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Availability and Reliability of Education Finance Data in Household Surveys



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1. Introduction

This report examines the availability and reliability of data on household expenditure on education for the production and analysis of Sustainable Development Goals (SDG) indicator 4.5.4 (education expenditure per student by level of education and source of funding) and other relevant indicators based on household expenditure on education.¹

The UNESCO Institute for Statistics (UIS) collects information on household expenditure with its Survey of Formal Education that is sent annually to all UNESCO Member States. The questionnaire on educational expenditure is designed to gather internationally comparable data for all levels of formal education by source of funding (government, international, private), destination, and type of expenditure.² However, few countries report data on private spending to the UIS.

Gaps in data collected from countries can in theory be filled with information from national household surveys, but these are primarily tailored to meet national data needs and may apply different methods and standards. In some cases, differences between national data collections can also be linked to limited provision of technical assistance to countries and inappropriate methodological decisions. By looking at the characteristics of education expenditure data gathered in various household surveys and the information required for producing education finance indicators, this report aims to determine which surveys can be used to calculate the internationally comparable indicators needed for monitoring of international goals.

This document presents the findings from an analysis of education finance metadata based on information from household survey questionnaires compiled by the International Household Survey Network (IHSN). The surveys were screened by the UIS based on a set of minimum criteria and classified according to their degree of usefulness for the purpose of calculating education expenditure indicators. To be usable for the calculation of international indicators, a survey should collect data on a minimum set of expenditure items covering the most important education expenses. This includes tuition fees, other required fees, expenses for textbooks, expenses for other education materials, and spending for uniforms and other required clothing. Ideally, the expenses should be collected at the level of individual household members and the survey must include information on the current level of education of each household member attending school.

This report comprises six sections, including this introduction. Section 2 summarizes the IHSN dataset used for the analysis. Section 3 describes the international frameworks on which UIS household education expenditure data are based. Section 4 highlights the content of the different surveys and discusses the characteristics of the expenditure data available for analysis and indicator calculation.

¹ Accurate information on education expenditure is also needed for the computation of consumption-based poverty and inequality measures and for studies of intra-household resource allocation, but this is not the focus of the present report.

² The UIS questionnaires, including questionnaire UIS/ED/B on educational expenditure, can be retrieved from <http://uis.unesco.org/en/methodology>.



Section 5 focuses on the minimum requirements for calculation of education expenditure indicators and assesses the surveys' degree of usefulness for that purpose. Finally, section 6 concludes the paper with some recommendations for data collection with future household surveys in order to yield reliable and internationally comparable data on education finance.

2. Data sources

The analysis in this report is based on a dataset prepared by the International Household Survey Network (IHSN) as part of its initiatives on food and non-food consumption data assessment. The assessment form used to compile the data on non-food expenditures and the complete dataset are available at <http://ihsn.org/projects/non-food-assessment>.

The IHSN dataset comprises information from 100 nationally representative surveys on household consumption and expenditures. For this report, the UIS only used data from surveys carried out in 99 UNESCO Member States or Associate Members that are listed in Annex 1. Each country is represented by a single survey in the IHSN dataset, which covers approximately one half of all developing countries. The IHSN started the survey assessment in August 2014 with the objective of compiling data from different countries. The final set of surveys consists of the most recent household expenditure surveys for which sufficient documentation was available to the IHSN.

Figure 1 shows the regional distribution of the surveys included in the analysis. Sub-Saharan African countries account for more than one third of the total number of surveys, providing good coverage for the region (with 40 countries out of 52). The Caucasus and Central Asia and Southern Asia are also well represented, with respectively seven countries out of eight and eight countries out of nine included. The other regions have lower coverage, especially Eastern Asia and Western Asia, which have one country out of six and two countries out of 11, respectively, in the dataset.

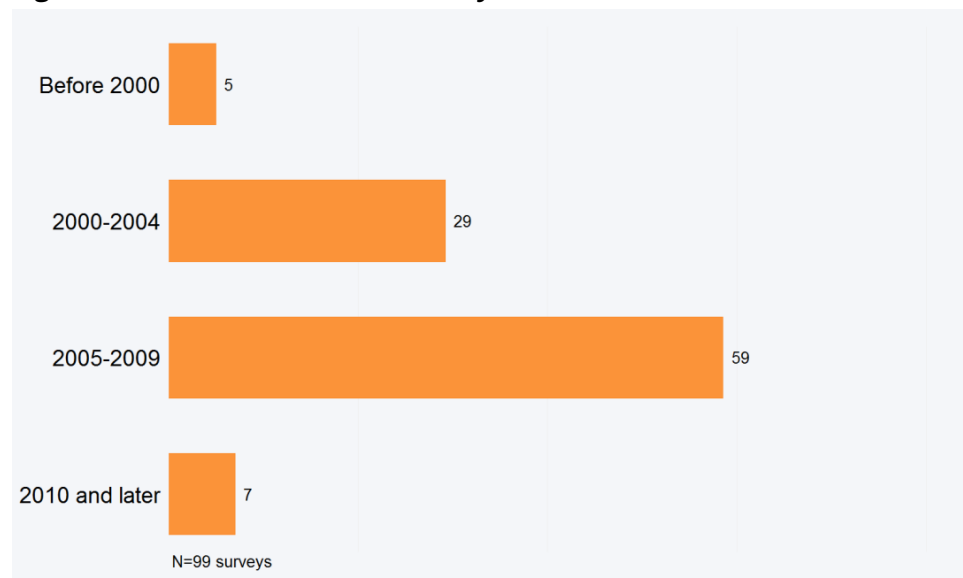
Figure 1: Regional distribution of surveys





As shown in Figure 2, most surveys are relatively dated. Only seven were conducted in 2010 or later. Nearly two-thirds were conducted between 2005 and 2009, nearly one-third between 2000 and 2005, and five surveys were implemented before 2000. The oldest surveys were conducted in 1993 (Guinea-Bissau) and 1996 (Djibouti and Papua New Guinea). The most recent survey was administered in 2012 in Vanuatu.

Figure 2: Time distribution of surveys



3. International frameworks for household expenditure on education data

Data used to calculate international indicators must follow a common scope and apply common definitions to ensure comparability between countries. The UIS bases its data collection on the UNESCO-OECD-Eurostat (UOE) framework, which defines, among other things, what can and cannot be included under education expenditure, including that of households (UIS, OECD and Eurostat, 2016). Building on this framework, the UIS in collaboration with the International Institute for Education Planning (IIEP) developed the National Education Accounts (NEA) methodology, a comprehensive data collection, processing and analysis method covering all sources of funding (government, private, and international) (IIEP, UIS and Pôle de Dakar, 2016a).

The NEA framework is compatible with that of the UOE in terms of scope and definitions of education expenditure. For household expenditure, it covers the following items separated into two broad categories:

1. Household payments made to educational institutions, which comprise tuition fees, other fees for educational services (registration, laboratory, or examination); fees paid for ancillary services (boarding, meals, health services); and any sort of school fund or parent contribution fund paid to the school, including through parent-teacher associations (PTA) or school-management committees (SMC).
2. Household payments for education goods and services purchased outside educational institutions, which include payments required for school attendance (uniforms and required clothing, textbooks and teaching materials, other required purchases) and payments not required for attendance



(private lessons, transportation to and from school, canteen fees where the service is not provided by educational institutions, and additional books or computer used at home).

Any expenditure that is not related to attending formal education should be excluded, for example expenditure on music, painting classes, or other extra-curricular activities.

Household surveys do not currently collect data specifically according to this framework, and the coverage of education expenditure can vary greatly from survey to survey. In some cases, total expenditure may be incomplete and not reflect the full education cost incurred by households, while in others it may be overestimated if it includes items, which should not be considered education expenditure.

