



**MINUTES OF THE FIFTH MEETING OF
THE INTERNATIONAL COMPARISON PROGRAM
TECHNICAL ADVISORY GROUP**

FEBRUARY 20-21, 2020

WORLD BANK, WASHINGTON DC

WELCOME AND OPENING REMARKS

The fifth meeting of the International Comparison Program (ICP) Technical Advisory Group (TAG) took place on February 20-21, 2020 at the World Bank headquarters in Washington, DC.

The main objectives of the meeting were to review and discuss the 2017 results, revised 2011 results and annual PPP estimates for 2012-2016, as well as the ICP research agenda for the ICP 2020 cycle and beyond, per the meeting agenda provided in Annex 1. In attendance were the TAG members, Computation Task Team (COTT) members, Regional Coordinators and staff from the World Bank Global ICP Office, which serves as TAG secretariat, as listed in Annex 2. Public meeting documents and presentations are available on the [ICP website](#).

Sir Angus Deaton, TAG Chair, opened the meeting by welcoming the attendees. Haishan Fu, World Bank, provided opening remarks, where she thanked the TAG for their efforts to bring the ICP 2017 cycle to a successful conclusion. She also highlighted the importance of this fifth TAG meeting as the final one prior to the planned publication of the ICP 2017 cycle results.

SESSION 1: PROGRESS WITH THE ICP 2017 CYCLE, ROADMAP TO RELEASE AND THE ICP 2020 CYCLE

Nada Hamadeh, World Bank, briefed the TAG on the (i) progress with the ongoing ICP 2017 cycle; (ii) the roadmap to the release of the ICP 2017 cycle results; (iii) global communication and advocacy activities; and (iv) preparations underway for the ICP 2020 cycle.

Since the fourth TAG meeting in October 2019, the final regional results and input data had been submitted by the respective regional implementing agencies and the final global results were subsequently calculated by the COTT. The ICP 2017 report was being drafted and other release material and result databases were being prepared.

The proposed release date of April 28th will be discussed by the ICP Governing Board and subsequently presented to the 51st session of the United Nations Statistical Commission (UNSC) in March 2020. Due to

uncertainties with the global COVID-19 pandemic, a physical release event was unlikely. The launch will include press releases, the final report with the results, and online curated tables and database via the World Bank's Data Portal and ICP website. The planned post release activities included a proposed ICP session at the United Nations World Data Forum 2020, October 18–21 in Bern, Switzerland, releasing a Visual Compendium of PPP Uses and Applications, and an ICP series of blog articles and data stories.

With regards to the preparations for the ICP 2020 cycle, the updated global and regional item lists and guidelines were finalized and distributed, the regional implementing agencies were holding ICP 2020 workshops, and global and regional fund-raising efforts were ongoing.

The TAG took note of the progress made with concluding the ICP 2017 cycle activities and congratulated the national, regional and global agencies for their efforts. With regards to the launch activities, it was suggested that, in the absence of a physical launch event, the TAG chair and members could contribute blogs or op-eds on the ICP 2017 cycle results.

SESSION 2: RESULTS REVIEW

Overall process, replicability and transparency of ICP results

Marko Rissanen, World Bank, and Bettina Aten and Eric Figueroa, United States Bureau of Economic Analysis, briefed the TAG on the overall process, replicability and transparency of ICP results.

Since the establishment of the ICP Global Office as a permanent unit in the World Bank's Development Data Group, the Global Office has overhauled its data management, validation, processing and dissemination processes, building on DECDG's corporate tools and Eurostat's PPP tools. Moreover, the Global Office has been working closely with the COTT, which was established at the behest of the TAG, to undertake parallel computations of ICP results for added quality assurance and transparency, and to ensure full documentation and replicability of ICP results.

Since the fourth TAG meeting, the COTT has calculated results in two phases: Phase II from October to December 2019, and Phase III from January to February 2020. The main purpose of Phase II was to ensure the convergence of preliminary results based on the methodology agreed at the fourth TAG meeting. Subsequently, after the submission of final regional data by the regional implementing agencies, Phase III began with the main purpose of calculating the final ICP 2017 cycle results, revised ICP 2011 results, annual PPP series, and PPP estimates for nonparticipating countries.

On the transparency and replicability of results, the TAG was briefed on the Stata programming that was used to calculate the results. The Stata code, and an R equivalent, are planned to be made publicly available on an ICP Github after the conclusion of the ICP 2017 cycle.

The TAG took note of the ongoing work to improve the overall data management and calculation process to ensure efficiency, replicability and transparency of ICP results.

Review of 2017 results, revised 2011 results, and consistency between benchmark years

Nada Hamadeh presented the final 2017 results, the revised 2011 results, and an analysis of the consistency between the two benchmark years. Overall, changes in the results since the last TAG meeting

were limited and due to the final validation of input data, in particular for the non-household consumption headings. The TAG was also reminded that the 2011 revisions were the result of updates in the national accounts expenditures, population figures, regional PPPs, linking factors for housing, productivity adjustment factors, and the adoption of the ICP 2017 classification.

