

# Lessons learned about global statistical initiatives from the international comparison program

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**Abstract.** The recent successful completion of the International Comparison Program providing economic statistics for 146 countries provided valuable lessons learned about how to organize, coordinate, and conduct a statistical system involving international, regional, and national statistical Offices. Five necessary elements for a global statistical program and their interaction are defined.

## 1. Introduction

The 2005 International Comparison Program (ICP) became the world's largest statistical initiative involving the collection of price statistics for over 1,000 products in 146 countries.<sup>1</sup> The purpose was to estimate Purchasing Power Parities (PPPs) which are used as currency converters to allow cross country comparisons of economic data such as the Gross Domestic Product.

No country can produce PPP comparisons with other countries by itself. The ICP is a joint effort where countries working together determine what will be priced and when. The data analysis and estimation methods require that data be pooled across countries. The very essence of the ICP is the comparability of results between countries, strict adherence to time schedules, and a common understanding of data sharing and confidentiality requirements. There is no other statistical program requiring so much cooperation between national, regional, and international organizations.

The following sections describe how the ICP differs from National Statistical Programs, and outline the elements of a global statistical system which includes the

governance structure, methodology, and coordination of work plans. This is followed by a discussion about the interaction between governance and methodology, actions taken that led to the success of the 2005 ICP, and where lessons learned will point to improvements that can be made for the future.

## 2. How the ICP differs from National Statistical Programs

The Consumer Price Index (CPI) will be used as an example because it shares a common technical language and conceptual framework with the ICP and the output of national accounts. Each country determines the scope and coverage of its CPI from the content of the product basket, to the coverage of the country and all other aspects leading to the publication of the results. Each country has full responsibility for its final CPI estimates for which it is accountable to its public and other governmental entities. They are also accountable for ensuring its country's data confidentiality rules are followed.

The ICP takes the process to another level where decisions are shared with other countries, a regional coordinator, and the ICP Global Office. Purchasing Power Parities are estimated by price comparisons between

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<sup>1</sup>Global Purchasing Power Parities and Real Expenditures, 2005 International Comparison Program, The World Bank, July 2008.

countries; therefore, inter-country coordination is required. Each country must abide by standards accepted by other countries and follow the same data collection and national accounting procedures. An essential feature is that they are required to send their data to a regional coordinator where they are subject to review by other countries. Regional coordinators then send data on to the Global Office where the data review ensures consistent procedures are being used across regions. A sense of partnership and overall trust had to be established between countries and regions for assurance that other countries and regions were applying the same guidelines and standards. Countries had to follow similar methods and procedures in spite of the fact they differ widely in size, culture, and diversity of goods and services available to their people. They also have different levels of statistical capacity. Furthermore, not every country speaks the same language adding another dimension to the requirement for comparable methodology and procedures.

Resources become an issue for an international data collection effort such as the ICP. While the CPI is an integral part of a national statistical system, national governments perceive PPPs as something useful mainly for international organizations. Therefore, they are reluctant to provide funding for the additional data collection required by the ICP.

### 3. Necessary elements for an effective global statistical system

A **governance structure** is required that establishes policies on scope, coverage, the work plan, and timetable in a way that ensures all participants take ownership in the program. A set of **statistical standards and methodology** that can not only be consistently applied, but that is also accepted as good practice by all participants, is essential. **Coordination** is required to ensure that all national and regional organizations are following the same timetable, work plan, and methodology. **Resources** are required to support effective governance, allow development and fine-tuning of methodology, and ensure the necessary coordination activities are carried out. Good **communication** is essential so that there is full transparency about decisions made about establishing priorities, work plans, timetables, and sharing of resources.

### 4. Overview of the governance of the 2005 ICP

An important part of the governance structure was that the world was divided into 5 regions with the Eurostat-OECD PPP program included as a 6th component (see Fig. 1). This regionalization had implications about methodology which meant that countries with more similar economies, cultures, and capabilities were working together. The regionalization of the program required that a national or regional organization assume the responsibility to coordinate the work programs for the countries within its region.

The overall coordination of the regional programs was provided by the ICP Global Office. The Global Office received technical support from a Technical Advisory Group comprised of a group of internationally known experts in economic statistics. The Global Office managed and coordinated the program across the regions, provided the statistical methodology to be employed, and either provided direct financial support or assisted with regional fund raising activities. The Global Office's activities were supported by the ICP Trust Fund containing resources provided by several international organizations and the World Bank.

