SDG 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

METADATA

Target 4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations

4.5.4 Education expenditure per student by level of education and source of funding

Definition

Total initial funding from government (central, regional, local), private (households and other private) and international sources for a given level of education (pre-primary, primary, lower secondary, upper secondary, post-secondary non-tertiary and tertiary education) per student enrolled at that level in a given year. The results should be expressed (i) as a percentage of GDP per capita; and (ii) in PPP$ (constant). Unless an additional disaggregation is proposed, this indicator considers funding for public and private institutions together.

Purpose

This indicator reflects the amount of resources invested on average in a single student, going beyond government sources so that an actual unit cost can be calculated. Using a per student basis is useful for comparison, whether between levels of education, over time, or between countries. Expressing the indicator either as percentage of GDP per capita, or in PPP$, also allows for comparisons between countries, and using constant values when looking at time-series is necessary to evaluate how real (eliminating the effects of inflation) resources are evolving over time.

Calculation method

The percentage of the total initial funding (i.e. including transfers paid but excluding transfers received) from government (central, regional, local), private (households and other private) or international sources for a given level of education (pre-primary, primary, lower secondary, upper secondary, post-secondary non-tertiary and tertiary education) out of the number of students enrolled at that level in a given year. The result is divided (i) by GDP per capita; and (ii) by the PPP$ conversion factor.

$$XGDPpc_{n,s} = \frac{X_{n,s}}{E_n * GDPpc}$$

$$XPPPconst_{n,s} = \frac{X_{n,s}}{E_n * PPPconst}$$

where:

$XGDPpc_{n,s}$ = expenditure per student in level **n** of education from source **s** of funding as a percentage of GDP per capita.

$XPPPconst_{n,s}$ = expenditure per student in level **n** of education from source **s** of funding in constant PPP$.

$X_{n,s}$ = expenditure on level **n** of education from source **s** of funding.

E_n = enrolment in level **n** of education.

$GDPpc$ = GDP per capita.

$PPPconst$ = PPP constant $ conversion factor.

Interpretation

Government funding: When considered as a percentage of GDP per capita, a higher value would indicate a greater priority to the specific level of education given by public authorities. When considered in PPP$, the indicator can show the 'real' amount of resources invested in one student.

Private/household funding: a higher value would signify a greater burden on households, and potential implications for equity and access to education.

For international sources: a higher value would signify a greater commitment from donors to a level of education in a given country, but also potentially a greater degree of aid dependency for governments in terms of education funding.

For all sources combined: the indicator would show the real, total value of resources invested in one student, and therefore the real unit cost. Since the indicator is constructed on a comparable scale (i.e. for one student, and relative to GDP per capita or using a common currency), all its sub-components can be compared to other levels of education, over time, or between countries.

Type of data source

Financial data from ministries of finance and/or education (government); household expenditure surveys (households); national aid management systems and/or IATI (international); other surveys (other private); administrative data (number of students by level).

Disaggregation

By level of education, source of funding (government, private, international), type of institution (public/private) but with expected lower coverage for private institutions. For household expenditure, eventually disaggregation by wealth, location and sex could also be calculated, but not for government and international sources.

Data required
Central, regional and local government expenditure data on education by level of education and type of institution; household and (ideally) other private expenditure on education by level of education and type of institution; international expenditure on education by level of education and type of institution; number of students enrolled by level of education and type of institution.

Data sources
At the national level, ministries of finance and/or ministries of education financial management systems are the source of government expenditure on education, although disaggregation by level often implies estimations using data on students and/or teachers by level. Data on expenditure by lower levels of government can be centralized or collected directly from local authorities.

Household expenditure on education is collected through consumption/expenditure surveys, although few surveys disaggregate spending by level of education, type of school and/or nature of expenditure. School censuses in some countries also collect data on financial/in-kind contributions by households/students.

Household expenditure on education, for calculation of the private component of the indicator, is collected through a wide variety of surveys, including Living Standards Measurement Studies (LSMS) and household budget surveys. These surveys differ in the amount and type of information they collect – including disaggregation by level of education, type of school, or nature of expenditure – and spending data are not always comparable. In some countries, school censuses collect data on financial/in-kind contributions by households/students.

To support the collection of high-quality data, the UIS and the World Bank (2018) have published a guidebook on designing and implementing household surveys that include measurement of expenditure on education. The guidebook provides a standardized set of guidelines to foster the harmonization of education-expenditure data in household surveys, and to ensure that the data collected are more easily comparable across surveys and countries and are sufficiently comprehensive while acknowledging country-specific needs.
Data on other private sources of funding for education (e.g. corporations, local NGOs) are rarely collected systematically and would often require additional surveys proceeded by significant analytical, preparatory and advocacy work.

International sources may be available through governmental financial systems when they are recorded on-budget, and off-budget international funding may sometimes be available through governmental aid management systems, although rarely with the disaggregation needed (ex. by level of education). Data sources for international funding, such as the OECD-DAC database or the International Aid Transparency Initiative (IATI) may be used as a

complement, but often present problems of compatibility with other sources, such as government records.

Quality assurance
The indicator should be calculated from comprehensive data on enrolment and education expenditure from government, private, and international sources for all levels of education covered by the indicator, for all types of institutions combined, and with matching data on GDP per capita and PPP constant $ conversion factor. The UIS maintains a global database on enrolment and total initial expenditures by level of education, and defines the protocols and standards for data reporting by countries. The International Monetary Fund (IMF) produces and maintains data on GDP per capita and PPP constant $ conversion factor.

Limitations and comments
The difference between 'initial funding' (where the funds originally came from) and 'final expenditure' (which entity carries out the expenditure and sends the funds to the school) is important to clarify in this type of indicator. For example, where international donors transfer funds to the ministry of education budget without earmarking for specific activities (such as through sector budget support), the expenditure is done by the government, but the funding comes from international sources. Same thing with a scholarship: the initial funder is the government, and the final spender is the household. Either two sets of indicators should eventually be produced (potentially confusing to users), or a choice be made on which perspective will be presented. The option presented here (and to be discussed and validated) is to calculate the indicator on the basis of initial funding because a) This is arguably more intuitive--if we are saying 'by source of funds', people expect to see who paid and b) This would be better aligned with the National Education Accounts methodology. Note that if we go with that option, we may want to change the indicator name to something like "Education funding per student by level of education and source".

The part of this indicator focusing on government expenditure is already available for a large number of countries, although not always with regularity. The formula would also need to be slightly modified if we are to use initial funding.

For private and international sources, data availability is significantly lower, so that it will take several years and significant investment to increase coverage to an acceptable level. In the medium-term, 'private' expenditure may have to be limited to households only (and only for a few countries), and international sources to those recorded in government budgets.
The lack of data on household sources is especially important to consider when looking at expenditure in private institutions, where fees tend to be much higher.

References
UNESCO Institute for Statistics (UIS) and World Bank (2018). *Measuring Household Expenditure on Education: A Guidebook for Designing Household Survey Questionnaires*. Washington, DC: World Bank. https://unesdoc.unesco.org/ark:/48223/pf0000366764.