS: INDICATOR ON EQUITY

Choice and measure entails decisions over the following questions:

- 1a. Should inequality be expressed in terms of a **specific characteristic** (i.e. equality of opportunity) or **be characteristic-free** (i.e. equality of condition)?
- 1b. Should the indicator be **binary or continuous**?
2. Should inequality be expressed in terms of the **absolute value** of the measure or in terms of a relative **variation** from an average?
3. Should the indicator for the equity benchmark be **selected from among the other benchmark indicators** and what are the implications?



BENCHMARKS: INDICATOR ON EQUITY - PROPOSALS

OPTION	BENCHMARK SETTING	ADVANTAGE	DISADVANTAGE
1 GENDER PARITY INDEX OF COMPLETION RATE	Values set for completion rate. The change on the gender parity index can be predicted based on average trends. The proposed equity benchmark level will assume a trend faster than the predicted one.	Maintains a compact set of indicators related to each other Relatively transparent	Difficult to interpret trends
2 RESIDUAL OF A REGRESSION ON THE PARITY INDEX ON THE COMPLETION RATE	A regression of the gender parity index on the completion rate will generate the predicted level of the index at each level of the completion rate. The equity benchmark level will be proposed assuming that progress towards the global trend will be faster than average.	Need to focus on countries with disparities higher than average	Difficult to interpret trends Not directly interpretable (male-female gap)
3 STANDARD DEVIATION OF THE SECONDARY COMPLETION RATE BY SURVEY CLUSTER	No clear benchmark setting process - 2 alternatives: 1. Values set with reference to minimum observed value among all countries, which all will need to reach. 2. Regression of standard deviation on the completion rate will lead to the residual identifying countries that are more unequal than predicted.	Characteristic-free measure (variation across enumeration areas)	Survey cluster design may differ substantially between countries, also affecting interpretation.
4* ORDINAL INEQUALITY MEASURE OF THE ATTAINMENT DISTRIBUTION	No clear benchmark setting process - 2 alternatives: 1. Values set with reference to minimum observed value among all countries, which all will need to reach. 2. Regression of standard deviation on the completion rate will lead to the residual identifying countries that are more unequal than predicted.	Characteristic-free inequality measure, using ordinal standard inequality measures, e.g. ordinal Gini.	Difficult to interpret Cross-country comparability is required across more levels of education.

BENCHMARKS: INDICATOR ON EQUITY

- All 4 options depend on household survey analysis.
- Additional disadvantages relative to the other 6 benchmark indicators:
 1. Although efforts will be made to share the benchmark-setting methodology for countries to estimate, for efficiency reasons, **calculations will need to be centralized.**
 2. As with many other survey-based measures, the **frequency of the indicator will not be annual.**
 - This has already been acknowledged & decided that it is important to maintain one equity benchmark.



REGIONAL AND GLOBAL AGGREGATES

- In March 2021, UNDESA assembled a **task team** to **harmonize and improve existing methodologies**, share experiences and **best practices in calculating aggregates**, provide **guidance** to other international and regional organizations, and make methodology used transparent.
- Currently, **different methodologies are used by international agencies** (ie use of population or income estimates, weights, country grouping classifications, and the handling of missing data).
- Start **mapping** custodian agencies' current practices and stock-tacking on how the different issues are addressed.
- TCG7 addressed two partial issues related to aggregates based on survey data:
 1. whether to publish ranges to reflect uncertainty due to sampling and imputation
 2. what population weight to use:
 - the size of the three cohorts roughly corresponding to the relevant education level; or
 - the size of the school-age population of the relevant education level
- Issues related to regional/global aggregates for all indicators and decisions needed for reporting remain unanswered.



