

International Comparison Program

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Remaining Issues on Linking the Regions

Global Office



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Remaining issues on Linking the Regions ICP 2011

1. Background

This paper reviews TAG recommendations regarding methods to link within region PPPs to a global currency. The methods will differ somewhat for major aggregates. The main purpose of the paper is to point out areas that should be discussed by the TAG. The following sections provide a brief review of the methods used to link at the basic heading level for major aggregates. The paper then concludes by summarizing the aggregation methods once regions have been linked.

2. Household Consumption (except dwellings and private education)

Each ICP region and the Eurostat-OECD prepared specifications for household consumption specific to their respective countries and economies. The Global Office in collaboration with the regions prepared specifications for a set of products (core list) of which a subset would be also priced by every country. Chapter 26 of the ICP Operational Guide provides a detailed review of the linking and aggregation methods.

The linking method using the “core list” is essentially the same as the “ring method” used in 2005 except all countries will submit core prices while only 18 countries overall priced the ring list. Within region basic heading PPPs are used to convert core prices to a regional currency. The result is a matrix of six sets of core prices and when applying the CPD-weighted method results in a set of between region PPPs which are used as linking factors to calibrate each regions PPPs to a global currency. Various forms of this method will be used to link the CIS, the Pacific Islands and Singleton countries (see TAG paper on linking Pacific Islands).

Once this step is completed, there is a matrix of basic heading PPPs in the global currency for all countries and headings represented by the Core list.

Issue 1: The Pacific islands will be linked to Asia and the OECD using multiple bridge countries (Fiji, Australia, and New Zealand). How can the linking maintain transitivity?

Issue 2: The Pacific islands are only pricing the consumption aggregates of the ICP. Will the real expenditures for the GDP be imputed?

Issue 3: CIS will be linked to OECD-Eurostat via Russia (bridge country), but experimental computations can be run to link CIS directly to the World using the “core list” approach.

Issue 4: Will the “importance” classification be used with the core prices?

3. Dwellings

Each country was asked to provide two sets of data. First, the Global Office prepared a set of global specifications to obtain rental rates for over 60 different types of dwellings (see Chapter 9 of the ICP Operational Guide). Regions picked those specifications relevant to their situation and asked countries to provide rental rates broken down by urban and rural. These rental rates are treated as prices and PPPs computed the same as for other household items.

In addition, the Global Office prepared a dwelling services questionnaire for each country to complete. This questionnaire asked for numbers of dwellings, rooms, and square footage by location and different levels of quality (access to electricity, water, toilets, etc). PPPs will be indirectly computed using the quantity method to determine volumes.

The goal is that the within-region PPPs for dwellings will be computed using the rental data and/or the quantity data. It is anticipated that the overlap in rental rates by type of dwelling across regions will be limited; therefore, the quantity method will be used to compute the between region linking factors.

Issue 1: Thirty Eurostat-OECD countries provided data for the quantity method, but the data were presented differently from the other regions. (To be discussed following Eurostat-OECD presentation).

Issue 2: Nine CIS countries provided data for the quantity method. Russia will be the bridge to link the CIS to the Eurostat-OECD, but the quantity data can be used to experimentally link CIS directly to the World?

4. Private Education

Specifications for several categories of private education are provided in Chapter 8 of the Operational Guide. Annual average tuition fees per student have been submitted by all ICP countries including the CIS. These will be the basis for within region PPPs for private education. The overlapping of tuition fees by item across regions will be used to compute between region PPPs to link the ICP regions. PPPs for public education for all ICP regions will be based on compensation rates of government employees as described in the next section.

The Eurostat-OECD has implemented an output method for education that will be used for both private and public education.

Issue: Linking the Eurostat-OECD private and public education to the ICP regions—see next section.

5. Compensation of Government Employees

Chapter 10 of the ICP Operational Guide provides specifications for over 40 different occupations for health, education, and other government such as defense, public safety, etc. As above, this is a global set of specifications for which countries will submit annual rates of compensation for as many as possible.

These compensation rates will be used to compute within region PPPs for the basic headings for compensation of employees. In some regions, these PPPs will be adjusted for productivity.

