

## Filling the data gaps for Expenditure Data

*Proposal from the UIS TCG Secretariat*

### ***Executive Summary and decision points***

The document presents the current situation of data availability, data coverage and gaps for two international benchmarking indicators on education expenditure government expenditure on education as a percentage of total government expenditure and government expenditure on education as a percentage of total GDP. The paper analyses the different sources of data for education expenditure e.g. UIS, BOOST, Public Expenditure Review (PER), Education Country Status Report (CSR), NER, etc., and their frequencies in producing the indicators. The paper also provides some recommendations to fill data gaps and presents the results of implementing those recommendations.

1. Presents the result of the mapping of different sources of data for education expenditure e.g. UIS, BOOST, Public Expenditure Review (PER), Education Country Status Report (CSR), IMF and most importantly national sources.
2. The analysis of the differences when alternatives sources exist for same country and proposes a rule for filling data gaps and the adjustments if needed
3. Propose a new metadata proposal based on the combination of multiple data sources
4. Showcase the impact on the coverage indicators

### *Proposed Decision*

1. Prioritize the data submitted by member states to the UIS through the annual Formal Education Survey
2. Utilize other publicly available data (from alternative sources such as IMF, PEER and BOOST, from WBG, and National official data from both budget and from actual expenditure) to fill data gaps remaining from the submission to the UIS through Questionnaire B (Survey on Formal Education).
3. Proceed with imputation to fill data gaps only when no data is available from the above list sources

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## **1. Background**

The production and dissemination of high quality education statistics are essential for effective planning, as well as for monitoring progress toward national and global education targets. Evidence-based planning reduces system costs by allocating resources more effectively. The added cost of improving data – as long as the data are actually used – is likely much lower than the implicit costs of bad or no information. Planning with bad data inhibits optimal policy implementation, particularly with respect to resource allocation and its equity and efficiency.

Several critical gaps are plaguing the current international monitoring dashboard. Some parts of the education system are not well covered, some populations are excluded and, finally, some aspects of education simply are not measured. In terms of geographical data gaps, Sub-Saharan Africa is the high priority region with low coverage of data. Other data gaps are observed in Eastern Asia and Small Island States. In terms of the data sources, gaps are more frequent for learning assessments and household surveys, whereas administrative data have the highest coverage rate.

Two of those data gaps are the ones related to the expenditure data. The UIS collects data on education through the annual [Survey of Formal Education](#). Two-thirds of the 165 targeted and contacted countries submit a response to the survey every year, although depends on the questionnaire. To produce the international indicators, the UIS uses population data from UNPD and GDP data from the World Bank.

In October 2020, document TCG7/WG/F/REF/1 [Producing Internationally Comparable Education Expenditure Data: Data Sources, Coverage, and Challenges](#) presented the situation of data availability, data coverage and gaps for two international benchmarking indicators on education expenditure- government expenditure on education as a percentage of total government expenditure and government expenditure on education as a percentage of total GDP. This paper analyses the different sources of data for education expenditure e.g. UIS, BOOST, Public Expenditure Review (PER), Education Country Status Report (CSR), NER etc. and their frequencies in producing the indicators. The paper also presents a concrete proposal to fill the data gaps and a decisions rule to that end.

This document is structured as follows. After this introduction, Section 2 described the expenditure indicators and the current coverage. Section 3 describes the available alternative sources and their characteristics. Section 4 elaborates on the challenges to harmonization while Section 5 proposed the concrete steps towards filling the data gaps based on the analysis and the impact on coverage.

## **2. The Expenditure Indicators**

The UIS has the mandate to collect, compile, produce, and disseminate internationally comparable data on education finance and report on these 2 international benchmark indicators among others:

- Government expenditure on education as a percentage of total government expenditure
- Government expenditure on education as a percentage of total GDP

The calculation method for both indicators is simple and straight forward, they share the numerator while the denominator is IMF value for total expenditure and WBG for GDP.

$$\text{Government expenditure on education as a percentage of total government expenditure (global indicator 1.a.2)} = \frac{\text{Government expenditure on education}}{\text{Total government expenditure}}$$

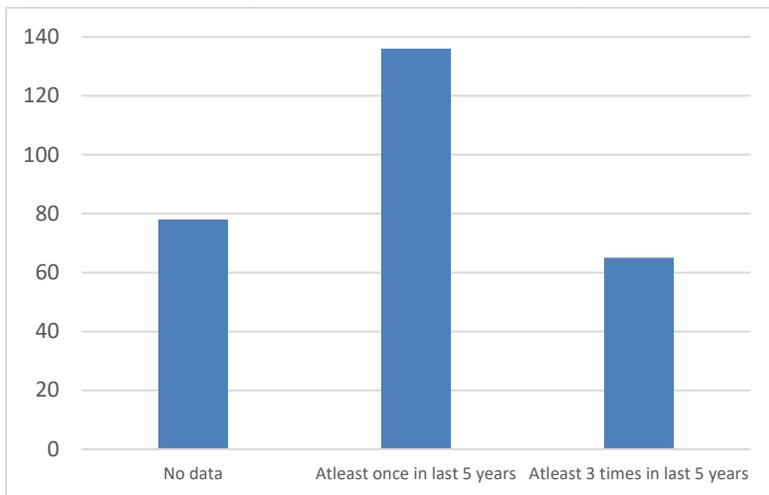
$$\text{Government expenditure on education as a percentage of total GDP} = \frac{\text{Government expenditure on education}}{\text{Total GDP}}$$