The Global Office reported to the ICP Executive Board. The ICP Board was comprised of chief statisticians of international organizations including the International Monetary Fund (IMF), United Nations Statistics Division (UNSD), Organization of Economic Cooperation and Development (OECD), the statistics office of the European Union (Eurostat), and the World Bank. Each regional coordinating organization also held a seat on the ICP Board. Several national statistical organizations were also represented on the ICP Board. The Board determined the scope of the ICP, strategic priorities, annual work programs and budgets, and acted to resolve conflicts both within the program and between its external environments. The Board, through the Global office, also provided annual status reports for discussion with the United Nations Statistical Commission.

The ICP Board met at least twice annually. A status report was prepared for each meeting along with discussion papers. These were posted to the ICP website along with the meeting agenda and minutes summarizing the actions taken by the Board. The regional coordinating organizations also met at least twice annually with the Global Office to agree about methodology to be used, take stock of each region's efforts to keep with the time schedule, and at the later stages jointly review data from each region to evaluate comparability

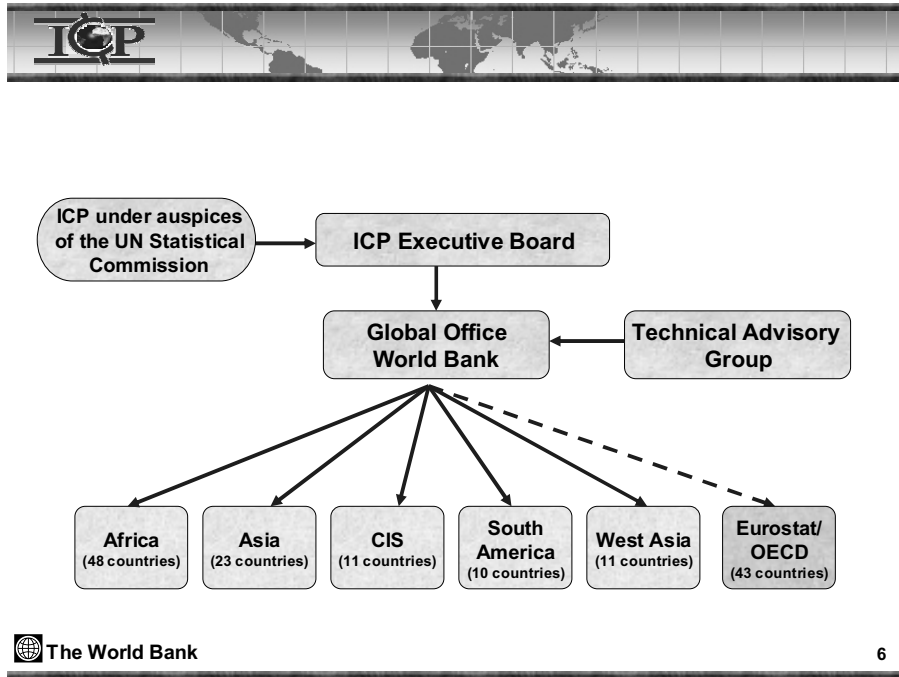


Fig. 1. Governance structure of the 2005 ICP.

of results. The actions from these meetings were also documented and posted to the ICP website. The Global Office also prepared a methodological handbook; it was also posted to the ICP website.

There was almost continuous email traffic between the participants at all levels dealing with various issues between the major meetings. This resulted in very effective communications provided in a transparent way. However, this came at a cost in terms of resources required to bring the ICP Board and regional coordinators together on a frequent basis. This was in addition to the numerous and missions by global office staff and consultants to the respective regions.

The ICP was conducted in parallel with the PPP programs conducted by the Statistical Office of the European Communities, (Eurostat) and the Organization for Economic Cooperation and Development (OECD). While the Eurostat and OECD conducted their programs independently of the ICP, they participated fully in the Ring program which linked them to the rest of the world. The role of the Eurostat-OECD and the Global Office was not well defined at the beginning. For example, the Global Office participated fully in the ICP regional meetings; one reason was to provide technical support, the other to ensure methodology was being consistently applied. However, the Global Office did not participate in similar meetings held by the Eurostat-

OECD. The coordination with the Commonwealth of Independent States (CIS) region became an issue at the end of the 2005 round when it was decided that Russia's results would be based on its OECD comparison, and it would be used instead of the Ring to link the CIS region to the OECD.

A lesson learned is that a more direct working relationship should be established between the ICP and the Eurostat-OECD programs, and a decision be made early on how the CIS participation should be coordinated. The following paragraphs provide an overview how the necessary elements of a global statistical system are connected.

##### 5. The interaction between the elements required for an effective global system and lessons learned

The foundation of the ICP is the comparison of national prices of a well defined set of goods and services that is comparable across countries, but also representative of each country's purchasing patterns.