REGIONAL AND GLOBAL AGGREGATES

	1.a.2	4.1.1	4.1.2	4.2.1	4.2.2	4.3.1 or 4.4.1	4.5.1	4.6.1	4.a.1*	4.b.1	4.c.1*
STATUS											
SDG database	Not reported	Not reported	Not reported	Reported (World, SSA)	Reported	Not reported	Not reported (except 4.c.1)	Not reported	Reported	Reported (LAC, SSA)	Reported
UIS database	Not reported	Not reported	Not reported	Not reported	Reported	Not reported	Reported for 4.2.2	Not reported	Reported	Not reported	Reported
2021 SDG Report	Not reported	Reported	Reported	Reported (2020 only, 31% cover)	Reported	Not reported	Reported for 4.1.1, 4.2.2 and 4.c.1	Reported (2020 only)	Reported	Reported	Reported
2020 GEM Report	Reported	Not reported	Reported	Reported for some regions	Reported	Reported for some regions	Reported	Reported for some regions	Reported	Reported	Reported
CHARACTERISTICS											
Regional groupings	—	SDG, M49, World Bank	SDG, M49, World Bank	SDG, M49, World Bank	SDG, M49, World Bank	—	SDG, M49, World Bank	SDG, M49, World Bank	SDG, M49, World Bank	SDG, M49, World Bank	SDG, M49, World Bank
General method	—	Population-weighted administrative data	Population-weighted modelled estimates	Population-weighted survey data	Population-weighted administrative data	—	Population-weighted administrative data (applied to underlying indicators, not the index)	Population-weighted administrative data	Sum	Sum	Population-weighted administrative data
Population or other weights	—	4.1.1s and b: primary enrolment; 4.1.1c: lower secondary enrolment. For disaggregation: enrolment by sex.	Cohort size 10-14 primary 15-19 lower s 20-24 upper s	(—)	Population of age one year before primary entry	—	Same weight used as for the underlying indicators	Population aged 15 to 64 available in 5-y increments; weighted average of preceding and preceding years used for in-between years	Total number of schools by level	No weights	Total number of teachers by level
Handling of missing data and imputed assumption	—	Data for latest year with non-missing values for indicator and weight were used. Countries without either were excluded. No imputation was used.	Country has regional value	(—)	Sequence of imputations: nearest year, auxiliary data, unweighted group mean, manual.	—	Imputation is applied to underlying indicators, not to parity indices	Data for latest year with non-missing values for indicator and weight were used. Countries without either were excluded. No imputation was used.	Sequence of imputations: nearest year, auxiliary data, unweighted group mean, manual.	No missing data but large share of total volume not assignable to countries	Sequence of imputations: nearest year, auxiliary data, unweighted group mean, manual.
Criteria to display regional or global estimates: population coverage	—	No criteria were applied due to low data coverage, particularly in low and middle income countries	80%	(—)	Data for ≥60% of population: publishable Data for <60% and ≥33% of population: published as UIS estimate. Data for <33% of population: not published.	—	Same as underlying indicator	No criteria were applied due to low data coverage, particularly in low and middle income countries	Data for ≥60% of population: publishable Data for <60% and ≥33% of population: published as UIS estimate. Data for <33% of population: not published.	No missing data	Data for ≥60% of population: publishable Data for <60% and ≥33% of population: published as UIS estimate. Data for <33% of population: not published.
Estimate year	—	Latest year for each country	Current year (modelled)	(—)	2 years before current year	—	Same as underlying indicator	Latest year for each country	2 years before current year	2 years before current year	2 years before current year
Years represented / Year ranges used to calculate regional estimates with survey data (no modelling)	—	Most recent country data in last X years	Most recent country data in last 5 years modelled and projected to current year	(—)	Most recent country data in last 5 years	—	Same as underlying indicator	Latest years are represented	Any country data used if average distance from estimate year is ≤4 years	Country data two years back	Any country data used if average distance from estimate year is ≤4 years
Modelling: Short description including covariates	—	No	ABC model	No	No	—	No	No	No	No	No
Other methods used	—	No	No	No	No	—	No	No	No	No	No

- Summary of methodologies currently in use
- By UNSD question
- Aggregates only reported for 5 of 13 global indicators for SDG 1 and SDG 4 (of which 2 are based on national indicators)



