



## International Comparison Program 2011 FAQs

### 1. What does the ICP do?

The main objective of the International Comparison Program (ICP) is to provide comparable data on the level of gross domestic product (GDP) and its components, denominated in a common currency for all participating countries. It specifically aims to provide estimates of purchasing power parities (PPPs) of currencies of participating economies to measure and compare price levels and real expenditures on GDP and its major aggregates. The ICP Global Office coordinates the collection of price data for a basket of goods and services in countries outside the jurisdiction of Eurostat (Statistical Office of the European Union) and OECD (Organisation for Economic Co-operation and Development).

### 2. What are PPPs?

PPPs are used in producing a reliable set of estimates of the levels of activity between countries, expressed in a common currency. A PPP is defined as the number of units of B's currency that are needed in B to purchase the same quantity of individual good or service as one unit of A's currency will purchase in A. Typically, a PPP for a country is expressed in terms of the currency of a base country, with the US dollar commonly being used. PPPs are thus weighted averages of the relative prices, quoted in national currency, of comparable products between countries. Used as deflators, they enable cross-country comparisons of GDP and its expenditure components.

### 3. Why should PPPs be used for internationally comparable data on GDP rather than exchange rates?

Exchange rate converted GDPs can be misleading on the relative sizes of economies and levels of material well-being. Price levels are normally higher in high-income economies than they are in low-income economies and, as a result, differences in price levels between high-income economies and low-income economies are greater for non-traded products than they are for traded products. Prior to tariffs, subsidies and trade costs, prices of traded products are basically determined globally by the law of one price, while the prices for non-traded products are determined by local circumstances, in particular by wages and salaries which are generally higher in high-income economies. If no account is taken of the larger price level differences for non-traded products when converting the GDPs to a common currency, the size of high-income economies with high price levels will be overstated and the size of low-income economies with low price levels will be understated. No distinction is made between traded products and non-traded products when exchange rates are used to convert the GDPs to a common currency: the rate is the same for all products. PPP-converted GDPs do not have this bias because PPPs are calculated for individual products first. They therefore take account for the different price levels of traded products and non-traded products. PPPs are designed specifically to make international comparisons of GDP. They are not designed to compare monetary flows or trade flows. International comparisons of flows, such as development aid, foreign direct investment, migrants' remittances or exports and imports of goods and services, should be made with exchange rates rather than with PPPs.

#### **4. How many countries are included in the ICP 2011?**

The ICP 2011 provides estimates of real expenditure on GDP and its major aggregates for 177 countries; with two others having estimates for some major components of GDP but not for GDP itself. Twenty Pacific Islands also participated but provided data only for components of household final consumption expenditure. The ICP 2011 includes more developing countries than in the past (around 150, up from about 100 in the 2005 round).

#### **5. Who uses the ICP results?**

By using PPPs to convert GDPs expressed in national currencies into a common currency, ICP enables economists, country policy makers and other interested parties to measure the relative economic well-being of countries and monitor the progress of poverty reduction efforts, etc. They also allow cross-economy comparisons of the major components of the real final expenditures on GDP — household consumption expenditure, government consumption expenditure, actual final consumption by household, collective consumption expenditure by government, gross capital formation, and net external trade; and the various subcomponents of these major aggregates.

The ICP offers researchers and economists a powerful tool for comparative research on economic and social development. All of the major international development agencies, including the World Bank, International Monetary Fund, the World Health Organization, the United Nations Educational, Scientific and Cultural Organization and the United Nations Development Programme use PPP data to analyze economic and social conditions within their areas of concern. The OECD uses PPPs in economic analysis and the European Commission uses them for the allocation of structural and cohesion funds. The data provided by the ICP is also very useful at the country level. For example, India has used the data for assessing competitiveness of selected manufacturers in world trade and for evaluating taxes and subsidies.

#### **6. Who finances the ICP?**

The ICP is financed by a consortium of international, regional and national development agencies. At the global level, the 2011 round of the ICP was financed by the Australian Agency for International Development, the International Monetary Fund, the Islamic Development Bank, Norway's Ministry of Foreign Affairs, the United Kingdom Department for International Development, and the World Bank.

#### **7. Why should a country participate in the ICP?**

The ICP provides robust global economic data that help countries to compare their price levels, economic size and living standards (as measured by actual final consumption per capita in PPP terms or GDP per capita in PPP terms) with those of another country. A country should participate in the ICP because it helps enhance the national statistical capacity in developing countries in the areas of price statistics and national accounts. In many ways, the ICP involves statistical capacity building to ensure prices and GDP aggregates are measured consistently across countries.

