



4th ICP 2011 Technical Advisory Group Meeting
October 20-21, 2010, Washington DC
Minutes of Meeting

1 Introduction

1. The Fourth Meeting of the Technical Advisory Group (TAG) was held on 20-21 October 2010 at the World Bank in Washington DC. In attendance (see Annex B) were TAG members, and ICP Regional Coordinators as observers. The aim of the meeting was to present the latest Executive Board decisions, discuss the proposals for pricing construction, equipment and education and determine the approaches to be adopted for productivity adjustments, aggregation and linking between regions. The agenda is presented in Annex A.

2 Opening Session

2. Misha Belkindas, Manager, World Bank Development Data Group, welcomed all participants and thanked Professor Erwin Diewert for his leadership as outgoing TAG Chairman and congratulated the new Chairman Paul McCarthy, the Deputy Chairman Fred Vogel and the new members Robert Hill, Marcel Timmer and Julian May. He stressed the gratitude of the World Bank for the important work of the TAG. Mr. Belkindas concluded his opening remarks by thanking all participants and wishing them a successful meeting.
3. Michel Mouyelo-Katoula, ICP Global Manager, congratulated the newly appointed Chair, Deputy Chair, and the new members; thanked all the participants for attending the meeting, presented the last Executive Board decisions, and summarised the objectives of the meeting. He indicated that the main Executive Board decisions were appointing a new Chair and Deputy Chair, the approval to start the implementation of the 2011 ICP Round in January 2011, and requesting further work on refining the policy on data access. He also presented the meeting agenda highlighting the key decision items which include construction, machinery and equipment, and education, as well as discussions about aggregation, linking, and productivity adjustments.
4. He also informed that a task force would be established to oversee the PPP computation process for the 2011 round. The goal is to provide transparency about the computations for every stage of the ICP process that would enable data users to replicate the published results. The African Development Bank proposed that the regions send observers to meetings of the PPP computation task force because of the potential implications for regional aggregation. This proposal was approved.

3 Discussions and Conclusions

3.1 Construction

5. Jim Meikle, Global Office Consultant, presented the latest developments in his proposed new approach to international construction price comparisons. He started by summarising the current alternative approaches. (the Bills of Quantity method used by Eurostat and OECD, the CIS method, the Basket of Construction Components approach used in the 2005 ICP, as well as the area (square metres) approach). He also covered issues relating to selecting groups and products, deriving weights, collecting prices, and calculating PPPs. The proposal to develop a new method arose because the goal is to have the comparison based on output prices. The OECD-Eurostat method provides output prices; however is resource-intensive and expensive to implement. The CIS approach is based on input prices that go into a set of models that lead to output based PPPs. In a sense, it is a scaled down version of the Bills of Quantities or a more complex model based BOCC method. The BOCC method is based on input prices, and countries had difficulties providing the required weights. The TAG agreed that the square meter rates can only be useful as a check on other methods rather than as a viable method of comparing construction prices.
6. The proposed new approach consists of combining prices for a prescribed set of inputs for different types of construction projects in each country using data from the latest national supply/use tables. The prices for the inputs (materials, labour and equipment rental) are then “grossed up” to a proxy output price by using information on the relationship between gross output and these inputs, with the grossing-up factor also being obtained from the supply/use tables. An alternative approach of using a reference PPP on the difference between gross output and the sum of the inputs was also discussed. It was suggested this be treated the same way as gross operating surplus in government where a reference PPP is used.
7. The main concerns about the proposed new approach related to the unavailability of the supply/use tables in some countries, the consistency of the supply/use data across countries (for example, one of the construction components could be derived as a residual in some countries’ supply/use tables) and the availability of the data required to produce PPPs for each of the three basic headings in construction. If the approach is adopted, the TAG considered that the inputs should be adjusted to a proxy output using the grossing up method. However, Sergey Sergeev (who could not attend the meeting) provided written comments indicating that that aggregated PPPs cannot be grossed up—either reference PPPs should be imputed for missing parts or actual PPPs should be calculated—then PPPs for all inputs should be further aggregated with expenditure weights.
8. A fall-back method was discussed. The TAG decided that the fall-back method would be based on input pricing which means that the same set of prices would be collected in all countries no matter whether the grossing up method or an input method were adopted. However, if an input approach has to be used in some countries then it would be necessary to identify appropriate models to provide the weights to combine the product prices. CISSTAT agreed to provide an English translation of the detailed inputs for a selection of their models.
9. If an input approach is used for those countries that do not have supply/use tables then a decision is required on whether or not productivity adjustments should be applied. The experience with the government sector in the 2005 ICP indicates that productivity adjustments would almost certainly be required. An alternative would be to base the weights for the inputs and the ratios underlying the grossing-up factor in such countries on a “similar economies” approach so that every country would use the grossing-up approach. The advantage would be that the inconsistencies introduced by having an input-based approach for some countries and a proxy output (grossing-up) approach for others would be reduced.