**2.a. Education expenditure data coverage**

Globally, around two thirds of the countries have reported at least one data point for the two international benchmark indicators in the last 5 years. However, looking at the availability of trend data (at least 3 data points in the last 5 years), there are less than one third of the countries that have trend data in the last 5 years (**Figure 1**).

In terms of coverage, the UIS database has the highest coverage compare to other data sources. UIS annual survey is the most consistent effort to collect data from all the countries and maintain time series data for analysis and comparison between the countries and between different timelines.

**Figure 1 - Number of countries and territories for which UIS data is available**



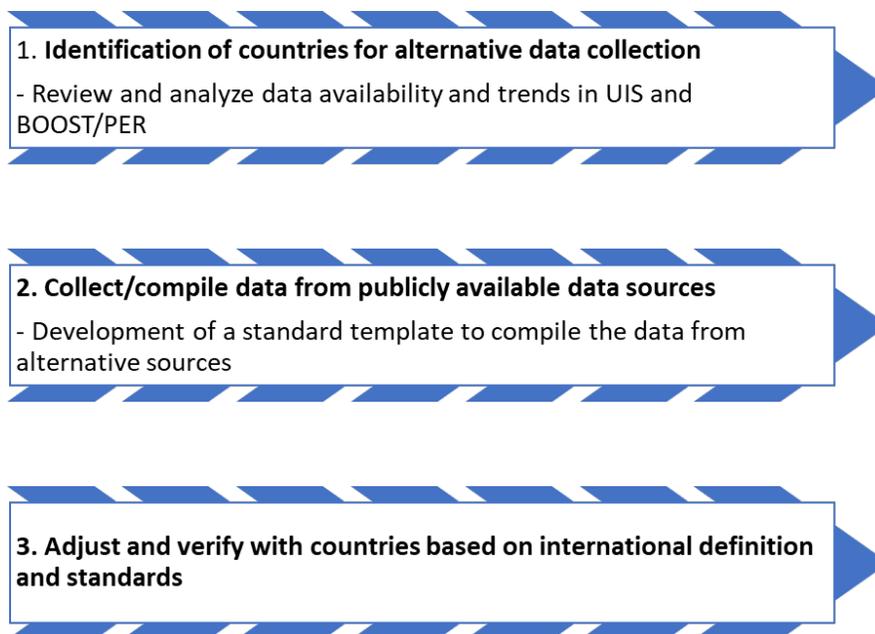
Source: [TCG/WG/F3](#)

However, there are other sources that might serve to fill data gaps, which could be group in two subsets. The first one is data from international organizations, IMF and WBG. And the second group, not explored and mined, is data from national official documents based on both actual expenditure and budget figures.

### 3. Map of available data

The Workplan proposed in [Producing International Comparable Education Expenditure Data: Data Sources, Coverage, and Challenges \(TCG/WG/F3\)](#) has been implemented and the steps to fill the gaps, as described below, cover all international sources from 2010/2020 and national official documents from 2015/2021 for each country.

**Figure 2 – Proposed steps to fill the gaps**



#### 3.1. Using BOOST, PER, and SCR to fill the global data gaps on education expenditures

As mentioned earlier, BOOST, PER and IMF do also have data on education expenditure data for several years for various countries. However, their coverage and completeness of the data could vary depending upon scope of the studies. To use these sources, a careful review of data included in various countries can be done to ensure meaningful inclusion of those data into global database. The UIS has mined from 2010 to 2020.