As they are the existing international frameworks to compare education expenditure between countries, the UOE and NEA will serve as the basis for the calculation of SDG indicator 4.5.4 and other education finance indicators. Determining whether or not data from household surveys can be used for these indicators therefore implies assessing what is collected and how against these frameworks.

4. Characteristics of education expenditure data in household surveys

This section describes the content of the household expenditure surveys included in the IHSN dataset. It discusses different characteristics of the surveys, which determine their ease of use and reliability for indicator calculation: the comprehensiveness of the education expenditure items included, the separation or merging of collected items, the level at which expenditure data are collected, and the recall period used. It also provides information on the availability of data on funding sources.

4.1. Availability and comprehensiveness of expenditure data

All 99 surveys in the IHSN dataset collected data on household education expenditure. A comprehensive list of 12 possible expenditure items makes it possible to assess the completeness of the data collection of each survey. The 12 items are:

- Tuition
- Other required fees (admission fees, registration fees, examination fees, etc.)
- Tutoring/private lessons
- Parent association fees
- Uniform and other required clothing
- Textbooks
- Other education materials
- School meals/canteen



- Transportation to and from school
- Lodging (boarding) fee
- Contribution for construction/maintenance of school facilities
- Gifts/unofficial payments

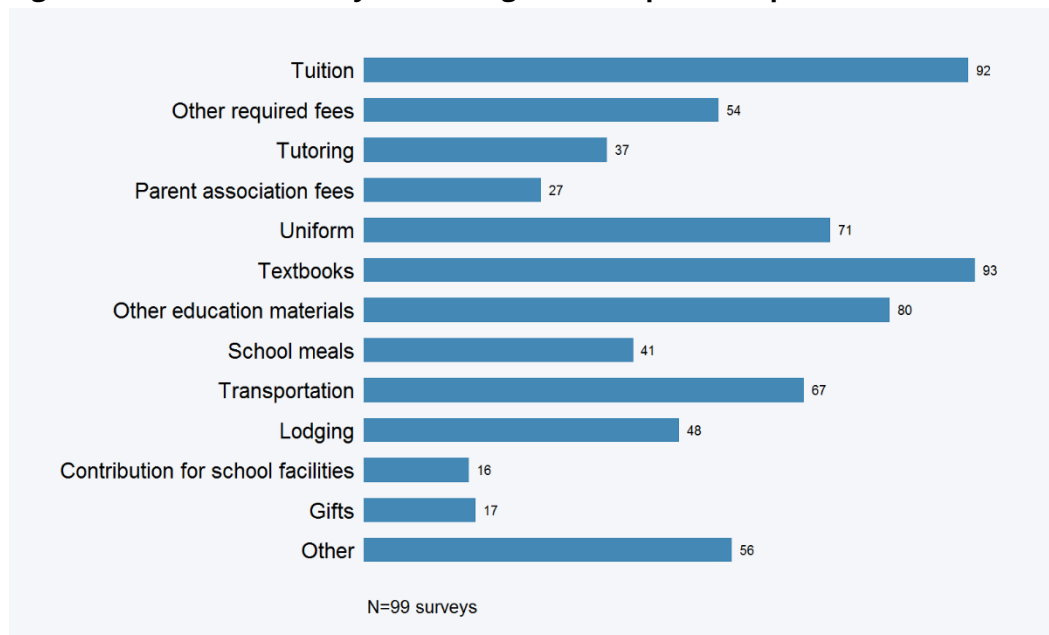
If surveys collected information on expenditures on items not included in the list above, this was captured in a category called “Other”.

While all surveys addressed the topic, not every national survey collected data on the complete range of expenditure items. This is an important issue as surveys not including the items required in the UOE and NEA frameworks may not be useful for production of comparable education expenditure indicators. Figure 3 presents the overall availability of expenditure data in the 99 surveys examined, based on the comprehensive list of possible expenditure items. Annex 2 provides detail on the availability of each expenditure item by region.

Some spending items are largely available in most surveys: nine out of ten surveys collected data on tuition and on textbooks, while around eight out of ten collected data on other education materials. Additionally, amounts spent on uniforms and other required clothing are available in 71 surveys. In surveys with a reduced scope gathering data on a limited number of items, those frequently collected items are also often available. Among the 22 surveys with five or fewer expenditure items covered, tuition expenses were systematically included, while textbook expenses and spending for other education materials were also commonly collected, in 16 and 11 surveys, respectively. Those widely available items are common expenses required in most education systems. They usually represent an important and determined amount for the school year and are generally paid once at the beginning of the academic year (uniform and textbooks) or at least in a few determined instalments (tuition). These specificities make them staple elements of the education cost for households that are relatively easy to quantify and remember and therefore to collect.



Figure 3: Number of surveys collecting data on specific expenditure items



A second set of expenditure items is available in roughly half of the surveys. Data on transportation to and from school were collected in 67 surveys; the expenses for other required fees (such as admission, registration or examination fees) and lodging or boarding fees were collected in 54 and 48 surveys, respectively. 41 surveys gathered data on school meals or canteen spending. Around one third of surveys collected data on tutoring (37) and on parent association fees (27). This second set comprises expenses that may be incurred regularly or several times during the school year.

Contributions for building or maintaining school facilities, and gifts and unofficial payments are the least documented types of spending, with less than one out of five surveys including them. This third set of expenditure items comprises ad-hoc spending, which may not be incurred in all education systems or every school year, which may explain why they are not systematically collected and are less likely to be available compared to the other items. Contributions for school facilities construction or maintenance, for example, may not be relevant in countries where schools benefit from strong public funding. However, the fact that an item is not collected in a survey does not necessarily mean that it is not incurred in a given education system.

More than half of the surveys also included data on other miscellaneous expenses but their diversity across countries makes them difficult to classify. Expenses for extracurricular activities – such as participation in clubs, school excursions and trips, and cultural activities – were collected in one out of ten surveys. A few surveys also gathered data on library fees. These types of expenses should not normally be considered as expenditure on education as described in the UOE and NEA frameworks.

One criterion to assess the reliability of the information gathered relates to the comprehensiveness of the data collection or the number and the nature of the expenditure items available. Table 1 presents the number of items on which the surveys provide information, grouped by survey year.



One-third of the surveys collected data on 10 items or more, while less than half of the surveys comprise six to nine items. 22 surveys included data on only five expenditure items or less. Relatively recent surveys seem to be more comprehensive and include information on more types of expenses: twice as many surveys implemented in 2005 and later inform on 10 expenditure items or more, compared to surveys conducted before 2005.

Table 1: Number of education expenditure items collected by year of survey

Number of expenditure items	Year of survey				Total
	Before 2000	2000-2004	2005-2009	2010 and later	
5 items or less	3	11	8	0	22
6 to 9 items	2	9	29	4	44
10 items or more	0	9	21	3	33
Total	5	29	58	7	99

There is no single survey that collected information on all 12 items. Only 3 surveys collected data on 11 items: gifts and unofficial payments are missing in Lao PDR, parent association fees in the Russian Federation, and school meals in Viet Nam. Conversely, four countries did not include any of the 12 items listed: Belarus, Lithuania, Montenegro and Ukraine.³

As mentioned above, not all types of education expenditures are relevant in every country. Additionally, each country may have its own focus and include only selected items in its national household expenditure survey. As a result, the set of items included in household expenditure surveys largely differs across countries, posing a challenge for comparability. Ideally, to be used for the calculation of international indicators, a survey should collect data on all items of the UOE and NEA frameworks, whether as separate categories or merged. However, in the absence of an agreement on what should be collected among agencies implementing these surveys, the minimum information necessary includes the four most frequently collected items (tuition, textbooks, other education materials, and uniforms) along with other required fees, as those categories capture the majority of education expenses. Any survey which does not include those five items is not useful for the calculation of SDG indicator 4.5.4 and related education expenditure indicators.