10. The informal construction sector was discussed because it is an important element of construction in many countries, particularly in Africa. Some information on the values may be obtained from household expenditure surveys. The TAG agreed it is necessary to consider the informal sector in the approach to be adopted for construction.
11. Further investigation is needed on how the ICP and Eurostat/OECD methods will be linked. One suggestion made is to ask a number of ICP countries that are close to Eurostat/OECD countries to price the Eurostat/OECD Bills of Quantities. Alternatively, it can be investigated if links can be made at component/chapter level.
12. The TAG will make final decisions on the above issues at its next meeting in April 2011.

Outcomes

- Three basic headings (Residential, Non-residential and Civil engineering) are required for construction (as was the case in the 2005 ICP) no matter which pricing method is used.
- Two categories of values/weights are required: (i) expenditures for each of the three basic headings, which would also be used as weights to aggregate the PPPs for these basic headings to the PPPs for total construction (and also for higher level aggregates); (ii) weights within basic headings for materials, labour and equipment rental. The within basic heading weights may have to be estimated outside the national accounts for countries that do not have supply/use tables.
- The scope of prices should be national, so prices will have to be collected outside the major cities, which means that the materials to be priced need to be specified by locality within a country.
- At this stage, a basket of input prices needs to be defined because such prices are required for both the proposed new approach and for the fall-back option of input pricing (even if the latter is applied in only some countries).
- CIS-STAT will translate into English the details of the inputs underlying a selection of its models. The Global Office will determine if a subset of these models could be adapted to other regions and for linking.
- The Global Office and the African Development Bank will prepare guidelines on components that could be priced that represent informal dwelling construction and potential weights, with some African countries being used as case studies.
- No conclusions were reached about what to do with countries that cannot provide weights from supply-use tables or estimate grossing up factors. Only half of the countries have supply-use tables, so the process to obtain weights for the others remains to be determined. It still remains to be determined how to calibrate the input cost to reflect the final output.

3.2 Machinery and equipment

13. Presentations were made by Alan Heston, TAG member and Richard Dibley, Global Office Consultant. The first related to lessons learned from the 2005 ICP, as summarized in paragraphs 13 and 14, as well as the recommendations for 2011 shown in paragraph 15. The second presentation involved the preparations for the 2011 pricing.
14. Heston presented research results addressing some questions on equipment data from the 2005 ICP comparison. The key issues were:
 - how important are the taxes, transport and trade margins between the basic price of an item of equipment and its final price to the purchaser?

- were these margins provided for all countries and types of equipment?
- if some countries provided basic prices/costs for equipment but not margins, would it improve comparisons to add such margins to approximate purchasers' prices?
- for countries that are not able to provide equipment prices for some basic headings, would it improve comparisons to add such margins to the exchange rate converted price (Product Factor Method) to obtain approximate purchasers' prices?

15. The research found that:

- margins are consistently higher in Africa than in other regions and appeared to reflect tax policies and transport costs;
- considering all types of equipment, only 20% of the reported prices included margins;
- no data were available to answer the question as whether countries were reporting costs of the equipment at basic prices costs or whether they were including margins in the prices;
- the use of the Product Factor Method depends on obtaining data on transport and trade margins.

16. The first recommendation from the research was that a serious effort is needed to ensure that countries and regions are consistent in obtaining margins on cost because they are a significant part of equipment expenditures. The next recommendation was that an adjusted exchange rate approach (Price Factor Method) be used for countries unable to provide equipment prices. A third recommendation was to collapse basic headings to 3 or 4 because countries had trouble breaking down the expenditures.