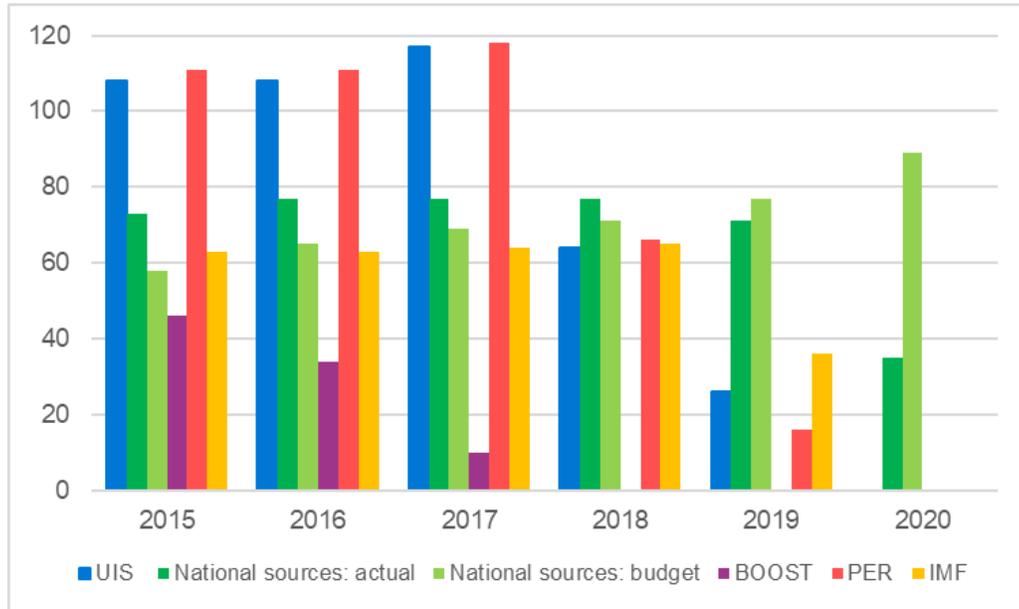
#### 3.2. National Publicly available data.

The collection of national data sources has been carried out to cover the period 2015/2021 data mining publicly available documents from national governments using a template and a process that standardizes the data and grants all adjustments that makes comparable with data available at the UIS. Triangulation has been made to cross check on the robustness of the exercise by comparing indicators that the UIS produces, and the ones collected through mining a template.

Expenditure related data are disseminated as reports, e.g. economic reports or simply economic status, were presented in the table format and publicized through webpages or web portals or simply in PDFs. Such reports/tables include information on total GDP, revenue by sectors, government spending by sectors, etc. Carefully looking at such reports and information, it is possible to compile data on total government expenditure and government expenditure on education to calculate international education

finance benchmark indicators. Some countries do also publish the total government expenditure on education on the Ministry of education’s web sites or national education sector analysis reports. Such data could be useful for filling the data gaps of the international education finance data set. The following process can be followed in compiling data from alternative sources:

**Figure 3 – Availability of data by data source and year - 2015-2020**



### 3.3. Repository of Public Budgets

As a by product, a repository of government expenditure will be available as of July 13<sup>th</sup> 2021, as global public good, on the Technical Cooperation Group for Education 2030.

**Figure 4 - Repository of Public Budget**

### Repository of Education Budgets

Year: All  
Region: All  
Sub region: All

Country	Year of Year	Type	
		Budget laws	Other sources
Anguilla	2015	●	
	2018	●	
	2019	●	
Antigua and Barbuda	2016	●	
	2017	●	
	2018	●	
	2019	●	
	2020	●	
	2021	●	

#### 4. *Harmonization of data sources*

The purpose of this section is to summarize the findings of comparing the different sources. To be able to use alternative sources, it is a useful first step to understand the differences of data available for the same country by analyzing the methodologies, and to build a rule for the use of alternative sources for global reporting.

Indicators of public or government expenditure on education as a percentage of total GDP and total government expenditure vary depending on the source. For example, the UIS reports (based on information provided by the member states) that government expenditure on education as a percentage of total GDP in Albania for 2013 was 3.5 percent. For the same year, this figure was reported by the IMF to be 3.4 percent and by the World Bank's BOOST program to be 3.3 percent. The variation in this figure (as well as for government expenditure on education as a percentage of total government expenditure) is due either to differences in the numerator (the total government expenditure on education) or on the denominator (GDP or total government expenditure). For example, in the case of Moldova, the BOOST website reported that total government expenditure as a percent of GDP was 8.34 percent in 2011, but when the total expenditure reported in the BOOST microdata file was divided by GDP for that year, the percentage was 6.98 percent, much closer to the figure of 6.96 percent reported by the IMF for the same year (though still different from the UIS figure of 7.1 percent).

##### 4.1. *Characteristics of each data source*

As described above, we need to start by comparing the methodologies and identifying the differences that come from the definitions.

**The comparison of the UIS and IMF expenditure** data and their methodologies used can help to understand the potential sources and why there are differences between them. The source documents for this analysis are (1) the UIS's [Instruction Manual: Survey of Formal Education](#) and (2) the [IMF's Government Finance Statistics Manual 2014](#). The IMF's *Government Finance Statistics Manual 2001* was also reviewed and appears to be similar with respect to education expenditure as the 2014 manual.

The differences in definition of education and expenditure are quite minor and likely do not explain the large differences in reported government expenditure on education between the UIS and IMF. Expenditure by level of education; however, expenditure are categorized differently by the UIS and the UN COFOG (used by the IMF). One explanation may be that the expenditure figures reported by governments to the UIS follow government accounts while the IMF figures require governments to use an alternate approach. For example, the IMF notes about categorizing expenditure by COFOG that "conventional government accounts are not usually suitable for this purpose because they reflect the organizational structures of governments."