Table 2: Number of education expenditure items collected by group of items included in surveys

Items included	Number of surveys collecting n expenditure items		
	n=7 items or less	n=8 items or more	Total
Tuition, textbooks, other education materials, uniform, other required fees (5 main items)	11	29	40
5 main items + school meals, boarding, transportation (8 main items)	0	18	18

³ The surveys in these four countries did not include any of the expenditure items from the list. However, they collected data on other items.



Table 2 shows the number of expenditure items collected and the inclusion of the main expenditure expenses in the surveys. 40 surveys comprise data on the five main types of spending minimally required to produce the expenditure indicator. If the comprehensiveness criterion is tightened to include the eight most important expenses – including school meals, boarding, and transportation – the number of surveys meeting that benchmark falls to 18.

4.2. Items merged with other items

Another criterion to assess the reliability of the expenditure data is exclusivity. Collecting items distinctly and not merging them with other types of spending facilitates the grouping of expenses into the sub-groups of the UOE/NEA frameworks. Table 3 presents the number of surveys collecting the information as a distinct element or merged with another category for each expenditure item. Overall, a non-negligible number of surveys contain merged spending items. Data on textbooks, other education materials, and school meal expenses are merged in half of the surveys (44 surveys out of 93 for textbooks, 43 out of 80 for other education materials, and 18 out of 41 for school meals).

Data on tutoring or private lessons, on uniform and other required clothing, and on transportation are the least frequently merged (two surveys out of 37, four out of 71, and six out of 67, respectively). Of all surveys assessed, only 16 have their whole set of expenditure items collected separately.

Table 3: Expenditure items collected separately or merged with other elements

Expenditure items	Collected separately	Merged with other items	Total
Tuition	72	20	92
Other required fees	37	17	54
Tutoring or private lessons	35	2	37
Parent association fees	21	6	27
Uniform and other required clothing	67	4	71
Textbooks	49	44	93
Other education materials	37	43	80
School meals and canteen	23	18	41
Transportation to and from school	61	6	67
Lodging fee	32	16	48
Contribution for construction or maintenance of school facilities	11	5	16
Gifts and unofficial payments	11	6	17
Other	55	1	56

Table 4 shows the number of surveys collecting the main expenditure items separately. Around one out of eight (13 surveys) included the five minimally required items as separate expenses, while only four surveys collected information on the eight main items.

While unmerged items are easier to use, an item merged with another one falling into the same NEA sub-group is still useful as the most important disaggregation is between expenses paid to schools and expenses



paid outside school. For example, in many cases (16 out of 20 surveys) tuition is merged with other required fees, which would still allow the use of that merged item for calculation of the aggregated amount paid to educational institutions. Similarly, in 13 surveys out of 18, school meal expenses are merged with boarding fees.

**Table 4: Number of surveys collecting expenditure items separately by group of items included**

Items included	Number of surveys collecting items separately	Number of surveys collecting items (separately or merged with other items)
Tuition, textbooks, other education materials, uniform, other required fees (5 main items)	13	40
5 main items + school meals, boarding, transportation (8 main items)	4	18

4.3. Level at which the information is collected (household or individual)

A third aspect of the reliability assessment of the education expenditure data is the specificity criterion. This aspect refers to the degree of detail at which expenses are reported. The information is more accurate when data are reported at the level of individuals in a household, and determining the expenditure indicators by student – and by level of education, if this information is collected either in the expenditure module or in another module of the survey – is more straightforward. Econometric methods exist to estimate spending by level of education when expenses are reported at the household level, but the resulting estimates may entail a higher degree of imprecision or error compared to an observed amount of spending.

Table 5: Expenditure items collected at household or individual level

Expenditure items	Level		
	Household only	Individual only	Both
Tuition	40	41	11
Other required fees	18	33	3
Tutoring or private lessons	16	16	5
Parent association fees	7	19	1
Uniform and other required clothing	27	41	3
Textbooks	45	39	9
Other education materials	34	39	7
School meals or canteen	14	26	1
Transportation to and from school	23	43	1
Lodging fee	21	23	4
Contribution for construction or maintenance of school facilities	5	11	3
Gifts or unofficial payments	4	13	3
Other	21	30	5

Overall, more than half of the surveys report data at the individual level, irrespective of the expense item considered (Table 5).





Regarding the four most collected items, 52 surveys provide student-level information for tuition spending (either at the individual level only or both at household and individual level), 48 for textbooks, 46 for other education materials, and 44 for uniform. 44 surveys report data at the individual level for transportation spending and 36 for other required fees. Among those, some surveys report data at both household and individual level. For example, 11 surveys do so for tuition fees and seven for other education materials. Only 15 surveys collected their whole set of expenditure items at student level.

Table 6 shows the number of surveys collecting the main expenditure items at the individual level. Approximately one-third (30 surveys) collected data on the five most important items at the individual level, while around one in eight (13 surveys) gathered individual-level information on the eight most important items. Ten surveys collected information on the five main items at the household level only and five surveys did so for the eight main items.

Table 6: Number of surveys collecting expenditure items at the individual or household level by group of items included

Items included	Number of surveys collecting items at the individual level	Number of surveys collecting items at the individual or household level
Tuition, textbooks, other education materials, uniform, other required fees (5 main items)	30	40
5 main items + school meals, boarding, transportation (8 main items)	13	18

4.4. Recall period

The recall period for education expenditure data collection is the amount of time over which the respondent is asked to remember and report spending for household members' education purposes. In education finance data, the recall period should cover at least one complete year to ensure the inclusion of all the possible expenses incurred at different times of a school year. For example, fees for registration, uniform, and education materials are usually paid at the start of the school year, while transportation and school meals are paid all year long.

Table 7 shows that for all expenditure items the most common recall period is the last 12 months: more than half of the surveys collecting data on tuition, textbooks, and other education materials use a recall period of 12 months before the time of the survey. The same is true for tutoring and parent association fees. A relatively large number of surveys use "other period" as recall time span. This category includes different time periods, such as the last three months, the last month, or the three school terms.

It is important to note that a survey can have more than one recall period for a given item. Tuition, textbooks, and other education materials are the main expenses for which surveys have multiple recall periods, with 16, 13 and 16 surveys in that group, respectively.