17. The discussion by Richard Dibley on the 2011 price survey concerned the initial proposal to conduct both a pilot survey (to "de-Europeanise" the draft list) and a pre-survey to determine how the specifications are interpreted by those collecting the prices and the extent to which the specified products can be priced. The TAG agreed that there is insufficient time available for both a pilot test and a pre-survey to be conducted and that they should be combined. A suggestion was also made that the current list should be sent to countries to add model numbers to the generic specifications (plus any additional details required to identify the products). The specifications for products that change rapidly (such as electronic products) will be finalised at the last minute to ensure that the specifications are up to date. The following conclusions for pricing machinery and equipment were:

- The list needs to be finalized by March 2011.
- Regional coordinators need to review the list and ensure it contains products relevant to their countries.

3.3 Education

18. Nada Hamadeh, Statistics Officer, ICP Global Office, made a presentation on the proposed 2011 approach for Education PPPs. The approach consists of conducting two parallel methods, the 2005 input-based method and the proposed 2011 output-based method. She also presented an overview of the 2005 input-based method using an empirical example.

19. Annabette Wils and Carina Omoeva from the Academy for Educational Development presented details on the proposed output-based approach to measure Education PPPs. The proposed approach rests on a model consisting of two basic components: (i) the volume or quantity of education services acquired and (ii) the quality of the output acquired as a result of these services (adjusted for the effects of non-education factors and the duration of schooling). The number of pupils would be used as a volume measure, adjusted for absenteeism. The proposed quality measures would be based on

modelled estimates of the OECD's Programme for International Student Assessment (PISA) scores used by the OECD and Eurostat to quality adjust their output-based PPPs.

20. The main concern of TAG members was the lack of transparency involved in imputing the PISA scores through a modelling approach. The general feeling was that a handful of key quality variables should be selected and used directly in quality adjustment rather than attempting to bundle them into a proxy for PISA. The robustness of the method could be checked by assessing the effects of dropping one country at a time from the analysis. The TAG was also concerned that the enrolment data do not relate to attendance where absenteeism is prevalent.
21. The United Nation's MDG Database now contains enrolment and course completion statistics and literacy rates for young persons: the database covers countries in all regions and could possibly be used for quality adjustment.
22. The data required for the proposed output method are collected from sources such as the UNESCO education database rather than from the countries themselves. As a result, a final decision about adopting the new method is not required immediately. The TAG meeting in April 2011 will consider an updated proposal on methods to assess the quality of education and then make a decision on the method to be used in the 2011 ICP.

Outcomes

- The TAG approved the general approach that consists in conducting two parallel methods, the 2005 input-based method and a 2011 output-based method.
- The input-based method will be used as the fall-back method and the necessary data on compensation of education occupations private education tuition will be collected.
- A productivity adjustment will be required for the basic headings based on compensation. Consideration needs to be given to the data required for the productivity adjustment. Ideally services of physical capital in education, the number of teachers and training of teachers are needed.
- The proposed output-based method will need to be further simplified by selecting a handful of key quality variables that could be used directly in quality adjustment rather than attempting to bundle them into a proxy for PISA.

3.4 Productivity adjustments

23. Alan Heston presented a paper on productivity adjustments. The paper was motivated by the fact that the different methods used in 2005 affected the comparisons across regions because productivity adjustments were only made in 3 of the 6 regions. The paper provided a recommendation for the general government, health, and education basic headings where productivity adjustments will likely be needed in 2011. The recommendation also involves the linking stage.
24. The approach suggested was illustrated using the 2005 ICP research data set of basic heading PPPs and expenditures. First, a productivity adjustment factor was estimated for all countries, across all regions, for the compensation headings for government individual education and health, and general government expenditures. Then an aggregation was performed with the adjusted basic heading PPPs, and regional totals of total GDP were estimated. Finally the (*Country Aggregation Redistribution*) CAR method redistributes the regional totals according to the results for each country in each region. The illustration uses as much salary information as available to the Global Office and makes a rough allowance for productivity differentials across the regions based on physical capital stock. Human capital was also introduced into the production function but the relationship was weak and there were fewer observations so it was not used in the final estimating equation.

