



INTERNATIONAL COMPARISON PROGRAM
TERMS OF REFERENCE
TASK FORCE FOR PPP COMPILATION AND COMPUTATION (TF01)

September 2017

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1. Background

The 47th Session of the United Nations Statistical Commission (UNSC), held in March 2016, instituted the International Comparison Program (ICP) as a permanent element of the global statistical work program. Starting from 2017, the program will be conducted at more frequent intervals. The ICP Governing Board, in its inaugural meeting in November 2016, adopted the ICP Governance Framework and established a Technical Advisory Group (TAG) to guide the program's research and methodological developments.

The ICP TAG is a technical body, which (i) assures methodological soundness and overall quality of the purchasing power parity (PPP) estimates; (ii) ensures transparency of the PPP estimation process; and (iii) facilitates the establishment of a permanent and more frequent ICP rounds. The TAG, at its first meeting in May 2017, set forth a technical research agenda to inform future ICP comparisons.

The TAG is forming Task Forces on specific topics and inviting recognized experts on the practical application of index numbers, PPPs, price statistics and national accounts to take part in them, as needed, to develop concrete proposals to address the various research agenda items and support the computation of ICP results. The Global ICP Unit at the World Bank supports the work of the Task Forces.

This document outlines the terms of reference of the *Task Force for PPP Compilation and Computation* (TF01), including its scope of work, proposed membership, tenure and work modality, and deliverables.

2. Scope of Work

The *Task Force for PPP Compilation and Computation* works towards addressing the following ICP research agenda items:

Linking Interim Regional Updates into a Global Comparison

Since the completion of the 2011 ICP, various regions conducted interim updates. However, these regional efforts were not mandatory and largely depended on the initiatives of the Regional Implementing Agencies. The Global ICP Unit faces the challenge of linking these regional updates and make them useable in compiling meaningful global comparisons. The following issues need to be investigated and addressed:

- Effect of different timings of regional surveys ranging from 2012 to 2016;
- Impact of different degrees of coverage of the gross domestic product (GDP);
- Effect of changing regional composition and of countries not participating in the regional interim updates at all; e.g., several Arab countries from Africa are also participating in the Western Asia interim comparisons, whereas China is not part of the Asia update;
- Effect of discrepancies in global core list coverage by region on inter-regional linking; and
- Effect of methodological differences between regions on the linking process.

Building PPP Time Series for the Interim Period

As work on the 2017 ICP is underway, the Global ICP Unit recognizes the need to fill the gap for the intervening period. The current timetable envisages releasing estimates for the years 2012 to 2016 around the same time as the release of results from 2017 ICP. Simultaneous release of the 2017 results and estimates for the intervening years will avoid scrambling by users to fill this gap by themselves. Thus, the PPP time series will be built using the 2011 results along with data generated by regional interim updates. The main tasks involved are:

- Assess availability and quality of national account deflators, consumer price indices (CPIs) and other price indices by GDP component;

- Examine consistency of CPI weights and national account weights, and assess the weights' effects on PPPs;
- Ensure consistency between the 2011 and 2017 results and the comparisons for the intervening years; and
- More generally, if a three-year rolling survey approach is implemented, assess methods of extrapolating PPPs for the two years between individual benchmarks, before the full rolling survey method is implemented (i.e., when PPPs are computed every year).

Fine Tuning Global Linking Procedures

The global linking in the 2011 ICP based on the global core approach and country aggregation with redistribution (CAR) procedure is rather straightforward. However, the actual linking had many exceptions: dual regional participation of some countries (Russia, Egypt and Sudan); singleton countries, Cuba, the Caribbean and Pacific islands linked indirectly (not as a part of global linking) to the global comparison via other regions and individual countries; and the Commonwealth of Independent States (CIS) countries linked to the Eurostat-OECD comparison via Russia. Some GDP components also posed challenges for linking, as the Eurostat-OECD approach for those components differed from that followed by ICP regions. These components included health, education and construction. There is an urgent need to revisit global linking procedure and fine-tune it to address these issues by:

- Assessing the impact of individual countries on global and regional results, and investigate if the reliability of the global comparison can be improved, for example, with a two-stage linking where the core countries are linked first, then the rest is linked to them without disturbing the core, or by using another version of the Gini-Éltető-Köves-Szulc (GEKS) aggregation method;
- Assessing the possibility of linking the CIS to other regions directly through the global core approach and CAR procedure; and
- Developing a strategy to accommodate special participation cases and specific GDP components such as health, education and construction.