REGIONAL AND GLOBAL AGGREGATES

Issues	4.1.1 and learning assessment data-based indicators	4.1.2 and survey data-based indicators	4.2.2 and administrative data-based indicators (e.g. 4.1.4)	Parity indices	1.a.2 and finance indicators
Regional groupings					
General method					
Population weights	Choose between: <ul style="list-style-type: none"> school age population i.e. UIS data enrolment 	Choose between: <ul style="list-style-type: none"> cohort size 10-14 year old for primary 15-19 year old for lower sec. 20-24 year old for upper sec. (unbiased by level duration) school age population i.e. UIS data (=consistent with OOS) 		Choose between: <ul style="list-style-type: none"> median of countries i.e. average over individual countries' parity indices mean of populations i.e. aggregate populations and divide the two groups 	Choose between: <ul style="list-style-type: none"> unweighted average (mean or median) of country-level indicators weighted average of country-level indicators by GDP/total government expenditure
Handling of missing data and implied assumption	Choose between: <ul style="list-style-type: none"> assume country has regional value impute missing values based on other information 	Choose between: <ul style="list-style-type: none"> assume country has regional value impute missing values based on other information 			Choose between: <ul style="list-style-type: none"> Use regression model expressing the indicator as a function of total government expenditure as share of GDP and GDP per capita, with country and time fixed effects to impute missing values Sequential Imputation (UIS): (i) use values for country from nearest year (ii) use unweighted regional mean (iii) manual estimation No imputation
Criteria to display regional or global estimates: population coverage				Choose between: <ul style="list-style-type: none"> 50% of countries 50% of population 	Choose between: <ul style="list-style-type: none"> UIS methodology: <ol style="list-style-type: none"> Publishable national data for $\geq 60\%$ of GDP / total public expenditure in PPP\$ in region: publish without qualifier. Publishable national data for $< 60\%$ and $\geq 33\%$ of GDP / total public expenditure in PPP\$ in the region: publish as UIS estimate. Publishable national data for $< 33\%$ of GDP / total public expenditure in PPP\$ in region: not published. Publishable national data for at least 50% of GRP / total public expenditure in region: publish without qualifier.
Estimate year					
Years represented / Year ranges used to calculate regional estimates with survey data (no modelling)					
Modelling: Short description including covariates					
Other issues					
Confidence intervals	Choose between: <ul style="list-style-type: none"> confidence intervals (+how) no confidence intervals 				
Disaggregation	Choose between: <ul style="list-style-type: none"> aggregates for urban/rural and bottom/top quintile (+what weights) no aggregates for urban/rural and bottom/top quintile 				

- Summary of issues to discuss
- By UNSD question



REGIONAL AND GLOBAL AGGREGATES

INDICATOR 4.1.1 AND LEARNING ASSESSMENT DATA-BASED INDICATORS

	OPTION 1	OPTION 2
POPULATION WEIGHTS	School age population	Enrolment
MISSING DATA AND IMPLIED ASSUMPTION	Assume country has regional value	Impute missing values based on other information



REGIONAL AND GLOBAL AGGREGATES

INDICATOR 4.1.2 AND SURVEY DATA-BASED INDICATORS

	OPTION 1	OPTION 2
POPULATION WEIGHTS	Cohort size: <ul style="list-style-type: none">• 10-14 year old for primary• 15-19 year old for lower secondary• 20-24 year old for upper secondary (unbiased by level duration)	School age population, i.e. UIS data (=consistent with out-of-school)

	OPTION 1	OPTION 2
MISSING DATA AND IMPLIED ASSUMPTION	Assume country has regional value	Impute missing values based on other information



REGIONAL AND GLOBAL AGGREGATES

INDICATOR 4.2.2 AND ADMINISTRATIVE DATA-BASED INDICATORS (EG 4.1.4)

- No issues to discuss:
Methodology described in the UIS document must be discussed and an agreement must be reached in a future session



REGIONAL AND GLOBAL AGGREGATES

PARITY INDICES

	OPTION 1	OPTION 2
POPULATION WEIGHTS	Median of countries, i.e. average over individual countries' parity index	Mean of populations, i.e. aggregate populations and divide the 2 groups
CRITERIA TO DISPLAY REGIONAL OR GLOBAL ESTIMATES: POPULATION COVERAGE	50% of countries	50% of population



REGIONAL AND GLOBAL AGGREGATES

INDICATOR 1.A.2 AND FINANCE INDICATORS

	OPTION 1	OPTION 2
POPULATION WEIGHTS	Median of countries, i.e. average over individual countries' parity index	Mean of populations, i.e. aggregate populations and divide the 2 groups
	OPTION 1	OPTION 2
MISSING DATA AND IMPLIED ASSUMPTION	Assume country has regional value	Impute missing values based on other information
	OPTION 1	OPTION 2
CRITERIA TO DISPLAY REGIONAL OR GLOBAL ESTIMATES: POPULATION COVERAGE	50% of countries	50% of population



REGIONAL AND GLOBAL AGGREGATES

4.1.1 AND LEARNING ASSESSMENTS

4.1.2 AND SURVEYS

4.2.2 AND ADMINISTRATIVE DATA

CONFIDENCE INTERVALS

- With confidence intervals (and how?)
- Without confidence intervals

DISAGGREGATION

- Aggregates for urban/rural and bottom/top quintile (and which weights?)
- No aggregates for urban/rural and bottom/top quintile



NEXT STEPS

- Inputs, comments from today's meeting will be summarized
- TCG Secretariat will circulate among TCG Members for voting





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THANK YOU!

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