**Table 7: Recall periods used for education expenditure items data collection**

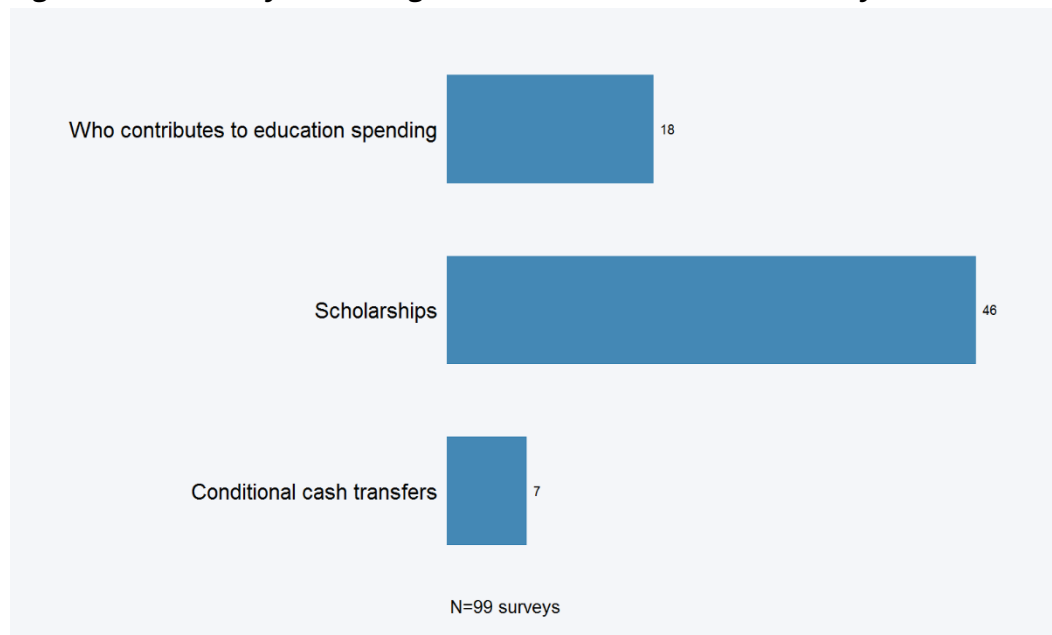
Expenditure items	Collected data	Recall period							
		Previous school year	Current school year	Last year	This year	Last 12 months	Last 30 days	Other period	Not specified
Tuition	92	12	6	1	0	46	12	30	5
Other required fees	54	3	9	0	0	29	2	13	5
Tutoring or private lessons	37	3	4	0	0	24	2	8	1
Parent association fees	27	3	3	1	0	15	0	6	1
Uniform and other required clothing	71	7	10	1	0	39	1	18	2
Textbooks	93	12	11	1	0	49	3	28	4
Other education materials	80	11	10	1	0	41	8	22	6
School meals or canteen	41	3	3	0	0	20	3	13	2
Transportation to and from school	67	6	5	0	0	28	7	25	1
Lodging fee	48	4	3	1	0	28	2	14	2
Contribution for construction or maintenance of school facilities	16	4	3	0	0	7	1	3	0
Gifts or unofficial payments	17	4	2	0	0	7	0	3	1
Other	56	7	7	1	0	25	10	14	3

4.5. Availability and characteristics of data on funding sources

Another important aspect of education finance is the source of the funding used. The NEA and the UOE frameworks separate funding sources in three broad groups: government, private, and international (IIEP, UIS and Pôle de Dakar, 2016b). The expenses incurred by households fall into the “private” category; however, a few surveys provide additional information that could be used to refine the data.

Figure 4 shows that 18 surveys collected data on who contributes to education spending; 46 include information on scholarships, and only 7 collected data on conditional cash transfers.⁴ Annex 3 provides detail on the availability of data on funding sources by region.

⁴ It is important to note that conditional cash transfer programmes are specific initiatives that may not be implemented in all countries. Surveys may not address this topic if it is not applicable in a country.

**Figure 4: Availability of funding sources data in household surveys**

Data on scholarships are more frequently collected than details on who contributes to education spending but this information is available in less than one-half of the surveys. Information on scholarships can be collected either at household level or at individual level. This aspect is also an indicator of the specificity of the data collection. The practice that provides more accurate data is to gather information at student level. 34 surveys out of the 46 collecting scholarship data followed this practice. Whether the information is available at the household level only or at individual level, the amount of the scholarship is the element that is reported in most surveys (Figure 5). The source of the scholarship and its form were collected only in a few cases. Two surveys gathered that information at household level and 10 and 7 surveys, respectively, at individual level. To be useful for reporting of funding by source, such as for SDG indicator 4.5.4, knowing who paid for the scholarship is necessary for consolidation and netting out of transfers between sources. Details on the availability of scholarship information by region can be found in Annex 4.

Only seven of the 99 surveys included information on conditional cash transfers, possibly because this type of initiative is not a widespread practice and may not be applicable in all countries. Figure 6 shows that few details are provided on conditional cash transfers. While information on the amount was collected in all seven surveys, only three inform on the beneficiary of the transfers, and two on the source.



Figure 5: Availability of detailed information on scholarships by level of data collection

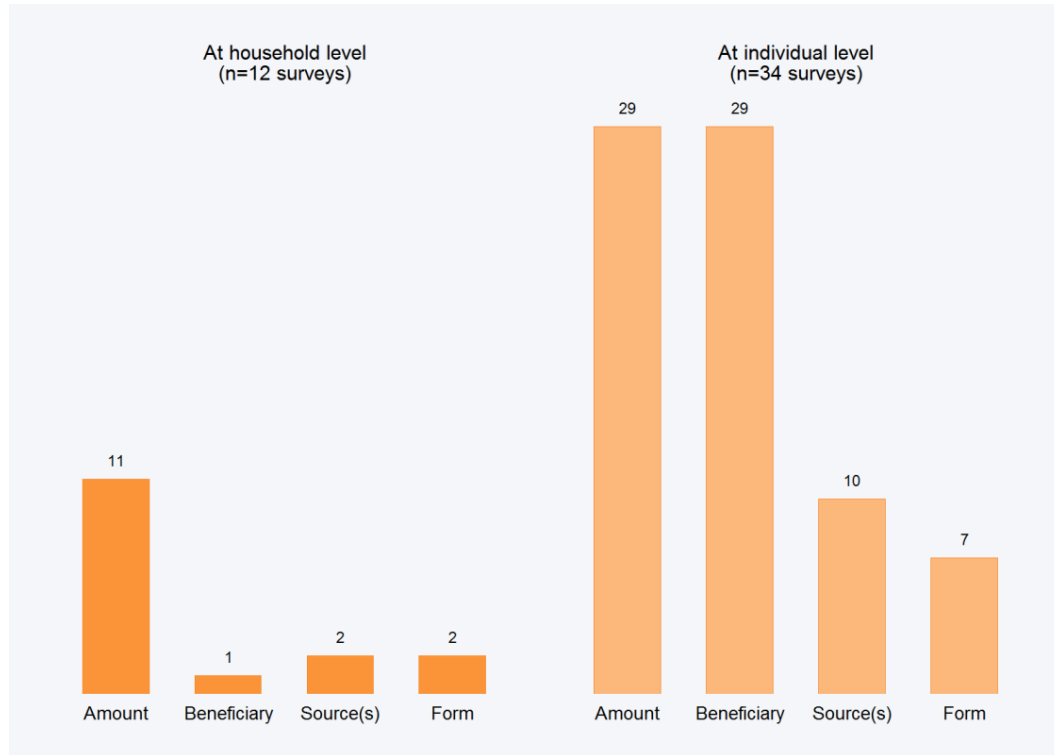
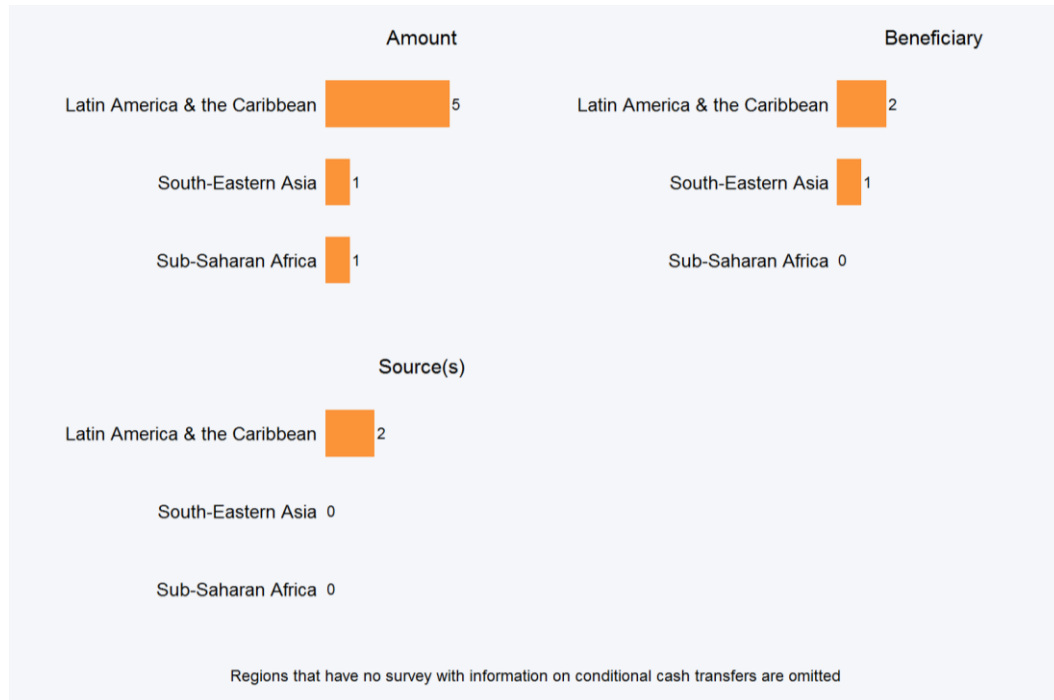


