CHALLENGES OF EDUCATION SERVICES DURING THE COMPILATION OF THE UGANDA NATIONAL CONSUMER PRICE INDEX (NCPI)

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By

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ABSTRACT

The selection of items for continuous price monitoring in order to compile the Uganda monthly National Consumer Price Indices (NCPI) is premised on the item’s importance in the consumption basket. The importance is derived from proportion of household consumption expenditure for the Elementary Aggregates (EAs) and the availability of items for regular price collection within those EAs in the market. Basing on household consumption expenditure data of Uganda, education services to households is one of the most prominent component in the consumption basket whose prices are collected on a regular basis. The household expenditure on education keeps on increasing. This is portrayed by the increasing number of private training institutions at both lower and higher levels of education. In addition, enrolment of pupils and students keeps on increasing in existing training institutions. However, the structure of education service charges to households for each of the training institutions in Uganda is different and on top of that keeps on changing even within different academic terms/semesters of the same academic year. Also to be noted is that some of the education expenditures are aggregated to the extent that it is difficult to separate household expenditures for the education service category from those of supporting services and auxiliary goods to education. Thus, following the principle of comparing like-with-like as basis for computing the NCPI that is free from quality bias becomes a big challenge. In addition, within different academic terms of the same academic year, some of the charges are paid once one joins an academic institution, others paid once in an academic year while others are paid every academic term and there are charges that are introduced during the mid-academic term.

The extent of monitoring like with like during the computation of the NCPI and the inclusion of household expenditures on education services during the computation of weights for the Uganda NCPI is the issue this paper is focussed on.

Key words: Academic year, Academic term/Semester, Cost Line, Weights, Prices and Index computation.

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1 INTRODUCTION

The share of services in the Uganda National Consumer Price Index (NCPI) accounts for more than a third and it stands at 34.2 percent. In their broad categories, the Uganda NCPI has the following services: house rent services, health services, transport services, communication services, entertainment services, photographic services, package holiday services, catering services, accommodation services, insurance services, photocopying services, security services, and education services.

Thus, given the big weight, the treatment of service sector during the compilations of the NCPI has a significant effect on the quality of the overall index. Each type of service has specific challenges where sometimes, it is difficult to identify the items to be sampled to ensure that the quality of the sampled items are kept constant from period to period in order to compare like-with-like. In addition, the quantity and quality of the services keep on changing and appropriate adjustments are sometimes made to account for such changes. In some cases, the service is aggregated with other products rendering the identification of the service even more difficult.

This paper is centred only on the education services within the Uganda NCPI. Education services have a weight of 5.5 percent of the entire NCPI basket and is one of the 12 COICOP divisions (components) of the Uganda NCPI. The paper elaborates on the challenges met during the compilation of the education price index and Annex 01 gives a sample of some of the cost items in the Uganda Education institutions.

The Uganda Bureau of Statistics (UBOS) rebased the Uganda NCPI from the 2005/2006 financial year (July 2005 to June 2006) reference period to that of (2009/2010) financial year. The major source of information used to derive the weighting pattern of the rebased NCPI was the results of Uganda National Household Survey (UNHS). The survey was conducted from May 2009 to April 2010 and is referred to as the 2009/2010 UNHS. The cut-off point for any products or group of products with homogenous items to have explicit weights in the NCPI was one part per 1000.

Household expenditures on educational services together with their corresponding ancillary goods and services are classified in their appropriate COICOP divisions, groups and classes as indicated in Annex 02. For instance, household expenditures on education-related goods, such as textbooks, and on education-related services, such as school catering or healthcare services, were allocated to the appropriate COICOP divisions and sub-headings. Where a household expenditure is charged for educational services is combined materials or education support services, such expenditures were separated and allocated to their respective COICOP divisions concerned. Where such a separation could not be made, the entire expenditure was allocated to the most appropriate class in COICOP Division 10. The assignment of pre-primary level schools to either social protection or with educational education was, where possible, made according to the standards set out in the International Standard Classification of Education (ISCED) 1997.

Weights were established according to the total household expenditure on educational services as classified in COICOP division 10, less reimbursements.
Where fees for educational services are paid for partially or fully by means of a loan, the weights included the gross fees payable without regard to the amount of the loan, its repayment period or any interest chargeable.