#### **8. How does the ICP serve the United Nations' Millennium Development Goals?**

The ICP contributes substantially towards the Millennium Development Goals of the United Nations by improving the reliability of estimates of those living in poverty and enabling more accurate comparisons of GDP and component levels across countries. Economic information

provides the cornerstone for successful policies. Evaluating economic data from different countries and different regions allows the ICP to piece together a realistic picture of global living standards and poverty.

#### **9. What goods and services does the ICP cover?**

The ICP divides GDP aggregates into 155 categories (referred to as “basic headings”). A basic heading is the lowest level of detail for which expenditures can be provided. Prices were collected during 2011 for individual products within each basic heading to compute national annual average prices for each product for 2011. These products cover all aspects of each country’s expenditure on GDP, ranging from food, clothing and footwear to hospital equipment and compensation of government employees, etc. At the regional level, regional coordinating agencies worked very closely with countries to develop regional product lists that are both representative of the countries’ consumption patterns as well as comparable across countries. At the global level, the Global Office worked closely with regional coordinating agencies to develop a Global Core List of products that are comparable across regions and that are priced by all participating countries. The Global Core List for household final consumption expenditure included about 620 products, for government final consumption expenditure about 210 wage rates, for gross fixed capital formation on construction about 50 construction materials, labor wages and equipment hire specifications, and for gross fixed capital formation on equipment, about 177 machinery and equipment specifications.

#### **10. How does the ICP ensure that estimates are of high quality and free from political interference?**

ICP implementation follows best practices in statistics. The underlying methodology is transparent (and published on the ICP website at [www.worldbank.org/data/icp](http://www.worldbank.org/data/icp)), while the program’s governance ensures estimates are calculated independently from political interference. The ICP is implemented through cooperative arrangements involving international, regional, and national organizations with the ICP Global Office (housed in the World Bank) coordinating activities and producing the final estimates. A Technical Advisory Group advises the Global Office on issues related to data capture, production, price index methodology and national accounting issues to ensure best practices are followed. Final estimates are calculated in parallel by the Global Office and outside experts to ensure proper validation. Independence is assured through ICP governance by an international Executive Board comprised of senior executives (such as Chief Statisticians) from international and regional organizations and National Statistical Offices. The ICP Executive Board approves the estimates prior to their release.

#### **11. What are the ICP’s accomplishments to date?**

The ICP has developed since the 1960s from a research effort in a few countries to a global program and is now the largest and most complex statistical undertaking involving eight regions and around 199 countries. An independent evaluation, commissioned by the United Nations Statistical Commission in 1998, concluded that there is no alternative to PPP data for cross-country economic comparisons or for poverty measurement at the global level. The ICP is therefore contributing towards international efforts to understand factors that affect levels of economic and social development across countries on an ongoing basis. Following the release of that evaluation report, the United Nations Statistical Commission asked the World Bank to coordinate the ICP. To date, the ICP Global Office housed in the World Bank has organized two global rounds, in 2005 and 2011.

## **12. Who carries out the survey and computation work for the ICP?**

ICP price collection surveys and compilation of national accounts expenditure data are carried out by National Statistical Offices in participating countries. The ICP is organized on a regional basis. In each of the seven regions coordinated by the ICP Global Office — Africa, Asia, the Commonwealth of Independent States, Latin America, the Caribbean, Western Asia, and the Pacific — regional coordinating agencies take responsibility for the execution of the program, provide the mechanism to coordinate activities and liaise with participating countries. The organizations who are acting as ICP regional coordinating agencies include the African Development Bank; Asian Development Bank; Interstate Statistical Committee of the Commonwealth of Independent States; United Nations Economic Commission for Latin America and the Caribbean; United Nations Economic and Social Commission for Western Asia; and the Australian Bureau of Statistics. ICP's regional partners have established regional ICP offices with appropriate staffing and other resources to implement and monitor the program at the regional level. They maintain contact with participating countries, offer relevant training support, analyze and validate the data received from various countries, and produce final regional results. Additionally, the eighth region is covered by the Eurostat-OECD PPP program. The Global Office works in close collaboration with the Eurostat and OECD and publishes final global results linking ICP and Eurostat-OECD results.