The review of the final results reaffirmed the TAG's earlier observations, namely, that although there were differences between the ICP 2017 PPPs and extrapolated ICP 2011 PPPs, the TAG found no clear systematic (upward or downward) drifts in relation to the level of GDP and reviewed main aggregates, as had been the case in ICP 2011 relative to ICP 2005, and in ICP 2005 relative to ICP 1996. The TAG concluded that the quality of the presented results had improved and stabilized since the previous TAG meeting, allowing the Global Office to proceed with the publication of the results. As agreed at the fourth TAG meeting, the results will be presented according to the geographic regions, instead of the ICP administrative regions, as the former was considered more useful and intuitive to users. In addition, the ICP 2017 report and related communication material will explain to users the differences between aggregates such as GDP, household final consumption and actual individual consumption, and their appropriate use.

Review of annual PPPs for 2012-2016

Robert Inklaar, University of Groningen, presented work jointly undertaken with Prasada Rao, University of Queensland, to estimate annual PPPs for the years in between the global ICP benchmark years. The approach is based on extrapolating and retropolating PPPs at the lowest level of detail possible, namely, at the basic-heading level, using consumer price indices (CPIs), national accounts deflators, and exchange rates as extrapolation indices. Extrapolated and retropolated PPPs are subsequently averaged geometrically, with weights based on the distance from the benchmark comparisons, and aggregated using the standard ICP benchmark approach. The approach also incorporates interim regional results, where available, in order to maintain the fixity of these results. Challenges with implementing the approach were also highlighted, including the availability and quality of the detailed extrapolation indices and complications caused by countries switching regions and/or their participation status. The results of the approach for GDP and its main aggregates were presented and discussed.

The TAG took note of the work done and concluded that the approach outlined above was suitable for estimating annual PPPs. As for the level of publication, the TAG advised releasing the results for GDP and its main aggregates only: actual individual consumption, household consumption, general government, gross fixed capital formation and domestic absorption.

Estimation of PPPs for nonparticipating countries

William Vigil-Oliver, World Bank, presented the methodology to estimate PPPs for GDP and household consumption for nonparticipating countries. The method is based on the same regression-based approach used in ICP 2011. Preliminary regression-based estimates from this approach were presented for both ICP 2017 and revised ICP 2011, with a special focus on the resulting levels of GDP per capita (PPP). For countries that participated in either ICP 2011 or ICP 2017, a comparison of the estimated PPPs against the extrapolated/retropolated PPPs was presented. Special attention was given to Venezuela, which participated in the ICP 2011 but not in ICP 2017. Because of Venezuela's troublesome exchange rate, both regression-based and extrapolated PPP estimates were considered to be unreliable.

The TAG took note of the approach to estimate PPPs for nonparticipating countries and recommended using extrapolated/retropolated PPPs, instead of regression-based PPPs, where possible. In addition, the TAG recommended to leverage official data sources for the regression model and to avoid publishing PPPs for countries with unreliable input data, such as Venezuela.

SESSION 3: PUBLICATION OF RESULTS

Nada Hamadeh presented the proposed extended publication level for the revised ICP 2011 and ICP 2017 results. The proposed level covers main aggregates, additional aggregates and categories, similar to the publication level of ICP 2011. It extends to cover selected groups and classes under food and nonalcoholic beverages; alcoholic beverages and tobacco; and transport.¹

Yuri Dikhanov, World Bank, presented a quality assessment of group and class level results. The quality of group and class level results was deemed similar to that of category level results.

The TAG advised publishing the results at the proposed extended publication level. Researchers may request access to detailed underlying unpublished data per the ICP data access and archive policy.

SESSION 4: RESEARCH AGENDA

Nada Hamadeh presented the status of key research agenda topics on the ICP Research Agenda. These can be divided into current research topics taken forward by existing task forces, and future research topics beyond the ICP 2017 cycle. The current research topics focus on PPP production, country guidance, PPP uses, and quality and reliability of results. The Research Agenda topics beyond the ICP 2017 cycle focus on improving linking procedures, studying alternative methodologies for nonmarket services, the calculation of PPPs for exports and imports, the uses of PPPs, and exploring new technologies and data sources. Some of these topics were the subject of discussion during the following presentations.

PPPs for dwelling services

Alan Heston, University of Pennsylvania, highlighted the need for further research on the PPPs for dwelling services. He proposed an attempt to harmonize the Eurostat-OECD and ICP rental item specifications to allow for a simpler, and possibly more reliable, linking approach. However, it was highlighted during the discussion that the Eurostat-OECD approach entails differences beyond the item definitions, making harmonization a challenge.

The TAG noted that avenues for simplifying and improving the linking approach and estimation of PPPs for dwelling services should be explored, possibly in a wider setting and in collaboration with established

¹ **Example of ICP Classification levels:**

GDP: Gross domestic product

Main aggregate: Individual consumption expenditure by households

Category: Food and non-alcoholic beverages

Group: Food

Class: Bread and cereals

Basic heading: Rice

national accounts and price expert groups. In addition, following the initiative of the Asian Development Bank, the efficacy of combining indirect and direct housing PPPs for each country should be researched further. In addition, a proposal to rely on the user cost approach for rural housing and urban owner-occupied housing, and a direct approach for modern urban housing, should also be further researched.