**Boost, PEER and SCR:** other sources do also have data on education expenditure for several years for various countries. However, their coverage and completeness of the data could be varied depending upon scope of the studies. To use these sources, carefully review of data included in various countries can be done to ensure meaningful inclusion of those data into global database.

**National Sources:** National data is used by filling a standardized and dynamic template to improve comparability. Concretely we have guided on: a) some countries have multiple ministries; b) data from all ministries expenditure/ budget should be consolidated; c) ensure if debt and debt servicing amounts are included in total budget; d) ensure that data from a federal country includes all relevant government levels (central/regional/local); d) when pre-primary education is managed by another ministry (e.g. Ministry of Women and Child Affairs) and includes ECCE, ECCE needs to be deducted when is not formal

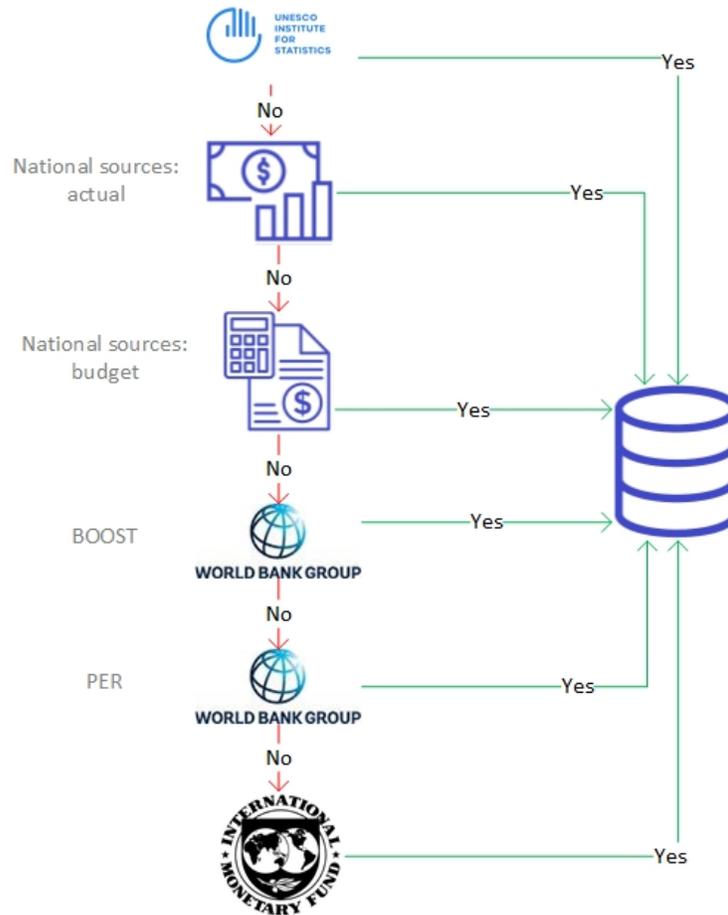
education; e) if actual expenditure is not available, complete the Revised estimates/ Budget cells with "revised estimates"; if "revised estimates" are not available, complete them with budget (also called allocation) figures; f) if a country has reported to the UIS we have completed at least for one year for which there is data available at the UIS to validate the compiled data and methodology. The main methodological difference with respect to the UIS methodology is the use of Government Expenditure collected from National official documents instead of from IMF source (see Annex for more details).

#### 4.2. *Analysis and Recommendations*

The figure bellows defines the steps follow to fill the data gaps based on the analysis.

- a. The first step is to fill with the UIS produced based on Questionnaire B – Survey on Formal Education (QB) submissions.
- b. The second is to mine with the indicators produced following the steps and the quality assurance process described in Annex I. The output are not only the indicators but also annotated data points referring to the sources at the national level. The filling includes prioritizing actual over budgeted expenditure and clear the outliers based on the analysis about deviances between indicators for the cases there is information from UIS QB and actual expenditure/budgeted expenditure
- c. PER and BOOST are used with the same filling criteria and treatment of the outliers as proposed in b.
- d. IMF produced indicators are filled when no other information is available.