**Coverage of educational services.** All fee-charging providers of educational services, including organs of central and local government, Non-Profit Institutions Serving Households (NPISH), religious organisations, private institutions and private self-employed persons, were covered during the compilation of the NCPI. UBOS covers education products with the following COICOP groups:

10 **Education**  
10.1 Pre-primary and Primary Education  
10.2 Secondary Education  
10.3 Post-secondary non-tertiary Education  
10.4 Tertiary Education  
10.5 Education not definable by level

Household consumption expenditures for each of the categories listed above that accounts for at least one Part in a thousand of total expenditure have explicit weights in the NCPI

**Unit of Measurement**  
The unit of measurement for education services during the computation of the Uganda NCPI is an academic term for pre-primary, primary and secondary education levels while it is an academic semester for tertiary education. An academic year has three academic terms and two academic semesters. An academic term has about three calendar months while an academic semester has about four calendar months.

**Computation and Dissemination of sub-indices**  
UBOS computes the NCPI for educational services under COICOP Division 10 at both the elementary level and levels above the elementary. The sub-indices of the Education services are introduced into the monthly CPI during the month when the academic term or academic semester begins provided the official opening date of the education institutions is before 16th of that particular month. Otherwise, such prices are incorporated into the compilation of the NCPI of the following month.

The Prices for an academic term or semester are kept the same for all the months within the NCPI until new prices for the following academic term or semester are available.

Weights and monthly indices for the education services are disseminated at the COICOP division level.
2 CHALLENGES:
Here given below is a list of challenges that are specific to education services in Uganda.

a) Payment structure depends on the education institutions
b) Changes in education institutions payment structures during every academic term
c) Frequency of payments for some of the cost lines is different
d) Some charges are introduced during the course of an academic term
e) Some education institutions charge payments as a lump sum
f) Front load payment during the first term
g) Duration of each term are different in any academic year
h) Some education institutions delay to provide data on time
i) Some respondents refuse to give data completely
j) Failing to trace deposited questionnaires on the day of collecting the filled questionnaires
k) Timing of incorporation of education data into the NCPI
l) Variation in duration of the Academic Terms
m) Actual Education costs hidden in other categories
n) Selection of outlets

a) Payment structure depends on the education institutions
One of the challenges that is met during the computation of education services is that each education institution has a different payment (cost-line) structure. In such a situation, it is extremely difficult to allocate the expenditure to the exact true COICOP class. Due to this, a lot of time is required during the analysis of data in order to classify correctly each category of expenditure to a relevant COICOP class and thus leading to subjectivity.

b) Changes in education institutions payment structures during every academic term
On top of having different payment structures for different education institutions, individual education institutions keep on changing their termly payment structures even within the same academic year. The problem with different termly payment structures is that some of the items which appear in one term are dropped in the following term. On the other hand, new cost lines are introduced into the payment structure. These termly changes in cost lines make the principal of comparing like with like extremely difficult to be followed under such circumstance. During the computation of the NCPI, those which are dropped are not included and where applicable, UBOS incorporates newly introduced items into the NCPI.

c) Frequency of payments for some of the cost lines is different
With reference to Uganda, the academic year has three academic terms and education institutions dues are paid at beginning of every academic term. However, some cost lines are paid once one joins a particular academic level e.g. pre-primary level, primary level, secondary level etc., others are paid once in an academic year and others are paid on a termly basis.

c (i) Cost lines that are paid once one joins a level. During the computation of the NCPI, cost lines that are paid once when one joins a particular level, are evenly distributed for all the academic terms within that particular academic level. For instance, registration fees are paid once when one joins the primary level. The price used during the compilation of the NCPI is computed as follows: primary level consists of seven academic years and each academic year has three academic terms. Thus, the total number of academic terms for the primary level are twenty one. Thus, registration fee which is paid once when joining the primary level of
education is evenly distributed among the twenty one terms. This is done by dividing the registration fee by the total number of academic terms within that primary level. If the registration is 30,000/= Uganda shillings, the price for registration used to compute the NCPI is computed as 30,000/ \( \frac{21}{21}=1428.571 \). Thus the result which is 1428.571 is used during the computation of Uganda NCPI. This figure is kept constant for the academic terms of the same academic year. Thus, it is calculated once in an academic year.