Figure 6: Availability of detailed information on conditional cash transfers by region





To sum up, 18 surveys can potentially be used to determine the source of funding in households, as they include information on who contributes to covering the cost of education. Among these surveys, 10 have additional information on scholarship providers, and two on conditional cash transfer providers.

Available data on funding sources is limited although the identification and inclusion of subsidies and other external contributions is an important consideration in the analysis of education expenditures. Assessing the final cost of education to households after deducting subsidies is often challenging due to the various possible forms of support. Households may also differ in their understanding of what constitutes its expenses for education and may include or exclude any subsidies received in their reporting.

5. Can household survey data fill the gaps in UIS educational expenditure data?

The UIS collects data on educational expenditure through an annual survey involving all UNESCO Member States (see Section 1). National coverage of the collected data is currently insufficient for monitoring of international goals, with information on household expenditure available for only around 30% of countries for 2005 or a more recent year. To calculate SDG indicator 4.5.4 (education expenditure per student by level of education and source of funding), it is necessary to have data on education expenditure at the household or individual level, information on school attendance of household members at the time of the survey, and details on the level of education currently attended by household members. Additionally, the UIS expenditure survey requires household expenditure data to be disaggregated between, at a minimum, payments to educational institutions and payments outside educational institutions. This section aims to determine to what extent currently available household survey data can fill the gaps in the UIS database.

5.1. Availability of expenditure items according to the UOE/NEA classification

Table 8 summarizes the number of surveys with available data on the categories and sub-categories of the NEA classification. All household payments to educational institutions can be calculated for 19 surveys which collected data on all sub-categories in this group, while all payments outside educational institutions can be calculated for 27 surveys. In total, 10 surveys include information on all items of the NEA classification.

It is important to note that the IHSN dataset analysed for this report does not provide information on expenses for additional books, computers or learning software to be used at home in support of schooling. Therefore, these items are not included in table 8.

Table 8: Number of surveys collecting data on the categories defined in the NEA classification

Household expenditure category	Household expenditure sub-category	Number of surveys collecting data		
		On the sub-category	On all items of the category	On all items
Payments to educational institutions	Tuition fees	92	19	10
	Other fees	54		
	Ancillary fees	57		
	Other contributions to school	34		



Payments outside educational institutions	Uniforms	71	27	
	Textbooks and other materials	93		
	Private tutoring	37		
	Transportation	67		

When using the NEA classification, it is essential to make sure that all items are correctly categorized, as payments to and outside educational institutions can vary across countries. Special attention is needed for meals and canteen fees, for example, as those services may not always be provided through educational institutions and may have to be classified with payments outside educational institutions.

It is also important to make sure that each expenditure item amount is collected either separately or in a way that allows grouping according to the NEA categories and sub-categories.

5.2. Current school attendance by household members

By combining information on education expenditure at the household or individual level with information on school attendance by all household members, it is possible to determine spending by level of education. It is important to note that information on spending for all ages, including household members of pre-primary age, is necessary for the calculation of total household expenditure on education, regardless of whether data are collected at the household or individual level. To correctly allocate spending to each level of education, information on school attendance must also be comprehensive and cover all household members.

Table 9 shows that 81 of 99 surveys collected data on current school attendance status, while the information was not collected in 18 surveys. Among the surveys with attendance data, 74 recorded information on the level of education currently attended by household members, and 58 gathered details on the grade currently attended. While most of the surveys collected data on attendance of primary and secondary education, 60 surveys included information on pre-primary attendance, and 38 and 68 surveys on attendance of vocational and tertiary programmes, respectively.

Table 9: Availability of data on current school attendance, current level of education and type of school attended

Type of information	Data collected	Data not collected
Current school attendance of household members	81	18
Level of education currently attended	74	25
Pre-primary	60	39
Primary	72	27
Secondary	73	26
Vocational	38	61
Tertiary	68	31
Grade currently attended	58	41
Type of school (private or public)	68	31



Additionally, the education expenditure indicator should also be disaggregated by type of institution attended. Information on the type of school (private or public) is available in 68 of the 99 surveys analysed.

Table 10 provides information on the age range for which data on current school attendance were collected. 35 of the 81 surveys with data on current school attendance included very young household members, aged 2 years or less, 22 surveys collected data on school attendance for household members aged 3 or 4 years and above, and 24 included all household members from age 5 or 6. Most surveys did not specify an upper age limit for questions about school attendance. 75 of the 81 surveys collected information on school attendance for all household members at or above the minimum age, the other surveys collected this information for smaller age groups.

Table 10: Availability of current school attendance data and current level of education attended by age of household members

Age range	Number of surveys	
Lower age limit	0 to 2 years	35
	3 or 4 years	22
	5 or 6 years	24
Upper age limit	7 years	1
	18 to 24 years	3
	30 to 35 years	2
	No upper limit	75

Note: “No upper limit” includes two surveys with 99 years as the upper age limit but in these surveys 99 years was the highest age recorded.

5.3. Useful surveys for education expenditure indicator calculation

Table 11 groups the surveys according to their degree of relevance or usefulness for calculation of education expenditure indicators. Three main criteria are retained to classify the surveys:

- **Coverage and comparability:** This criterion relates to the comprehensiveness of the expenditure items. A survey including the complete list of expenditure items based on the NEA classification (tuition, other fees, ancillary fees, other contribution to school, uniform and other required clothing, textbooks and other materials, private class or tutoring expenses, and transportation) is considered very useful. Only 10 surveys meet this criterion. 31 surveys are considered somewhat useful as they cover at least the five most important items. 58 surveys are not useful as they do not cover the five items minimally required to produce the indicator.
- **Timeliness:** The more recent the data the more valuable they are. Not only do they reflect current household expenditure better, they also allow more accurate estimation of expenses at an ulterior date if needed. Seven surveys are considered very useful for the extraction of current data on spending as they were carried out in 2010 or later, 58 surveys from 2005 to 2009 are somewhat useful, while 34 surveys are not useful because they were conducted before 2005. However, the latter surveys can still be used to generate time series of household expenditure on education, provided they meet the other criteria outlined in this document.



- **Level of data collection:** Three important points are combined in this criterion. First, surveys should ideally collect data at the individual level. Second, information on the level of education attended is indispensable. And third, information on the type of school attended will allow disaggregation of SDG indicator 4.5.4 as required. 29 surveys meet these three requirements and are thus very useful according to this criterion. 45 surveys collected information on the current level attended but only have information for some expenditure items at the individual level. 25 surveys do not include information on the current level of attendance of household members and are therefore deemed not useful.