#### **Figure 5 – Steps to fill the data gaps**



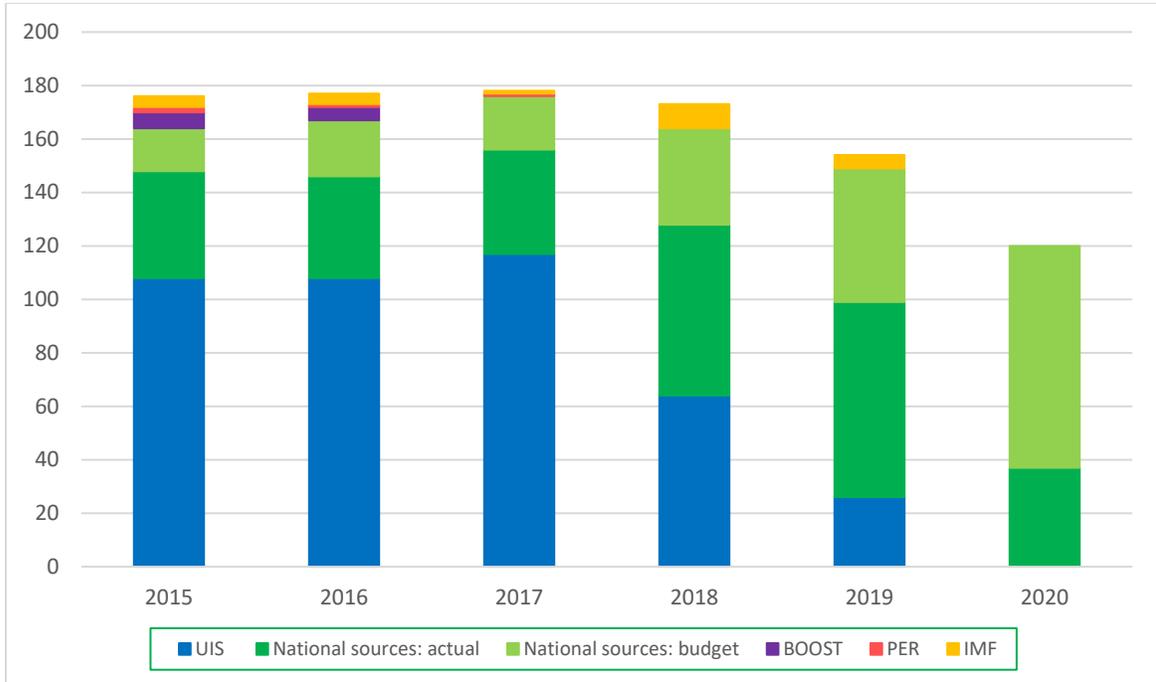
*Note: "yes"/"no" refer to availability of data.*

**5. Impact on coverage**

Steps to fill the data gaps: the data gaps have been filled according to the analysis following the second recommended steps based on the analysis described in the previous section.

The figures below summarizes the impact on total coverage as a result of implementing the recommendations.

**Figure 6 – Coverage per year 2015-2020**



### ***Annex 1 - Process of filling data gaps from national sources***

The data collection covered 2 indicators on education expenditure. Data of filling data gaps from national sources:

1. Design of a dynamic templates for data collection and calculation of SDG indicators for:
  - a. Educational Expenditure
    - 1) covers the period of 6 years from 2015 to 2021
    - 2) includes GDP data from the World Bank
2. Create the inventory for the official data sources available at the country level
3. Identify the availability of national data for calculation of selected SDG indicators
4. Complete templates with the data and metadata available at the country level
5. Compare the indicators calculated from national source with the ones produced by the UIS
6. Identify the possible reasons for differences between the indicators
7. Create a consolidated database for all the countries

#### **Structure of the template**

The template includes 5 spreadsheets:

1. Instructions for completing the template
2. Template to complete:
  - General information on the financial year, unit and currency
  - Budget and Actual expenditure for
    - Total government expenditure from all sectors (including education)
    - Government expenditure on education by ISCED levels
  - Total Gross Domestic Product (GDP), in current price (local currency)
  - Expected annual inflation rate (included in budget)
  - Indicators calculated from national source and the ones produced by the UIS
  - Metadata
    - Data Source
    - Detail information on coverage for total government expenditure and government expenditure on education
3. Calculations needed to present the data in the table to complete spreadsheet such as grouping finance data from different level of government; and any other calculation needed to transform the data available in the report(s) to fit the template
4. Educational Expenditure UIS: all data and metadata available in UIS database for reference only
5. Database: summary of the results produced from national source. It takes indicators calculated from actual expenditure, when available, or budget, otherwise.

#### **Instruction for filling the template**

- a. Data need to be expressed in the same units (e. g. in thousand, million etc.) and currency in all tables.
- b. Some countries have multiple ministries (MoE, MoTVE, MoHE). Please consolidate the data from all ministries expenditure / budget (include the calculations in the calculations sheet, if applicable). If available, segregate portion for expenditure allocated for education within each ministry. If not, include total expenditure by ministry in the calculation sheet.
- c. Priority should be given to data points (indicator/year) that are not available at the UIS (please see the BOX 1 - Comparison national sources vs UIS to identify the data gaps and validate your

data). However, please complete at least one year, if available, for which there is data available at the UIS to validate the compiled data. Additionally, it is also priority to complete the template with budget 2020 and 2021 and the expected annual inflation rate for 2020 and 2021 from the budget.