A key decision was made at the beginning of the round that set the tone for how methodology was employed at the regional level. The decision was that the global office would provide the framework to estab-

lish how the products to be priced for the consumption components of the GDP would be selected and defined; but then it turned the selection of the products and their specifications over to each region and its participating countries. Each region developed its own product specifications; resources were made available to ensure that representatives of the National Statistical Offices (NSOs) could be brought together to jointly agree upon the list of products to be priced and their specifications. The NSOs in each region were also brought together to jointly review the prices after each data collection. These workshops allowed each country to question or challenge each other's prices to ensure the appropriate products were being priced using similar survey frameworks.

Three positive outcomes were the result; one was improved data quality; the second was the partnership and trust about the overall process, and the third was statistical capacity building resulting from the discussions of methodology and data review. A major problem that had to be overcome was that some countries were reluctant at the outset to have other countries see their data. A lesson learned is that the need for this data sharing must be clearly articulated in the next governance arrangements. The same problem occurred when the global office brought the regions together to review the data at that level; again the same lesson learned for future governance agreements.

The decision to allow the regions autonomy carried through with the implementation of methodology to estimate PPPs for the difficult areas such as housing and government and also for the estimation of basic heading PPPs and aggregation to the GDP. The underlying principle was to use what was best for each region. Housing and government are two of the most difficult components to measure for the estimation of PPPs. The ICP Handbook provided the methodology for these difficult to measure components, and for housing, offered alternatives. As a result, three different methods were used across the 6 regions to estimate regional PPPs for housing.

Likewise, PPPs for some components of government are based upon salary data with the assumption that worker productivity is equal across countries. This resulted in implausible estimates of per capita expenditures for government in three regions; therefore, productivity adjustments were applied in Africa, Asia, and Western Asia, but not in Eurostat-OECD, CIS, or South America.

Data to compare capital formation between countries is difficult to collect. Some regions sent construction

experts into countries to collect cost data for components of construction. These data, in some cases, were collected outside of the national statistical system leaving the national statistician in the difficult position of defending results without having input into the collection. This provided another lesson learned about the necessity to keep the national statistical offices engaged in all aspects of data collection, even if outside experts are still needed to provide technical support.

Another example is that aggregation methods differed across regions. The process to do what was best for each region improved the quality of the regional data. However, it caused difficulties for the next step which was to calibrate the regional PPPs to a common global currency. In order to link the regional PPPs to a common currency, new methodology called the Ring comparison was developed (chapters 13-15 ICP Handbook).

The methodology required that a list of products representing the world be developed and priced by a subset of countries (Ring countries) from each region. In principle, the Ring comparison was to be treated as an additional region coordinated by the Global Office similar to how each region coordinated its activities. However, there were not sufficient resources to enable the Global Office to bring the Ring countries together to jointly determine the Ring list, nor later to review the resulting prices. Instead, the regional coordinators had to provide the necessary input. The resulting review of the Ring data provided a lesson learned that in order to ensure consistent and comparable results from the Ring, the price experts from those countries need to be directly involved in the process the same way they were for the regional comparisons.

Russia and Egypt each participated in two regional comparisons; Russia in the Eurostat-OECD and CIS, and Egypt in the African and Western Asia comparisons. Both were also Ring countries, but only Egypt submitted Ring prices. Russia preferred that its PPPs be based on the Eurostat-OECD comparison; therefore, it was used as a bridge to link the CIS to the rest of the world. Russia and Egypt PPPs were included in both regions for which they furnished prices; this further complicated the process to link the regional results into the global comparison.

While the intra-region comparisons were improved by their respective choices of methodology, comparisons of countries across regions are more difficult to understand and explain. Another lesson learned is that a careful methodological review of the 2005 results needs to be undertaken to determine how to ensure more

consistent methodology is used across the ICP regions and the Eurostat-OECD.

Nearly all of the steps to improve governance and methodology were to improve the quality of the price data and resulting PPPs. However, a primary outcome of the ICP is the national GDPs converted to a common currency using PPPs. Although early attention was given to reviewing national accounts, it was not until the first preliminary volume and per capita estimates were computed that it realized that national accounts needed more attention. More seriously, it was noted that international organizations such as the World Bank and IMF maintain their own databases for national accounts with the each containing different data, but also data differing from what the countries furnished for the ICP. An important lesson learned is more time and resources are needed to improve the comparability of national accounts and that a framework needs to be established to ensure there is a single official GDP number for each country accepted by all stakeholders.

## 6. Summary and recommendations for the future

The United Nations Statistical Commission formed a “Friends of Chair” working group to evaluate the 2005 ICP. Its conclusion was that “The 2005 round of the ICP has been a major step forward in developing a system of calculating PPPs on a global basis. The new governance structure and the management initiatives taken have turned the ICP into an efficient global system, which also seems capable of handling the challenges in future rounds”. It went on to say, “Still, being a large and complex system, there are obviously further improvements to be made”.