The three criteria – coverage and comparability, timeliness, and level of data collection – are combined to determine how many surveys are useful for the purpose of indicator calculation. A survey is considered very useful overall if it meets the “very useful” conditions for all three criteria, but no single survey is in this group. A survey is classified as not useful overall if it falls into the “not useful” category for any of the criteria described above. 73 of the 99 surveys are considered not useful based on this classification. 26 surveys are considered somewhat useful overall, as they cover the items minimally required, are relatively recent and collected data on the current level of education attended.⁵ Of the 99 surveys from the IHSN dataset that were analysed, only these 26 can be considered usable for the production of international indicators on education expenditure. The 26 surveys are listed in Annex 5.

Table 11: Classification of surveys according to their usefulness for education expenditure indicator calculation

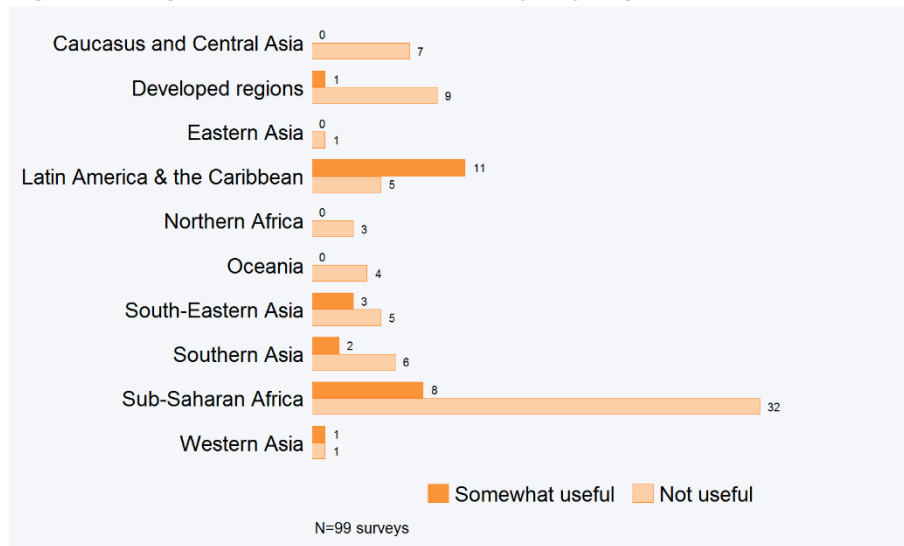
Classification criteria	Degree of usefulness of the surveys		
	Very useful	Somewhat useful	Not useful
Coverage and comparability	10	31	58
Timeliness	7	58	34
Level of data collection	29	45	25
Overall	0	26	73

Figure 7 shows the degree of usefulness of the surveys by region. Most surveys from Latin America and the Caribbean are somewhat useful (11 out of 16 surveys). A few surveys can be used to calculate the required indicators for countries in Asia. Lastly, only one fourth of the surveys from sub-Saharan Africa are considered useful for the calculation of indicators on education expenditure.

⁵ The 26 somewhat useful surveys overall are a subset of the 41 surveys in Table 11 classified as “very useful” or “somewhat useful” according to coverage and comparability, the 65 surveys that are at least “somewhat useful” according to their timeliness, and the 74 surveys classified as “very useful” or “somewhat useful” in reference to the level of data collection.



Figure 7: Degree of usefulness of surveys by region



With the metadata available for analysis it was not possible to answer some questions that are also of interest, such as which proportion of households incur education costs or whether education is provided free of charge. Any insights into these topics will be gained only through an analysis of the actual household survey data.



6. Conclusion and recommendations

The objective of this brief analysis is to evaluate the availability and reliability of education finance data in household surveys in order to determine whether they can be used as a relevant data source for indicators needed to monitor SDG 4 on education, notably indicator 4.5.4 (education expenditure per student by level of education and source of funding). One important finding is that all surveys provide information on education expenditure. However, the breadth of the information collected and the methods of data collection vary greatly across surveys, which limits their comparability and usability for the estimation of total household expenditure on education as required for the UIS education finance survey. Only one quarter of the surveys analysed for this report are usable for this purpose.

Harmonizing the information collected in household surveys and ensuring its accuracy and comprehensiveness would be a major step towards enhancing the availability and quality of education financedata. Further research – including desk review of relevant literature and more in-depth analysis of survey data – is required to produce comprehensive guidelines on the design of education expenditure modules in household surveys, but several areas for improvement can already be identified.

1. Coverage of the expenditure items list:

- The most important element would be for all questionnaires to cover, at a minimum, all household expenditures on education items described in the UOE and NEA frameworks (which are compatible). Additional items of national interest can be included, but separately. This is essential to ensure comparability between surveys and for the data to be usable to calculate SDG indicator 4.5.4.
- The expenditure items should be grouped in a way that permits distinguishing between payments to educational institutions and expenditure outside educational institutions. This is necessary when integrating household survey data with an analysis of total funding for education, including government and international sources. Further disaggregation would be desirable as described in Table 12. Studies have shown that information on household spending collected with surveys is more comprehensive and more reliable if individual expenditure items are listed separately rather than grouped together; however, too many items may be difficult to manage. If countries wish to gather information on expenditure items not listed in Table 12, these should be collected in separate categories so that they can be excluded during the calculation of internationally comparable indicators.
- Where larger categories are chosen, definitions should nonetheless clarify that all required items are included. For example, it would be acceptable to have only one “tuition and other fees” category, but it should be clear to the interviewer and the respondent that this should include official tuition fees, exam and registration fees, ancillary fees, and contributions to any school funds (construction, parent-teacher association, or school management committee).
- Survey questions referring to “other” expense categories, where the included items are not specified, should be avoided, as respondents can be tempted to include elements which should not be considered education expenditure.



- The total amount of education expenses should be reported systematically if a household is unable to give a breakdown of the spending.
- 2. Exclusivity of the expenditure items list:** The main expenses are not always distinctly identified, as some surveys merge them in larger categories. Ensuring that the main items of interest are collected separately in household surveys is important for data accuracy.



- 3. Level of collection of the expenditure data:** Preferably, all amounts should be recorded at the individual level and, in addition, the level of education attended of each household member should be clearly noted in the questionnaire. This would allow the calculation of expenditure per student and by level of education. Alternatively, expenditure at the level of the household can be disaggregated by level of education, as long as information on school attendance of all household members is available.
- 4. Definition of a standard recall period:** It is important to harmonize the recall period across all surveys to ensure data comparability. For infrequent and salient expenses that are incurred only once or occasionally in the school year, a time span covering an entire year would be preferred to make sure that all education costs are taken into account. To ensure the accuracy of the amounts reported, a shorter recall period may be chosen for more frequent expenses, such as school meals, transportation, and lodging fees. A one-month recall period is usually recommended for this type of expenditure, for which amounts can be scaled up to produce reasonable estimates for a longer period if required (Pettersson, 2005), but the survey questionnaire should explicitly refer to a month during the school year when such expenses would be incurred.

Table 12: Desirable classification of education expenditure items in household surveys

Minimum disaggregation	Desirable disaggregation	Optional further disaggregation
Payments to educational institutions	Tuition and other fees	Tuition fees
		Exams and registration fees
		Contribution to parent-teacher associations and school-management committees
		Contribution to construction, maintenance and other school funds
	Ancillary fees	School canteen fees
		School boarding fees
Transport organized by the school		
Payments and purchases outside educational institutions	Uniforms and other school clothing	Uniforms and other school clothing
	Textbooks and teaching materials	Textbooks
		Other teaching materials
	Private tutoring	Private tutoring
	School meals and transport purchased outside educational institutions	Transport to and from school not organized by the school
School meals purchased outside school		
Other not required (but linked to school attendance)	Computer and extra books	

Note: Where a larger category is chosen, its definition should clarify that expenditure on all sub-categories should be include in what is reported.