- d. Ensure if debt and debt servicing amounts are included in total budget. Some countries include debt and debt servicing amounts in budget book and in some cases, need to find separate documents of Ministry of Finance or Ministry of Education.
- e. Ensure that data from a federal country includes all relevant government levels (central/regional/local).
- f. When pre-primary education is managed by another ministry (e.g. Ministry of Women and Child Affairs) and includes ECCE, ECCE needs to be deducted when is not formal education?
- g. If actual expenditure is not available, complete the Revised estimates/ Budget cells with "revised estimates"; if "revised estimates" are not available, complete them with budget (also called allocation) figures.

**Output**

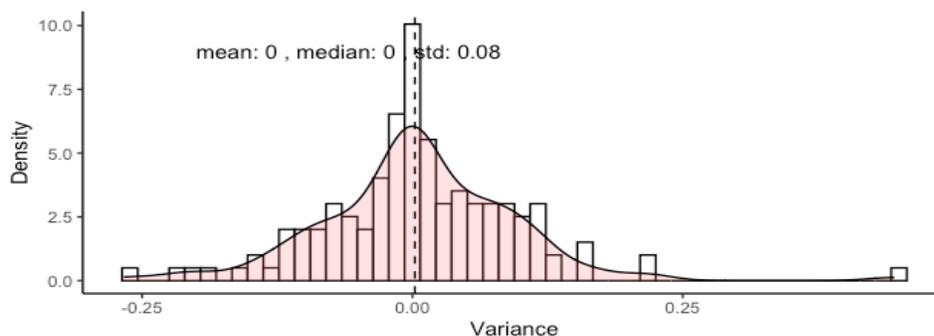
- 1. Database with the results for SDG indicator 1.a.2 Proportion of total government spending on essential services (education) and Government expenditure on education as a percentage of GDP.
- 2. Annotated data points are generated to inform sources, references and guide database user.
- 3. A repository of public budget as a global public good is generated as part of the process and will sit in the TCG microsite.

**Analysis**

*National Education Accounts - Budget/Actual Variance*

For the analysis, 137 Country-Years have both budgeted and actual expenditure data were compared. Most are from LAC, SSA and Asia.

The distribution of the difference between budget and actual expenditure is fairly symmetric falling centred in 0. Variance (relative difference) between executed and budgeted expenditure mostly falls between + or - 20%. The three exceptions but excluding these values, the mean and median of the variance is close to 0.



*Distribution of NEA Budget vs. NEA Actual (2015-2020)*

Most of the observations (year/country combinations) that can be compared (having both Budget and Actual Expenditure) is from Latin America and the Caribbean (LAC) and Sub-Saharan Africa (SSA). In LAC, 30 observations (52%) fall within -5 and 5% difference; 16 between -2 and 2%.

In SSA the mean of the mean difference is higher (actual expenditure is +3% higher in average) than LAC. The spread of values is also slightly higher in Sub-Saharan Africa but falling within -5 and 5% difference.

Only 17 countries have more than 5 observations. The mean difference in these countries falls between -5% and 5%; high variation than that cannot be discarded was the case only for a few countries. In those cases and to avoid eliminating data points an adjustment factor can be applied based on these differences and using the budget figures. Adjustment factors were estimated as part of the analysis.

### ***Annex 2- UIS and IMF methodologies for measuring expenditure on education***

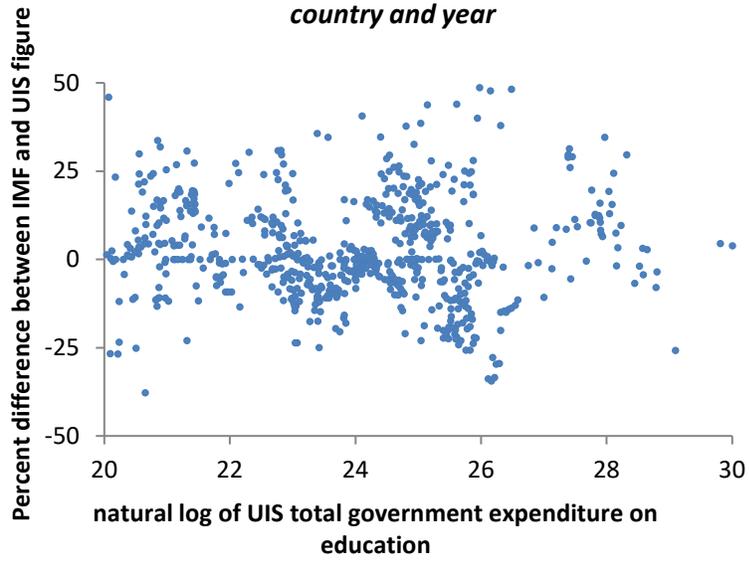
Indicators of public or government education expenditure as a percent of GDP per capita and total public expenditure vary depending on source. For example, the UIS reports (based on information provided by the government) that public expenditure on education as a percent of GDP in Albania for 2013 was 3.5 percent. For the same year, this figure was reported by the IMF to be 3.4 percent and by the World Bank's BOOST program to be 3.3 percent. The variation in this figure (as well as for education expenditure as a percent of total government expenditure) is due either to differences in the numerator (the total government expenditure on education) or on the denominator (GDP or total government expenditure). For example, in the case of Moldova, the BOOST website reported that total government expenditure as a percent of GDP was 8.34 percent in 2011, but when the total expenditure reported in the BOOST microdata file was divided by GDP for that year, the percentage was 6.98 percent, much closer to the figure of 6.96 percent reported by the IMF for the same year (though still different from the UIS figure of 7.1 percent).