25. The method used in 2005 involved running a Gini-Éltető-Köves-Schultz (GEKS) across the general government, health, and education headings in the five regions (excluding CIS, which was linked directly to the OECD/Eurostat via Russia) and maintaining fixity within each region. The alternative proposed method would also preserve fixity in the regions but would be applied after modifying the effects of using any different methodologies in some basic headings in different regions. It involves aggregating across countries and then redistributing the regional totals so as to preserve final results within each region. Pros and cons of the method addressed are as follows:
- The CAR method does not preserve row comparability across regions. The regional adjustment (RA) preserves row comparability; however, this is lost if different methods of estimating basic heading PPPs are used within regions.
 - The regional adjustment (RA) provides a ground for comparison within each region while CAR gives more weight to countries across regions, which have become less geographical with the expanded coverage of the OECD. Since the CAR would only be used to obtain regional totals while preserving the inter-country results within each region, there is nothing lost compared to the RA.
 - If the Global Office can agree in a timely fashion on the world adjustments for some of the difficult headings, then regions can choose whether to use their own approach or the global approach for headings such as government collective expenditures.
26. The paper also recommended the above approach be considered for other comparison resistant headings such as dwellings, trade balance, etc. A key point from the presentation is that the complex task of linking across regions is made even more difficult if different methods are used in different regions to aggregate PPPs and real expenditures above the basic heading level.

3.5 Aggregation and Linking using the Global Core approach

27. The purpose of this session was to review methods to link PPPs across regions. The discussion started with a review of methods to aggregate PPPs within regions and the use of the Minimum Spanning Tree. The Minimum Spanning Tree method was not accepted by the TAG. The consensus was that practical problems associated with the spanning tree method preclude it from consideration for the 2011 ICP, despite it being attractive conceptually.
28. The next discussion was about linking across regions. The TAG considered the following possibilities for linking at the basic heading level between regions:
- A variant of the GEKS method, proposed by Robert Hill, which has similarities to the method used by Eurostat/OECD for maintaining fixity. The TAG found some features attractive but considered it less suitable at BH level, because it would require running a global EKS or CPD on sparse core list price data. The TAG suggested that some further experimentation with real data would nevertheless be useful and will consider the outcomes at the TAG meeting in April 2011.
 - The 2005 ICP approach but with the core products list replacing the ring list. The 2005 approach was to compute regional linking factors for each basic heading. These basic heading linking factors were obtained by converting the ring country prices in each region to those of a regional numeraire using PPPs from the regional comparison. This resulted in a set of 5 regional prices. One region was chosen as the numeraire and between region PPPs were computed using the CPD. These between region PPPs multiplied by the within region PPPs converted each country to the global level and maintained within region fixity.

The TAG considered that the second method should be used again in the 2011 round.

29. Regarding linking between regions above the basic heading level, it has been pointed out by Sergeev that the method used in 2005 is not invariant to the choice of numeraire countries within regions. Sergeev suggested a way to obtain invariant results by first calculating the geometric mean of the country parities over all countries within each region. The TAG was not in favour of this because it would be inefficient in terms of the use of information (by aggregation first).
30. An alternative method proposed was to do a global aggregation of all countries across all regions, then sum the national volumes to regional totals which are then distributed to maintain regional fixity. This proposal came from Heston and Dikhanov in separate papers.
31. Another alternative was the method referred to above, proposed by Robert Hill. The TAG considered that it would be suitable at aggregate level. The TAG suggested some experimentation be provided for the April 2011 meeting, when a final recommendation will be made.
32. The TAG emphasised that the core list prices should also be used in each of the regional comparisons. A point was made that the price survey contains three domains of products: products only in a regional list, core products that overlap the regional products, and products only appearing in the core list. National annual product prices identified by domain are required by both the regional and global coordinators for validation and estimation of regional and global PPPs. An important part of the validation process will be reviewing the important/less important classifications.