These general recommendations must be considered in relation with the work of a task force on education spending estimates from household surveys that was formed as part of the Intersecretariat Working Group on Household Surveys (ISWGHS), with representatives from the UIS, IIEP-Pôle de Dakar, the World Bank, and other organizations.⁶ The task force aims to refine the definition of the SDG education finance indicator, including the expenditure types and sources that it will encompass. More detailed guidance on how to improve household survey questionnaires for the collection of comprehensive, reliable and comparable data on education finance is expected as a major outcome of this work.

Potential harmonization of surveys will not produce new data for several years. In the meantime, it would be worth exploiting available data from the 26 surveys from the IHSN dataset which have been identified as “somewhat useful” by this analysis, as well as other currently available surveys that meet the criteria outlined in this report.⁷ Where possible, the data from these surveys should also be integrated into the UIS database for the calculation of SDG indicator 4.5.4 and other education finance indicators.

⁶ For more information on the ISWGHS, see <https://unstats.un.org/iswghs/>.

⁷ The IHSN Survey Catalog (<http://catalog.ihsn.org/index.php/catalog>) and the LSMS Dataset Finder (<http://iresearch.worldbank.org/lsmssurveyfinder.htm>) are among the tools can be used to identify other, more recent surveys with education expenditure data.



Annex 1: List of surveys analysed

Country	Year	Survey
Afghanistan	2007	National Risk and Vulnerability Assessment Survey (NRVA) 2007-2008
Albania	2005	Living Standards Measurement Survey (LSMS) 2005
Angola	2008	Inquérito Integrado sobre o Bem-Estar da População (IBEP) 2008-2009
Armenia	2009	Integrated Living Conditions Survey (ILCS) 2009
Azerbaijan	2001	Household Budget Survey (HBS) 2001
Bangladesh	2010	Household Income and Expenditure Survey (HIES) 2010
Belarus	2002	Household Sample Survey (HSS) 2002
Belize	2008	Household Expenditure Survey (HES) 2008-2009
Benin	2003	Questionnaire Unifié sur les Indicateurs de Base du Bien-être (QUIBB) 2003
Bhutan	2007	Bhutan Living Standards Survey (BLSS) 2007
Bolivia	2007	Encuesta Continua de Hogares (ECH) 2007
Bosnia and Herzegovina	2004	Living Standards Measurement Survey (LSMS) 2004
Brazil	2008	Pesquisa de Orçamentos Familiares (POF) 2008-2009
Bulgaria	2003	Multitopic Household Survey 2003
Burkina Faso	2009	Enquête Intégrale sur les Conditions de Vie des Ménages (EICVM) 2009-2010
Burundi	2006	Questionnaire Unifié sur les Indicateurs de Base du Bien-être (QUIBB) 2006
Cabo Verde	2001	Inquérito às Despesas e Receitas Familiares (IDRF) 2001
Cambodia	2009	Cambodia Socio-Economic Survey (CSES) 2009
Cameroon	2007	Troisième Enquête Camerounaise Auprès des Ménages (ECAM3) 2007
Chad	2003	Deuxième Enquête sur la Consommation et le Secteur Informel au Tchad (ECOSIT-2) 2003
Colombia	2010	Encuesta Nacional de Calidad de Vida (ENCV) 2010
Comoros	2004	Enquête Intégrale auprès des Ménages (EIM) 2004
Congo	2005	Enquête Congolaise Auprès des Ménages pour l'Évaluation de la Pauvreté (ECOM) 2005
Côte d'Ivoire	2008	Enquête Niveau de Vie des Ménages (ENV) 2008
Democratic Republic of the Congo	2004	Enquête Nationale du type 1-2-3 Auprès Des Ménages 2004
Djibouti	1996	Enquête Djiboutienne Auprès des Ménages - Indicateurs Sociaux (EDAM - IS) 1996
Dominica	2002	Survey of Living Conditions (SLC) 2002
Ecuador	2005	Encuesta Condiciones de Vida - Quinta Ronda (ECV) 2005-2006
Egypt	1999	Egypt Integrated Household Survey (EIHS) 1999
El Salvador	2009	Encuesta de Hogares de Propósitos Múltiples (EHPM) 2009
Ethiopia	2004	Household Income, Consumption and Expenditure Survey (HICES) 2004-2005
Fiji	2002	Household Income and Expenditure Survey (HIES) 2002
Gabon	2005	Enquête Gabonaise pour l'Évaluation et le Suivi de la Pauvreté (EGEP) 2005
Gambia	2003	Integrated Household Survey on Consumption Expenditure and Poverty Level Assessment 2003-2004
Georgia	2007	Household Integrated Survey (HIS) 2007
Ghana	2005	Ghana Living Standards Survey V (GLSS V) 2005-2006
Guatemala	2006	Encuesta Nacional de Condiciones de Vida (ENCOVI) 2006
Guinea	2007	Enquête Légère pour l'Évaluation de la Pauvreté (ELEP) 2007
Guinea-Bissau	1993	Inquérito ao Consumo e Orçamentos Familiares da Guiné-Bissau (ICOF) 1993-1994
Honduras	2004	Encuesta Nacional de Condiciones de Vida (ENCOVI) 2004
India	2009	National Socio-Economic Survey (NSS) 2009-2010



Country	Year	Survey
Indonesia	2002	National Socio-Economic Survey (SUSENAS) 2002
Iraq	2006	Household Socio-Economic Survey (HSES) 2006-2007
Jamaica	2007	Jamaica Survey of Living Conditions (JSLC) 2007
Kazakhstan	2009	Household Budget Survey (HBS) 2009
Kenya	2005	Kenya Integrated Household Budget Survey (KIHBS) 2005-2006
Lao PDR	2007	Expenditure and Consumption Survey (HECS) 2007-2008
Latvia	2007	Household Budget Survey (HBS) 2007
Lesotho	2002	Household Budget Survey (HBS) 2002-2003
Liberia	2007	Core Welfare Indicators Questionnaire (CWIQ) 2007
Lithuania	2003	Household Budget Survey (HBS) 2003
Madagascar	2005	Enquête Auprès des Ménages (EPM) 2005
Malawi	2004	Second Integrated Household Survey (IHS) 2004-2005
Maldives	2004	Vulnerability and Poverty Assessment Survey II (VPA) 2004
Mali	2006	Enquête Légère Intégrée auprès des Ménages (ELIM) 2006
Marshall Islands	2002	Household Income and Expenditure Survey (HIES) 2002
Mauritania	2004	Questionnaire Unifié des Indicateurs de Base du Bien-être (QUIBB) 2004
Mexico	2010	Encuesta Nacional de Ingresos y Gastos de Los Hogares (ENIGH) 2010
Mongolia	2007	Household Socio-Economic Survey (HSES) 2007-2008
Montenegro	2009	Household Budget Survey (HBS) 2009
Morocco	2000	The National Survey on Household Budgeting and Consumption 2000
Mozambique	2008	Inquérito sobre Orçamento Familiar (IOF) 2008-2009
Myanmar	2009	Integrated Household Living Conditions Assessment II 2009-2010
Nepal	2010	Nepal Living Standards Survey (NLSS) 2010-2011
Nicaragua	2005	Encuesta Nacional de Hogares sobre Medición de Nivel de Vida (EMNV) 2005
Niger	2007	Enquête Nationale sur le Budget et la Consommation des Ménages (ENBC) 2007
Nigeria	2010	General Household Survey (GHS) 2010
Pakistan	2004	Pakistan Social and Living Standards Measurement Survey (PSLM) 2004-2005
Panama	2008	Encuesta de Niveles de Vida (ENV) 2008
Papua New Guinea	1996	Household Survey (HS) 1996
Paraguay	2000	Encuesta Integrada de Hogares (ENH) 2000-2001
Peru	2010	Encuesta Nacional de Hogares - Condiciones de Vida y Pobreza 2010
Philippines	2006	Family Income and Expenditure Survey (FIES) 2006
Romania	2007	Household Budget Survey (HBS) 2007
Russian Federation	2008	Household Budget Survey (HBS) 2008
Rwanda	2005	Integrated Household Living Conditions Survey (EICV 2) 2005
Saint Lucia	2005	Survey of Living Conditions and Household Budgets (SLCHB) 2005
Sao Tome and Principe	2000	Inquérito sobre Condições de Vida das Famílias 2000
Senegal	2005	Enquête de Suivi de la Pauvreté au Sénégal (ESPS) 2005
Seychelles	1999	Household Expenditure Survey (HES) 1999-2000
Sierra Leone	2003	Sierra Leone Integrated Household Survey (SLIHS) 2003
South Africa	2005	Household Income and Expenditure Survey (HIES) 2005-2006
Sri Lanka	2006	Household Income Expenditure Survey (HIES) 2006-2007
Sudan	2009	National Baseline Household Survey (NBHS) 2009