However, much of the difference in these figures appears to be in the numerator, that is, differing figures for total expenditure by government on education. Comparing 759 data points reported for the same year and country between the UIS and IMF, the vast majority differed in absolute value between 5 and 50 percentage points (**Table 1 & Figure 7**). Significant differences in expenditure by level of education were also found.

**Table 1**

<b>Absolute difference between government expenditure on education reported by UIS and IMF (in percentage points)</b>	<b>Percent of sample (year/country combinations) whose difference fell in the bound</b>
0% to 1% difference:	12% of sample
1% to 5% difference:	22% of sample
5% to 10% difference:	21% of sample
10% to 50% difference:	44% of sample
50% to 100% difference:	1% of sample

**Figure 7. - Percent difference between IMF and UIS total government expenditure on education for the same country and year**



### Definitions

The purpose of this note is to provide comparison of the methodologies used by the UIS and the IMF's Government Finance Statistics (GFS) to understand the potential sources of why there are differences in the IMF and UIS statistics on education expenditure. The source documents for this analysis are (1) the UIS's 2019 *Instruction Manual: Survey of Formal Education* and (2) the IMF's *Government Finance Statistics Manual 2014*. The IMF's *Government Finance Statistics Manual 2001* was also reviewed and appears to be similar with respect to education expenditure as the 2014 manual.

Government Finance Statistics (GFS), data table "Expenditure by Functions of Government (COFOG)" for the General Government<sup>1</sup>, provide data for 'Expenditure on Education' in COFOG, where Expenditure on Education is the sum of values of groups 09.1 to 09. Another source of information from IMF is the World Economic Outlook (WEO), which provides a database that "*contains selected macroeconomic data series from the statistical appendix of the World Economic Outlook report, which presents the IMF staff's analysis and projections of economic developments at the global level, in major country groups and in many individual countries. The WEO is released in April and September/October each year.*"<sup>2</sup>

Potential sources of differences in total government expenditure on education

**Only minor differences are found between the UIS and IMF definitions of government expenditure on education.** Definitions of education appear to be similar if not clearly defined; both manuals offer specific examples of what to include in some cases but their examples are different. Both definitions include expenditure by ministries other than education and at various levels of government. There is some difference in the definition of expenditure in general (as opposed to education *on* expenditure) between the UIS and IMF; however, their two definitions generally overlap with the exception of "consumption of fixed assets" which the IMF explicitly includes and of "net investment in financial assets" which the IMF explicitly excludes; neither of these is mentioned explicitly in the UIS manual. However, these are likely to result in small differences in expenditure figures between the UIS and IMF.

**Definition of education expenditure:** The definitions of education used by both the UIS to classify expenditure are generally similar if not well defined. The UIS reports education expenditure on formal education programmes and defines government education expenditure as "consolidated expenditure on educational goods and services made by local, regional and central governments." While the UIS manual does not provide a definition of "education goods and services", it explicitly mentions that it includes expenditure by all "government ministries and agencies" providing education services. The IMF adopts the UN Statistics Division's Classification of the Functions of Government (COFOG) classification system in which education is one of the categories. The IMF explicitly notes that expenditure by "military schools and colleges where curricula resemble those of civilian institutions, police colleges offering general education in addition to police training and the provision of education by radio or television broadcasting." Apart from differing in what the manuals explicitly note as being part of education expenditure, there appears to be little reason to believe that the definition of education is a source for the differences in the total expenditure figures.

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1 Data was downloaded using the IMF website: <https://data.imf.org/?sk=a0867067-d23c-4ebc-ad23-d3b015045405>

2 <https://www.imf.org/external/pubs/ft/weo/disclaim.htm>

**Definition of expenditure more generally:** There are minor differences in what is defined as expenditure by the UIS and IMF. Expenditure by the IMF is defined as “expense” and net-investment in non-financial assets. Expense by the IMF is defined as a “decrease in the net worth resulting from a transaction.” Expenditure classifications, which include both “expense” and net-investment in non-financial assets, for a particular function of government include (1) compensation of employees, (2) use of goods and services, (3) consumption of fixed capital, (4) interest, (5) subsidies, (6) grants, (7) social benefits, (8) other expenses, (9) net investment in non-financial assets. The IMF’s PFS excludes expenditure on investment in financial assets and notes this as a difference between their approach and that by the OECD/UN. The PFS manual notes that “outlays are referred to in a general sense by the OECD/UN... include grants, loans, and/or subsidies.” Transactions in financial assets and liabilities are excluded by the IMF because they “are usually fungible, to such an extent that a functional classification of these financing activities may be less useful.”