## **13. What is the role of the ICP Global Office?**

The Global Office carries out the day-to-day work required to implement the ICP at the global level and is responsible for producing the global ICP results. The Global Office prepares annual work programs and budgets. It also prepares progress reports for the Executive Board, the United National Statistical Commission and the donors. The Global Office is hosted by the World Bank's Development Data Group. Its activities are financed from the ICP Trust Fund established at the World Bank and follows World Bank administrative and fiduciary rules and regulations. The Global Office commissions research in areas where improvements were needed and relies on a Technical Advisory Group of experts to provide guidance on the choice of methods to use to estimate PPPs at the GDP and aggregates. The Global Office provides technical support to the regions on all aspects of the comparison.

## **14. What is the difference between CPI and ICP?**

PPPs calculated by the ICP are spatial indexes in which each product priced by a country must be matched to a corresponding product priced by another country. A CPI, on the other hand, is a temporal index in which the same item must be priced in each index period. The CPI basket of goods and services includes only those of importance to the country. However, ICP's basket of goods and services is more broadly based to include products that may be available in every country but important to only a few. The ICP pricing is also more geographically based than is usually the case for CPIs. In many countries, prices for the CPI are collected only in major cities or in capital cities, whereas the ICP encourages country-wide collection of prices, in both rural and urban areas so that national annual average prices can be estimated. However, the ICP aims to work within a country's CPI framework where possible. Experts expect ICP related activities to help enhance statistical capacity in developing countries and thereby improve the CPI framework in those countries.

## **15. What is the difference between PPPs and PLIs?**

A PPP is a price ratio of the price for a product (or product group) between a country and the reference country that preserves comparable purchasing power. An important measure based

on PPPs is the price level index (PLI), which is the PPP divided by the nominal exchange rate for each country relative to the reference country or region (which typically has an index level of 100). If a country's PLI is less than that of another country, then its products or spending aggregates are less expensive than those in the other country. Conversely, if a country's PLI is higher than that of another country, then its products or spending aggregates are more expensive than those in the other country.

**16. What is the difference between real GDP in the temporal context and spatial context?**

In the temporal context, real GDP is a macroeconomic measure of the value of economic output adjusted for temporal price changes (i.e., inflation or deflation). It is used mainly to measure economic changes over time (either annually or quarterly). In the spatial context regarding the ICP, real GDP is a macroeconomic measure of the level of economic output in different countries expressed in a common currency and adjusted for spatial price differences, i.e. by the PPPs.

**17. One of the criticisms of the ICP 2005 is that the GDP estimates were not given as much attention as the price surveys. Has this been addressed in the ICP 2011 round?**

One of the aims in the 2011 round was to improve the quality of the national accounts data. All countries were asked to review their national accounts data for the ICP, so that the regional implementing agencies could assess the implications for their respective regions and then provide advice to individual countries on the best way to improve their national accounts under the framework provided by the System of National Accounts, 1993 (SNA93). The Global Office developed many reference and operational materials and guidance on national accounts for countries to use in producing their national accounts for the ICP. They included special chapters in the ICP Operational Guide and the Model Report for Expenditure Statistics (MORES) for countries to report their expenditure data.

**18. Can the two benchmark PPPs and related statistics be directly compared?**

Yes, when comparing the relative real expenditure level for pairs of countries or the positions of countries in global rankings. Changes in methodology may have an impact on the consistency of the results between the two years. The ICP is designed to compare levels of economic activity across economies, expressed in a common currency, in a particular benchmark year. The ICP should not be used to compare changes in any given economy's GDP volume over time: the national accounts volume estimates of each individual economy provide the best data source for this purpose. The ICP 2005 and 2011 comparisons are the first two that include comparable real expenditures for such a large number of economies. With the release of ICP 2011 results, it is inevitable that ICP data will be used to compare the positions of economies in 2011 with those in 2005, which involves simultaneously studying changes over time and across economies. However, these comparisons are problematic because they are based on two different price levels thus real expenditures and PLIs are not directly comparable between 2005 and 2011. In addition, some of the economies participating in one of these comparisons were not in the other comparison, a small number of economies moved from one region to another and, most importantly, some significant changes in methodology were implemented in the ICP 2011.

**19. What are the improvements and innovations made in the 2011 round over the 2005 round? And to what extent have these changes affected the outcomes?**

The major methodological changes in the ICP 2011 compared with ICP 2005 are: (i) using the Global Core List approach to link the regions; (ii) improving the global aggregation method; (iii) using the importance notion to classify products; (iv) improved approach for linking housing; (v)

adjusting for differences in productivity when linking government; and (vi) introducing an improved approach to measuring construction. In addition to the conceptual issues in comparing estimates from two successive ICP rounds, the methodological changes between 2005 and 2011 impact the comparison between them.