**c (ii) Cost lines that are paid once in an academic year.** While computing the NCPI, cost lines that are paid once in an academic year at a particular level, the given fee is divided by three where by three is the total number of academic terms in a given academic year, provided the coastlines are paid during the first academic term. The resultant figure is what is used in the computation of the NCPI for the first term and is kept constant for all the remaining two academic terms within a given academic year. However, there are cases when the cost line is introduced during the second academic term, the figure is divided by two and it is the same figure that is used even during the third academic term. If the payment is introduced during the third term, it is used without any adjustments during the computation of the NCPI. Examples of such fees are annual subscription fees.

d) **Some charges are introduced during the course of an academic term**
A number of education institutions, often introduce new charges within the course of the term after the first education institutions requirements have been paid by the parents. These expenses are not captured by UBOS since no mechanism has been developed to monitor such costs. These costs are introduced after the data collection in education institutions is completed. This leads to under reporting.

e) **Some education institutions charge payments as a lump sum**
Annex 01 below gives some of the cost lines for the education institutions dues paid by parents/households. Some education institutions don’t give the breakdown of the cost lines thereby providing the fees charges as a block figure. This makes the computation of the education services sub-indices as one of the most difficult component. This is because the block figure has to be decomposed into detailed breakdown so as to classify each element according to its respective COICOP class. UBOS tries to decompose such figure by using break down proportions from similar education institutions.

Similarly, education institutions who give a breakdown in terms of cost lines, some of the figures are still given as aggregates. A good example is boarding fee. Boarding fee includes a number of other categories such as meals (Catering Services); Accommodation services (bed); extra lessons; Cultural services among others. In this case, UBOS allocates all the values to COICOP class “accommodation services” with code 11.2.1.

f) **Front load payment during the first academic term**
Some education institutions when making projections for the year, they get estimate for the payments for the entire academic year and the payments are made is such a way that during the first academic term, the amount of money paid by parents is much higher than those paid in subsequent academic terms.
Thus, during the first academic term, the indices for education services tend to be high while they decrease in subsequent academic terms due to front loading. This result into compiling the education indices that oscillates.

g) Duration of each term are different in any academic year
An academic year has three academic terms. However, the duration for each academic term of the same academic year is different. In addition, the duration for the same academic term e.g. first academic term is not the same for the different academic years. This is a challenge since costs are not referred to the same period.

However, during the next rebasing of the NCPI, the unit of measurement for education services will be changed from an academic term to a cost per day as it is the case for the International Comparison Programme (ICP).

h) Some education institutions delay to provide data on time
Some education institutions categorically refuse to provide education data to UBOS on time due to bureaucracy. Thus, the NCPI is computed with some education data missing since UBOS has to meet the pre-determined deadline for the compilation and dissemination of the NCPI. The monthly NCPI of any particular month is disseminated on the last working day of that every month. In such situation, UBOS normally uses the education figures that are available and uses the carry forward techniques for the missing data to complete the computation of the NCPI such that the index is disseminated on time. When all the education data has been obtained, the data for the previous month is incorporated into the index and thereafter the disseminated NCPI is revised.

However, users of the NCPI are informed in advance that the education data is not complete and the disseminated NCPI will be revised after getting all the required education data. The revised NCPI is published on the same date and time while disseminating NCPI of the following month.

i) Some education institutions refuse to give out data completely
Some of the respondents completely refuse to give us the required data. However, after several visitations and reminders, such institutions are treated as a closed outlets. This leads the education data series to be discontinued and also to incur costs of opening of new outlets. It is a serious challenge.

j) Failing to trace deposited questionnaires from the education institutions
The procedure for the collection of data on education is that questionnaires are deposited at the education institutions and collected on an agreed date after being filled in by the responsible officers at the education institutions. However, there are many occasions when Data Collectors go to pick the questionnaire and the respondent replies that the deposited questionnaire cannot be traced. This challenge is counteracted by instructing all the data collectors to go with another set of questionnaires for education charges such that when such a scenario happens, other questionnaires are placed again at these institutions.