The TAG recommended that the between region linking factors be determined as follows:

- The input to the CPD will be the compensation rates by occupation by country for all countries across all regions. This will be a global aggregation of relative rates of compensation to basic heading level PPPs for every country.
- These global basic heading PPPs will be adjusted for productivity for all countries including those not making adjustments to their within region PPPs for compensation.
- These global PPPs will be used to convert basic heading expenditures to the global currency. These real basic heading expenditures will be summed to the regional level. The linking factor for each region will be the ratio of the sum of real expenditures divided by the sum of expenditures in the regional currency.

This method will be used to link compensation PPPs across all regions for all basic headings except private and public education in the Eurostat-OECD.

Issue 1. Private and public education in Eurostat-OECD. Eurostat-OECD is using an output method for education instead of compensation of employees and private tuition fees. See Eurostat-OECD paper recommending their countries be linked to the rest of the world using the “bridge” method with four countries in Latin America.

- For this purpose, the global education PPPs derived above should be expressed with the geomean of the PPPs for the four LA “bridge” countries as base
- The global education PPPs derived from the Eurostat-OECD method should also be expressed with the geomean of the PPPs for the four LA “bridge” countries as base
- The linking factor is then derived from these two geomeans.

This should be done at the level of total education expenditure (aggregate of all household and government BHs on education).

Issue 2. Occupation overlap across regions. ICP regions provided compensation data for occupations for 4 levels (entry level, 5 years, 10 years, and 20 years). Eurostat-OECD provided compensation data for the occupations without distinction of various levels (an average of all levels). How can the overlap be established between ICP regions and OECD/Eurostat? The Eurostat-OECD suggests either to link to the 10 year seniority level or to the average of all seniorities depending on other region's data. CIS is in the same situation.

Issue 3. Compensation in Africa. Not all African countries provided data on full compensation (as required in the original survey questionnaire). Some countries provided data on "base pay" in the simplified questionnaires. Thus, the intra-Africa PPPs may be computed based on the "base pay" information, while linking Africa to the rest of the World may be done using the full compensation data provided by around 30 African countries only.

6. Machinery and Equipment

Chapter 11 of the ICP Operational Guide describes the methods to prepare specifications and price a global set of over 70 machinery products. Each region selected a subset relevant to their economies and provided national annual average prices which will be used to compute within region PPPs for these basic headings.

Issue 1. There was a global list of machinery and equipment products of which countries were to price as many as they could. However, not all countries will have priced products that overlap with prices from other regions resulting in between region linking factors based on prices for a subset of products and countries. Is the overlap sufficient to produce reliable linking factors?

Issue 2. Is the "importance" criteria being used, i.e. will Weighted CPD be used to compute BH PPPs?

7. Construction

Chapter 12 of the ICP Operational Guide provides the specifications for 50 basic and common construction resources that include 38 different materials, 5 types of rental equipment, and 7 classifications of labor. Global questionnaires were prepared, again with regions determining the subset to be priced by its countries. These prices and accompanying weights will be the basis for the within region construction PPPs.

Issue 1. Same as issue 1 above for equipment which is that the linking will probably be done using only item prices that overlap at least one other region. Is the overlap sufficient to produce reliable linking factors?

Issue 2. Eurostat-OECD countries price construction using the Bills of Quantity Approach. The linking of the Eurostat-OECD countries will be done through the 9 countries that submitted prices for construction inputs.

Issue 3. One country from CIS (Russia) submitted prices for construction inputs to allow for testing the direct linking of CIS to the World.

Issue 4. The “importance” criteria under the construction survey refers to “applicability of an item under the BH”, for example: Roof tiles are not “important/applicable” for Civil Engineering Works BH. Will the global default of importance/applicability be used or the importance/applicability provided by individual countries?

8. Conclusions

Once all basic heading PPPs have been linked, there will be a global matrix of around 165 countries times 155 basic heading PPPs and another matrix of the same size containing expenditures. The CAR aggregation will be used to link the regions. Linking factors for each level of aggregation will be the ratio of the sum of regional expenditures in the global currency from the global aggregation to the sum of regional expenditures in the regional currency from the regional aggregation.