Compared to the UIS’s definition of government expenditure on education (“consolidated expenditure on educational goods and services”), the two definitions appear to overlap each other with the exception of consumption of fixed capital. The UIS notes that the expenditure on educational goods and services by a level of government can occur through (1) direct expenditure for educational institutions, (2) inter-governmental transfers for education and (3) government transfers for education to private entities. Hence, this definition clearly overlaps with the IMF’s expenditure classifications of compensation of employees, use of goods and services, subsidies, grants, social benefits and potentially other expenses. The UIS does not explicitly mention interest payments, though these could be construed as expenditure related to financial services. Capital expenditure on education as defined by the UIS appears to be equivalent to the IMF’s net investment in non-financial assets. It is not clear from the UIS manual whether net investment on financial assets is included in the definition of education expenditure.

#### *Potential sources of difference in expenditure by level of education*

There are a number of differences in the methodology for assigning expenditure by level of education which limit the comparability between the two figures. The IMF GFS emphasizes differences between “individual expenditure” versus “collective expenditure”; the former benefits individuals and the benefit they receive generally does not benefit others while the former benefits all. This distinction results in a differing set of educational categories than the UIS. Categorization of expenditure by level: The UIS categorizes expenditure by level of education emphasizing that “as far as possible, data should not be reported as ‘Not allocated by level.’” By contrast, the IMF’s individual versus collective basis of organizing expenditure results in a number of additional categories in addition to education level (**Table 2**). Expenditure on individual students can be allocated by level, while “collective educational services are concerned with matters such as formulation and administration of government policy; setting and enforcement of standards; regulation, licensing, and supervision of educational establishments; and applied research and experimental development into education affairs and services.” The IMF GFS manual further notes that “overhead expenditure connected with administration or functioning of a group of schools, colleges, etc. is considered to be individual expenditure.” Subsidiary services are also assigned to a separate category by the IMF under individual basis expenditure except for “scholarships, grants, loans, and allowances in cash to defray the costs of subsidiary services” which are assigned by level on an individual basis.

Both the UIS and IMF suggest estimating proportions of expenditure by level when government figures are aggregated across levels. For example, the UIS recommends that in the case of staff compensation, “when the wage bill is not already split between education levels, the share going to each level should be estimated” using “data on the number of teachers per level and salary scales.” In addition, “expenditure

on programmes benefitting more than one level of education can be split using a distribution formula weighted by student numbers.” The IMF also recommends that expenditure be distributed across sector, by suggesting that, “if possible, the expenditure of multifunction entities should be allocated among COFOG functions using a relevant physical indicator, such as hours worked by employees.” It also notes that “it may be possible only to assign all expenditure by multifunction entities to whichever purpose appears to account for the largest part of expenditure.”

**Table 2**

<b>UIS Expenditure by level</b>	<b>IMF Expenditure Categories (COFOG)</b>
ISCED 02 pre-primary	Expenditure defined on an “individual basis”
ISCED 1 primary	7091 Pre-primary and primary education
ISCED 2 lower secondary	7092 Secondary education
ISCED 3 upper secondary	7093 Postsecondary non-tertiary education
ISCED 4 post-secondary non-tertiary	7094 Tertiary education
ISCED 5-8 tertiary education	7095 Education not definable by level
Not allocated by level	7096 Subsidiary services to education
	Expenditure defined on a “collective basis”
	7097 R&D Education
	7098 Education n.e.c.
Note: Education levels are defined by ISCED-2011	Note: Pre-primary and primary education, lower and upper secondary education, first and second stage of tertiary education are dis-aggregated at a lower level of coding (5 digit level). ISCED level used in the manual is ISCED-97.

### *Conclusion*

The differences in definition of education and expenditure between the UIS and IMF are quite minor and likely do not explain the large differences in reported government expenditure on education between the UIS and IMF. Expenditure by level of education, however, are categorized differently by the UIS and the UN COFOG (used by the IMF). One explanation may be that the expenditure figures reported by governments to the UIS follow government accounts while the IMF figure requires governments to use an alternate approach. For example, the IMF notes about categorizing expenditure by COFOG that “conventional government accounts are not usually suitable for this purpose because they reflect the organizational structures of governments.” This is similar to the value-added of the World Bank’s BOOST analysis which helps governments categorize expenditure at a “micro” level. BOOST is typically implemented as part of technical assistance, a public expenditure review, or a project, requiring additional budget to implement. In absence of additional resources, governments would most likely use their existing accounts to report education expenditure.