However, this implies that the process has to be started afresh, hence delayed information that may lead to the imputation of education data if the information is not obtained at the right time of computing the NCPI.
k) Timing of incorporation of education data into the NCPI
Data collection for any particular month is carried out from 1st and 15th of every month. Thus UBOS follows a Point-in-time approach during the collection of consumer prices for the monthly NCPI. Though there are official days for opening and closing of any academic term set by the government, almost each private education institution opens and closes on non-official days. This becomes a challenge in that if an education institution opens before 15th of the month the data is supposed to be incorporated into the NCPI of that month, and if an education institution opens after the 15th of a given month, the data is supposed to be incorporated into the NCPI of the following month. This leaves Statisticians with a challenge of deciding when to incorporate the data since all the data is supposed to be used at the same period. UBOS takes the official opening day as the day when the education institutions have opened though in practice, it is a different situation.

l) Variation in duration of the Academic Terms
For the entire period of the academic term and until when the new academic term opens as explained above, the cost of education during the computation of the monthly NCPI are kept constant i.e. the carry forward technique is applied. The challenge here is that the duration of each academic term is different and also the education institutions holidays between terms are different. Thus, the duration between which the education data is introduced during the computation of the NCPI for the 3 academic terms are not evenly distributed within any academic year. For instance, education service cost lines for the 3rd academic term are kept constant during the computation of the NCPI for about five months.

m) Actual Education costs hidden in other categories
ANNEX 01 gives a sample of the detailed cost lines of the education costs together with the ancillary goods and services related to education. However, the cost lines given are not the actual amount for each cost item. Since, each cost item is categorised into a different COICOP class or division, it becomes a challenge since some costs are kept constant for many years more especially those that are categorised under education services. For instance, one of the cost lines is tuition fees. Education institutions charge tuition fees as recommended by the government and do hide most of the costs for the education services in other cost lines. Thus, there is some underestimation during the computation of weights for education services and also during the computation of national NCPI. There is no immediate solution for this challenge. However, during the next rebasing of the NCPI, more effort is going to be made in that area to minimise the underestimation.

n) Selection of outlets
Outlets from which education services are selected are from all fee-charging providers of educational services, including public education institutions, education institutions owned and managed by Non-Profit Institutions Serving Households (NPISH), religious organisations, private institutions and private self-employed persons. Since it is practically impossible to cover all education institutions within the country, a sample of them is selected. There are two methods that are both acceptable to select a sample of education outlets from which regular data are collected. The methods are Probabilistic Sampling Techniques and Non-Probabilistic Sampling Techniques. The former method is preferred given its advantages. However, due to lack of comprehensive and updated sampling frame, UBOS follows the Non-Probabilistic Sampling Techniques while selecting outlets from which education charges are collected.
However, during the next rebasing of the NCPI, efforts are going to be taken to compile a sampling frame that would be used to select outlets from which education data will be selected by probabilistic sampling techniques.

3 CONCLUSION AND THE WAY FORWARD

According to COICOP, education services as a division is subdivided into five categories referred as COICOP groups. The paper elaborated in details on the first two COICOP groups which also take more than 75% of the household expenditure on education. The COICOP groups are Pre-Primary & Primary education and secondary education.

Computation of weights, establishment of elementary aggregates, identification of items within the elementary aggregates, collection and processing of consumer prices together with the computation of the elementary aggregate indices for the education services has many challenges as elaborated above. Some of the challenges listed above are likely to be similar to some if not most of the countries in sub-Saharan Africa especially where they there exist both government funded and privately education institutions.

UBOS has been making progress towards improving both the quality and coverage of education and other services provided to households as final consumption. As a way forward, UBOS will, during the next rebasing of the NCPI, make more improvements on above mentioned challenges.
ANNEX 01: Examples of Cost lines in Uganda’s education institutions

Annex 01.A – Pre-Primary Education Cost Lines

a) School fees
b) Toilet paper
c) Break tea
d) Transport
e) Books
f) Pencils
g) Ream of papers
h) Girls Uniform
i) Boys Uniform
j) Sweater
k) Sports wear
l) Pair of socks
m) Teachers Rent
n) Bank charges
o) Meals
p) Tours
q) Coloured pencils
r) Box files

Annex 01.B – Primary Education Cost Lines

a) Development Fund
b) Bank charges
c) Tuition Fees
d) Sports Wear
e) Medical Fee
f) Boarding Fee
g) Primary Leaving Examination Registration fee
h) Mock Fee
i) Remedial Fee
j) Caution Money
k) Ream of Paper
l) Domestic Wear
m) Library
n) Stationary
o) School vehicle contribution Girls Uniform
p) Boys Uniform
q) Sweater
r) Sports wear
s) Text books
t) Tours