This paper identified five necessary elements of an effective global statistical system—governance, statistical standards and methodology, coordination, resources, and communication. These elements are inter-twined; decisions about one affect the others. However, recommendations how each can be improved follow.

The **governance structure** was effective, but can be improved. Some specific suggestions are:

- The Letters of Agreement between all parties should specifically define the data countries are expected to submit to the regions and the regions to the Global Office and state how the data will be reviewed.

- The letters of agreement should outline the methodology to be followed and provide minimum standards for completion to remain in the program. This should include the scope of data collection (urban-rural) and frequency.
- The working relationship between the ICP and Eurostat-OECD needs to be strengthened. For example, it should include mutual representation in regional meetings and workshops.
- The participation of the CIS needs to be determined at the outset; that is, whether it is part of the OECD or the ICP comparisons.

It is essential that **Statistical Standards and Methodology** be used that provide comparable results. This means there should be a review of the methodology used for housing, government, and the estimation of PPPs with the goal that all regions including the Eurostat-OECD are following the same procedures. The addition of 1,000+ specifications to price on top of other data collections in the national statistical organizations stressed their capabilities; therefore, the goal should be to reduce that workload and seek to integrate it with the CPI data collections. The Ring methodology needs a thorough evaluation including the scope and coverage of the product specifications and the choice of Ring countries. The methodology needs to be agreed upon and accepted at the beginning of the next round by all regions and national organizations.

**Coordination** was furnished by the Global Office and the regional coordinators. The high level of interaction provided a sense of ownership. However, this requires resources to bring participants to the meetings and workshops. It is essential that resources be available so that the Ring region could be coordinated with the rigorous oversight provided to the other regions. The global office and regional coordinators also need to jointly agree upon the methodology to be used to increase the comparability across regions.

**Communication** at all levels was very transparent with all relevant materials included on the ICP website. However, not all countries speak the same language which means that in the future more time be provided for translation of product specifications and survey materials.

**Resources** are essential at all levels. The Ring program was initiated without resources to effectively provide coordination. That is a lesson learned that does not need repeating. The success of the program, however, was based on the sense of partnership provided by the workshops bringing national price statisticians

together, and the development of methodology better suited for developing countries.

Some final suggestions for future international statistical programs follow.

The first step is to document the governance arrangements including the scope and coverage of the program and the respective roles and responsibilities of the global, regional, and national coordinators. While National Statistical Offices fully control their national program, they have to buy into accepting work plans and time tables consistent with the global program.

All partners need to be engaged in the process; this requires resources to bring the national coordinators to regional workshops, and regional coordinators to global workshops. Global office staff and experts need to take part in the regional meetings.

Accepted project management tools should be used to establish the work plans and time tables and be part of a virtual system accepting input from all partners and providing current information about requirements and progress towards meeting them.

All standards and methods should be documented and available for timely use. The temptation to take on new methodology midstream, while a necessity for the 2005 ICP, should be avoided if possible. Regular communication between all stakeholders is essential via websites, meetings, teleconferences, and any other available means.

The importance of advocacy activities should not be forgotten; donors should be apprised of progress, advancements, and set backs.

In summary, some advice is provided for the global coordinator. First, the essence of the governance structure means the global coordinator will be reporting to two entities, the host organization, which was the World Bank for the ICP, and the ICP Board of

Directors. In principle, the global coordinator has to respect the views of both and where differences occur seek agreement without interjecting his/her preferences. In addition, an international statistical program involves working with the heads of national statistical offices, chief statisticians and /or economists in regional and international organizations, some of whom will also be on the Executive Board. Decisions about the work plan, time tables, and methodology should not be made by edict, proclamation, or threat but through collaboration with all stakeholders. A tremendous effort to communicate frequently and thoroughly with all levels is required with the goal to continue doing so until a consensus is reached. This will take more time and effort, but is a necessary ingredient of international cooperation. Along with the authority to make decisions comes the responsibility to be accountable for the results. Accountability means taking responsibility for progress and setbacks, and to make decisions that are best for the overall program.

The successful completion of the 2005 ICP is a tribute first to the efforts of the 146 national statistical organizations that collected and validated data on top of their usual responsibilities. Their cooperation in preparing the product specifications and jointly reviewing their respective prices set a standard for future international statistical efforts. Likewise, the regional coordinating organizations worked selfishly to make sure their countries succeeded and provided results comparable to the other regions. A special tribute goes to the countries that did two price collections—one the regional and the other for the Ring comparison. Last but not least, the Technical Advisory Group's contributions and the leadership from the Executive Board established a standard for future international efforts.

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