Fine-tuning global linking procedures

Alan Heston presented a proposal to rely solely on global core list item prices for global linking, instead of the current approach, which relies on both global core list item prices and regional PPPs. Regional fixity would be maintained in both approaches through the country aggregation with volume redistribution (CAR) procedure. The TAG concluded that this topic warranted further experimentation and discussion.

Web scraping of prices

Majed Skaini, United Nations Economic and Social Commission for Western Asia (UN-ESCWA), presented recent developments in the Western Asia region aimed at complementing traditional data collection with more modern approaches. In particular, UN-ESCWA and three countries, Bahrain, Kuwait and Qatar, were piloting web scraping for CPI and ICP price collection. The noted advantages of web scraping over a traditional data collection method included the possibility for collecting data more frequently and at a lower cost. However, it was noted that the approach is subject to the availability and representativity of suitable online outlets and the stability of such websites.

The TAG viewed this development positively and encouraged further exploration. It raised several technical and methodological challenges, including the legality and sustainability of the approach, as well as potential biases that web scraping could potentially introduce. It was also noted that several international organizations, such as the United Nations and Eurostat, have formed task forces and other groups to address the introduction of new data sources and collection methods. Furthermore, the forthcoming new edition of the CPI manual discusses these topics.

PPPs for exports and imports

Robert Feenstra, University of California – Davis, suggested a new method to calculate PPPs for imports and exports that would not rely exclusively on market exchange rates. His proposed alternative would use trade unit values from United Nations trade statistics as price inputs. The need for an alternative approach was justified by the fact that market exchange rates affect the prices of imported and exported goods differently. The prices of commodities are very sensitive to exchange rate fluctuations, while the price of manufactured goods are often impacted by different price-determining factors. The TAG found the suggested new approach promising and agreed to further research.

CONCLUSIONS AND NEXT STEPS

The Global Office indicated that it would brief the ICP Governing Board and the UNSC on the progress with concluding the ICP 2017 cycle and launching the ICP 2020 cycle in early March 2020. The composition of the TAG will be reassessed upon forming the governance bodies for the new cycle. In addition, the importance of having a TAG representative on the Governing Board was noted, and it was agreed to bring this proposal to the Board's consideration.

Annex 1: Meeting Agenda

Welcome and opening remarks

Session 1: Progress of the ICP 2017 cycle

Progress with the ICP 2017 cycle and results release plans

Session 2: Review of results

Overall process, replicability and transparency of ICP results

Review of 2017 results, revised 2011 results, and consistency between benchmark years

Review of annual PPPs for 2012-2016

Estimation of PPPs for nonparticipating countries

Session 3: Publication of results

Publication level for the 2017 results, revised 2011 results, and annual PPPs

Session 4: Research agenda

ICP research agenda and progress to date

PPPs for dwelling services

Fine-tuning global linking procedures

Web scraping of prices

PPPs for exports and imports

Conclusions and next steps

Annex 2: List of Participants

ICP Technical Advisory Group Members

- Alan Heston, University of Pennsylvania
- Sir Angus Deaton, Chair, Princeton University
- Erwin Diewert, University of British Columbia
- Paul Schreyer, Alternate Chair, Organisation for Economic Co-operation and Development
- Robert Feenstra, University of California – Davis
- Xianchun Xu, Tsinghua University

ICP Computation Task Team Members

- Sergey Sergeev, Independent Expert
- Miriam Steurer, University of Graz
- Robert Hill, University of Graz
- Robert Inklaar, University of Groningen

Regional Coordinators

- Gregoire Mboya De Loubassou, African Development Bank
- Michel Mouyelo-Katoula, African Development Bank Kaushal Joshi, Asian Development Bank
- Paulus Konijn, Eurostat
- Andrey Kosarev, Interstate Statistical Committee of the Commonwealth of Independent States
- Francette Koechlin, Organisation for Economic Co-operation and Development
- Bruno Lana, United Nations Economic Commission for Latin America and the Caribbean
- Majed Skaini, United Nations Economic and Social Commission for Western Asia

Observers

- David Roberts, Independent Expert
- Bettina Aten, United States Bureau of Economic Analysis
- Eric Figueroa, United States Bureau of Economic Analysis
- Chen Hong, National Bureau of Statistics, China (via WebEx)

ICP Global Office

- Haishan Fu, World Bank
- Nada Hamadeh, World Bank
- Yuri Dikhanov, World Bank
- Marko Rissanen, World Bank
- Maurice Nsabimana, World Bank
- Mizuki Yamanaka, World Bank
- Inyoung Song, World Bank
- William Vigil-Oliver, World Bank
- Rui Costa, World Bank
- Elizabeth Purdie, World Bank
- Shriya Chauhan, World Bank
- Nancy Kebe, World Bank