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Annex 01.C – Secondary Education Cost Lines

a) Entrance fees  
b) Admission fees  
c) Parents Teachers Association (PTA)  
d) Board of Governors Fees  
e) Tuition Fee  
f) School Development Fund  
g) School Uniform  
h) Bank charges  
i) Boarding fee  
j) Caution Fees  
k) Mock Examination Fee  
l) Application Forms fees to join Tertiary institutions  
m) University Coding Sheet fees  
n) Decker Fee  
o) Uganda National Examination Board Fees  
p) School Badge  
q) School Identity card  
r) Girls Uniform  
s) Boys Uniform  
t) Sweater  
u) Sports wear  
v) Uganda National Students Association (UNSA)  
w) Visitation card  
x) School vehicle contribution  
y) Extra lessons  
z) Computer Lessons  
aa) Top up for Teachers  
bb) Teachers not on pay roll  
c) Hostel fees  
dd) Medical fee  
ee) Caution money  
ff) Stationery fees  
gg) Sanitation fees  
hh) Furniture  
i) District Activities  
jj) Meals  
k) Library  
l) General maintenance  
mm) Information Communication Technology (ICT)  
nn) Annual contribution  
o) Practical Subject  
p) Utilities  
qq) Membership fee  
r) Insurance  
s) Church fee  
t) support staff salaries  
uu) Break Tea
vv) Sports and Games
ww) Students council
xx) Curriculum
yy) Generator
zz) wages/tours
aaa) Wakisha Subscription fee
bbb) Calendar fees
ccc) Science fee
ddd) Heifer contribution
eee) Insurance
fff) SESMAT
ggg) Mathematics Teachers’ Association (MTC)
hhh) Teachers’ Research Centre (TRC)
iii) ECA
jjj) Study tours

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### ANNEX 02: Expenditure Classification of Goods and Services Ancillary to Education

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<th>Expenditures on Goods and Services Ancillary to Education</th>
<th>Classification of Household Expenditures during the Rebasinig</th>
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<tr>
<td>Funds paid for meals while at school or college</td>
<td>Were classified under Division 11 (Restaurants and Hotels) under the Class: Restaurants, Cafés and the like (COICOP CODE: 11.1.1)</td>
</tr>
<tr>
<td>Accommodation or boarding Charges while at school or college</td>
<td>Were classified under Division 11 (Restaurants and Hotels) under class: Accommodation services (COICOP CODE:11.2.0)</td>
</tr>
<tr>
<td>Catering charges</td>
<td>Were classified under Division 11 (Restaurants and Hotels) under the Class: Restaurants, Cafés and the like (COICOP CODE:11.1.1)</td>
</tr>
<tr>
<td>Transport Charges for pupils or students</td>
<td>Were classified under Division 07 (Transport) under the Group: Transport Services (COICOP CODE:07.3)</td>
</tr>
<tr>
<td>Charges for healthcare products while at school or college</td>
<td>Were classified under the Division of Health (COICOP CODE:06)</td>
</tr>
<tr>
<td>Expenditure on educational materials, e.g. books, stationery</td>
<td>Were classified under Division 09 (Recreation and Culture) under the Group: News Papers, Books and Stationary (COICOP CODE:09.5)</td>
</tr>
<tr>
<td>Fees for driving lessons</td>
<td>Were classified under Division 07 (Transport) under the Class: Other Services in Respect of Personal Transport Equipment (COICOP CODE:07.2.4)</td>
</tr>
<tr>
<td>Fees for out-of-school sports training</td>
<td>Were classified under Division 09 (Recreation and Culture) under the Class: Recreational and Sporting services (COICOP CODE:09.4.1)</td>
</tr>
<tr>
<td>Cost of school uniforms and sports clothing</td>
<td>Were classified under the Division of Clothing and Footwear (COICOP CODE:03)</td>
</tr>
<tr>
<td>Cost of school photographs</td>
<td>Were classified under Division 09 (Recreation and Culture) under the Class: Cultural Services (COICOP CODE:09.4.2)</td>
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