Productivity Adjustment for Government and Construction Labor

Adjustment for productivity differentials across countries has been a major ICP initiative in the 2005 and 2011 rounds, designed to improve PPPs for government compensation. There are a number of outstanding issues for consideration in the 2017 ICP cycle. The following excerpt from FOC report succinctly summarized the state of play with productivity adjustments: “The use of a productivity adjustment for global linking of salaries in government services in ICP 2011 was an obvious improvement. There were, however, several weaknesses: the productivity adjustment calculated using capital-labor estimates for the whole economy for such specific areas as health, education and collective services is a very rough approximation (also, the accuracy of productivity adjustment factors for different countries seem to be different), and not all regions used productivity adjustment in the regional comparisons. In addition, the regions did not use the same methodology (e.g., OECD/Eurostat used the “output” approach for health/hospital services and education but other regions used the “input cost” approach). In effect, the results of the countries depend, in some cases heavily, on the regional methodology, and interregional comparability was decreased.” (Paragraph 37, E/CN.3/2016/9, UN, 2016)

A review of the compensation data by the Global ICP Unit revealed uneven quality and data gaps. There is scope to improve the productivity adjustment factors and the following topics are identified for research in this area in order to improve estimates of PPPs for government services for the 2017 comparison:

- Review government employee compensation data, examine data gaps, provide advice on filling them, and review gap-filling procedures;

- Assess the quality of data for labor inputs and capital stocks portion of the productivity adjustment and evaluate them for consistency across countries;
- Update productivity adjustment factors for use in the 2017 ICP cycle;
- Examine effects of the adjustment factors not being used in some regions on the global results; and
- Examine the scope for productivity adjustment for labor inputs in construction and make a recommendation as to whether productivity adjustments should be made in the 2017 ICP.

3. Membership

The *Task Force for PPP Compilation and Computation* will be formed of experts and/or practitioners in the field of index numbers, PPPs, price statistics and national accounts. They include:

- Erwin Diewert, University of British Columbia
- Francette Koechlin, Organisation for Economic Co-operation and Development (OECD)
- Paulus Konijn, Statistical Office of the European Union (Eurostat)
- Prasada Rao, University of Queensland
- Marko Olavi Rissanen, World Bank
- Massimiliano Lommi, IMF
- Robert Hill, University of Graz
- Robert Inklaar, University of Groningen
- Sergey Sergeev, Statistics Austria
- Yuri Dikhanov, World Bank
- Vasily Kuznetsov, Russian Federal State Statistics Service (ROSSTAT)

4. Tenure and Work Modality

The *Task Force for PPP Compilation and Computation* will have a fixed tenure of two and a half years (July 2017-December 2019), in-line with the timeframe of the assigned research items, which are as follows:

- Linking interim regional updates into a global comparison: 2017-2019
- Building PPP time series for the interim period: 2017-2019
- Fine tuning global linking procedures: 2017-2019
- Productivity adjustment for government and construction labor: 2017-2019

The *Task Force* will meet physically at least once per year. It can also meet virtually if need arises. Members may also join the meetings of the IACG to discuss the operational implications and feasibility of their proposals, and the meetings of the TAG to present their findings and recommendations for the TAG's consideration. The Global ICP Unit will provide access to necessary data and materials to facilitate the work of the Task Forces. Standard ICP confidentiality provisions apply.

5. Expected Deliverables

The *Task Force for PPP Compilation and Computation* is expected to present its proposed approach to the TAG; draft an interim report for discussion by the TAG; fine-tune and undertake further research and computations, if deemed necessary by the TAG; and prepare a final report with recommendations. If any methodological change is proposed, the Task Force should conduct and document an assessment of the impact of this change on the results. Specific deliverables include:

- Develop and apply approach for linking interim regional updates into a global comparison;

- Develop and apply approach for building PPP time series for the interim period [2012-2016];
- Develop and apply approach for fine tuning the global linking procedures; and
- Develop and apply approach for productivity adjustment for government and construction labor.