Swaziland	2000	Household Income and Expenditure Survey (HIES) 2000-2001
Tajikistan	2009	Living Standards Measurement Survey (TLSMS) 2009
Thailand	2009	Household Socio-Economic Survey (HSES) 2009

Country	Year	Survey
Timor-Leste	2007	Survey of Living Standards 2007 and Extension 2008
Togo	2006	Questionnaire des Indicateurs de Base du Bien-être (QUIBB) 2006
Tunisia	2005	Enquête Nationale sur le Budget, la Consommation et le Niveau des Ménages (ENBCM) 2005
Turkmenistan	2003	Living Standards Measurement Survey (LSMS) 2003
Uganda	2009	National Panel Survey 2009-2010
Ukraine	2006	Survey of the Conditions of Life of Ukraine's Households 2006
United Republic of Tanzania	2008	National Panel Survey 2008-2009
Uzbekistan	2000	Household Budget Survey (HBS) 2000
Vanuatu	2012	Pacific Living Condition Survey, Hybrid Survey 2012-2013
Viet Nam	2008	Household Living Standards Survey (HLSS) 2008
Yemen	2005	Household Budget Survey (HBS) 2005-2006
Zambia	2006	Living Conditions Monitoring Survey V (LCMS V) 2006



Annex 2: Availability of expenditure items by region

Region	Total number of surveys	Number of surveys which collected data on					
		Tuition	Other required fees	Tutoring, private lessons	Parent association fees	Uniform and other required clothing	Textbooks
Caucasus and Central Asia	7	7	1	4	0	3	6
Developed regions	10	6	4	3	1	4	6
Eastern Asia	1	1	0	0	0	1	1
Latin America and the Caribbean	16	16	16	5	6	16	16
Northern Africa	3	3	2	2	0	1	3
Oceania	4	4	0	0	0	3	4
South-Eastern Asia	8	8	5	5	3	5	8
Southern Asia	8	7	6	4	0	2	8
Sub-Saharan Africa	40	38	19	12	17	34	39
Western Asia	2	2	1	2	0	2	2
World	99	92	54	37	27	71	93

Region	Total number of surveys	Number of surveys which collected data on						
		Other education materials	School meals, canteen	Transportation	Lodging fee	Contribution for school facilities	Gifts, unofficial payments	Other
Caucasus and Central Asia	7	3	3	4	1	3	4	5
Developed regions	10	6	6	3	6	2	3	2
Eastern Asia	1	1	1	0	1	0	0	1
Latin America and the Caribbean	16	15	7	14	5	2	2	11
Northern Africa	3	3	0	3	2	0	0	1
Oceania	4	3	1	2	3	0	1	3
South-Eastern Asia	8	8	3	7	5	3	2	4
Southern Asia	8	8	1	5	4	0	1	6
Sub-Saharan Africa	40	32	17	27	19	6	4	21



Western Asia	2	1	2	2	2	0	0	2
World	99	80	41	67	48	16	17	56



Annex 3: Availability of data on funding sources by region

Region	Total number of surveys	Number of surveys which collected data on		
		Who contributes to education spending	Scholarships	Conditional cash transfers
Caucasus and Central Asia	7	2	6	0
Developed regions	10	2	8	0
Eastern Asia	1	0	1	0
Latin America and the Caribbean	16	1	11	5
Northern Africa	3	0	0	0
Oceania	4	0	2	0
South-Eastern Asia	8	3	5	1
Southern Asia	8	0	3	0
Sub-Saharan Africa	40	10	9	1
Western Asia	2	0	1	0
World	99	18	46	7



Annex 4: Availability of data on scholarships by region

Region	Total number of surveys	Number of surveys which collected data on			
		Amount of scholarship	Beneficiary of scholarship	Source(s) of scholarship	Form of scholarship
Caucasus and Central Asia	7	6	4	2	1
Developed regions	10	8	8	0	0
Eastern Asia	1	1	1	1	0
Latin America and the Caribbean	16	8	7	4	6
Northern Africa	3	0	0	0	0
Oceania	4	1	1	0	1
South-Eastern Asia	8	4	1	1	1
Southern Asia	8	3	2	1	0
Sub-Saharan Africa	40	8	5	3	0
Western Asia	2	1	1	0	0
World	99	40	30	12	9



Annex 5: List of useful surveys for calculation of household education expenditure indicators

Country	Year	Survey
Albania	2005	Living Standards Measurement Survey (LSMS) 2005
Angola	2008	Inquérito Integrado sobre o Bem-Estar da População (IBEP) 2008-2009
Bangladesh	2010	Household Income and Expenditure Survey (HIES) 2010
Bolivia	2007	Encuesta Continua de Hogares (ECH) 2007
Cameroon	2007	Troisième Enquête Camerounaise Après des Ménages (ECAM3) 2007
Colombia	2010	Encuesta Nacional de Calidad de Vida (ENCV) 2010
Côte d'Ivoire	2008	Enquête Niveau de Vie des Ménages (ENV) 2008
Ecuador	2005	Encuesta Condiciones de Vida - Quinta Ronda (ECV) 2005-2006
El Salvador	2009	Encuesta de Hogares de Propósitos Múltiples (EHPM) 2009
Ghana	2005	Ghana Living Standards Survey V (GLSS V) 2005-2006
Guatemala	2006	Encuesta Nacional de Condiciones de Vida (ENCOVI) 2006
Guinea	2007	Enquête Légère pour l'Évaluation de la Pauvreté (ELEP) 2007
Jamaica	2007	Jamaica Survey of Living Conditions (JSLC) 2007
Kenya	2005	Kenya Integrated Household Budget Survey (KIHBS) 2005-2006
Lao PDR	2007	Expenditure and Consumption Survey (HECS) 2007-2008
Madagascar	2005	Enquête Après des Ménages (EPM) 2005
Mexico	2010	Encuesta Nacional de Ingresos y Gastos de Los Hogares (ENIGH) 2010
Myanmar	2009	Integrated Household Living Conditions Assessment II 2009-2010
Nepal	2010	Nepal Living Standards Survey (NLSS) 2010-2011
Nicaragua	2005	Encuesta Nacional de Hogares sobre Medición de Nivel de Vida (EMNV) 2005
Panama	2008	Encuesta de Niveles de Vida (ENV) 2008
Peru	2010	Encuesta Nacional de Hogares - Condiciones de Vida y Pobreza 2010
Saint Lucia	2005	Survey of Living Conditions and Household Budgets (SLCHB) 2005
Uganda	2009	National Panel Survey 2009-2010
Viet Nam	2008	Household Living Standards Survey (HLSS) 2008
Yemen	2005	Household Budget Survey (HBS) 2005-2006



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