Outcomes

33. The TAG recommended that:
 - the CPD method should be used to obtain basic heading PPPs for countries within a region;
 - the GEKS method should be used for aggregation above the basic heading level for countries within a region;
 - results for countries within a region should also be compiled using an additive method and presented as additional information for analysts.
 - The same method as used in 2005 would be used for the linking of the regions at basic heading level where core prices replace ring prices.
34. The TAG still needs to decide how to link the regions at the aggregate level. Further testing of the methods discussed above is required before a decision can be made.

4 PPP Computation Task Force

35. A meeting of a sub-group of the TAG was held to discuss establishing a PPP Computation Task Force. The main aims are to thoroughly review the ICP global results before PPP data are published by any region, to ensure that the computation methods are sound and that all procedures used are fully documented.
36. The Task Force will meet at the fringe of the TAG meetings, and task force members who would not be in the city where the meeting will take place should be sponsored to attend if they are available. Between meetings, the work of the task force will be carried on via email. Papers can be commissioned on PPP computation issues and submitted to the TAG and the Task Force if needed.
37. Regional Coordinators (or their nominees) will be invited to attend task force meetings as observers.

5 Next TAG meeting

38. The next TAG meeting will take place from 18-19 April 2011 at the World Bank in Washington DC. Regional Coordinators will be invited to attend as observers since their next meeting will be held at the World Bank on 20- 21 April 2011.

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Annex A**AGENDA****4th ICP 2011 Technical Advisory Group (TAG) Meeting
20, 21 October 2010 at the World Bank, Washington DC
Chair: Paul McCarthy**

Time	Session	Presenter(s)
Wednesday, 20 October		
9.30-10.00	Welcome	Misha Belkindas
	Objectives of the meeting and expected results	Michel Mouyelo-Katoula
10.00-12.00	Construction and civil engineering [Decision item 1]	Jim Meikle
12.00-12.30 14.00-15.00	Machinery and equipment [Decision item 2]	Richard Dibley
15.00-17.00	Education [Decision item 3]	Academy for Educational Development; Nada Hamadeh
17.00-18.00	Productivity adjustment for government services	Alan Heston
Thursday, 21 October		
9.30-11.00	Linking methods and global core approach	Erwin Diewert; Robert Hill; Yuri Dikhanov

Annex B

List of Participants

Participant	Status
TAG Members	
McCarthy, Paul	Chair
Vogel, Fred	Deputy Chair
Biggeri, Luigi	Member
Deaton, Angus	Member
Diewert, Erwin	Member
Ducharme, Louis Marc	Member
Heston, Alan	Member
Hill, Robert	Member
Kananoja, Harri	Member
Koehlin, Francette	Member
Konijn, Paul	Member
Langer, Tom Andersen	Member
May, D. Julian	Member
Rao, Prasada	Member
Silver, Mick	Member
Thomas, Jim	Member
Zieschang, Kim	Member
Regional Coordinators	
Palayandy, Chellam	ADB
Chinganya, Oliver	AfDB
Nshimyumuremyi, Adalbert	AfDB
Kouakou, Marc Koffi	AfDB
Adam, Abdoulaye	Consultant to the AfDB
Ivanov, Youri	CIS-STAT
Sokolin, Vladimir	CIS-STAT
Kosarev, Andrey	CIS-STAT
Gonzalez, Luis	ECLAC
Perez, Ernestina	ECLAC
Savio, Giovanni	ESCWA
Skaini, Majed	ESCWA
Tatarinov, Andrey	ROSSTAT
Kouznetsov, Vasily	ROSSTAT

Consultants	
Blades, Derek	Global Office Consultant
Dibley, Richard	Global Office Consultant
Meikle, Jim	Global Office Consultant
Roberts, David	Global Office Consultant
Sprague, David	AED
Wils, Annababette	AED
Omoeva, Carina	AED
World Bank / Global Office	
Belkindas, Misha	Manager, World Bank DECDG
Mouyelo-Katoula, Michel	ICP Global Manager
Akcadag, Olga	Global Office
Dikhanov, Yuri	Global Office
Djayeola, Biokou Mathieu	Global Office
Hamadeh, Nada	Global Office
Jerbi, Imededdine	Global Office
Lee, Min Ji	Global Office
Prieto Oramas, Beatriz	Global Office
Romand, Virginia	Global Office
Song, Seong Heon	Global Office
Yamanaka, Mizuki	Global Office