**20. What is the influence on the PPPs and related statistics of including additional countries in the ICP 2011?**

The comparison between 2005 and 2011 rounds, and especially the comparison of regional totals, are imperfect because additional countries were included in some regions in the ICP 2011 (examples include Central American countries, Algeria, and the United Arab Emirates), other countries shifted from one region to another in the 2011 round (Chile for example), and a couple of countries dropped from the ICP 2011 (Argentina and Syria for example). The PPP between any two countries is also dependent on the indirect PPPs of each country to every other country in the comparison. The PPP between Brazil and the US will change as the mix of countries included changes.

**21. What other data changes can affect comparisons of 2011 and 2005 estimates?**

Many countries have made substantial revisions to their GDP estimates between the reference periods. For example, in 2010 Ghana changed its base year from 1993 to 2006 and used the opportunity to significantly upgrade the coverage of its national accounts. This led to a large jump in GDP and the conclusion that, in previous estimates, about \$13bn of economic activity had been missed from its GDP estimates. As a result, Ghana's GDP was boosted by 60% from the earlier estimate and the country was upgraded from a low-income to a lower-middle-income country. A number of countries significantly revised their 2005 GDP estimates between the time that the 2005 ICP was being conducted and 2011. The ICP 2011 will re-estimate the 2005 real expenditures and PLIs using updated 2005 national accounts data supplied by the participating countries.

**22. How do the extrapolated PPPs for 2011 in the World Development Indicators compare with the benchmark 2011 PPPs? Are country rankings the same?**

The 2011 benchmark results will bring forth new information on the world economies when compared with the current 2011 extrapolated PPPs and volume measures in the World Development Indicators. The 2011 benchmark results cannot converge with the current 2011 extrapolated PPPs and real expenditure measures in the World Development Indicators for both conceptual and practical reasons (refer to Chapter 18 of the ICP book "Measuring the Real Size of the World Economy"). Experience has shown that sizeable discrepancies can arise between extrapolated estimates and a new benchmark, even when they are only a couple of years apart. The gap between the latest ICP rounds was six years, which has resulted in some very large differences for many economies between the extrapolated PPPs for 2011 and the benchmark PPPs that have become available from ICP 2011. For example, the price level indices for the GDP from ICP 2011 are reduced by 20 percent or more for China and India compared to the extrapolated values.

**23. What is the difference between the GDP implicit deflator and the PPP for GDP?**

Differences exist between GDP volume growth rates as measured by the time series national accounts and as implied by PPP benchmarks. The nature of these differences has been investigated since the initial phases of the ICP. Conceptually, it is impossible to maintain complete consistency in PPPs simultaneously across time and space, no matter which index

number formulas are chosen for estimating both the time series price indexes and the PPPs in the selected years. The reason is that index number formulas are designed either to measure price changes over time (e.g., CPI) or to measure prices levels between countries (i.e., PPPs), but they cannot measure both of these aspects simultaneously. Apart from the conceptual problems, practical issues also affect the comparability of PPPs over time, including different product baskets used in estimating the time series national accounts deflators and the PPPs, different computational methods, different weighting patterns, and so forth.

**24. Why do the GDP, population, and exchange rate data used by the ICP differ from those published in the World Development Indicators?**

The data for GDP, population, and exchange rates were provided by national sources. For a few countries they differ from the data published by international agencies such as the World Bank because of differences in vintage or statistical methods. When the ICP results are published in the World Development Indicators, they will be made consistent with other indicators in the World Development Indicators database.

**25. How do 2011 PPPs produced by the ICP differ from those in the Penn World Tables?**

The 2011 PPPs currently in the Penn World Tables are extrapolated from the 2005 benchmark PPPs. As a result, they will differ from the benchmark ICP 2011 PPPs.

**26. Are the PPPs generated by the ICP 2011 adequate for poverty analysis?**

The consumption PPPs generated by the ICP 2011 are designed to match the national accounts' estimates of consumption, and the weights used to construct them are the shares of each good or service in aggregate consumers' expenditure. The use of those PPPs for poverty measurement has sometimes been criticized on the grounds that people who live at or below the global line have different patterns of consumption than the aggregates in the national accounts. In particular, they spend a much larger share of their budgets on food, and they spend very little on housing, and essentially nothing at all on air travel, or on financial services indirectly measured, just to take one example.

ICP PPPs make comparisons across economies, not across rich and poor within economies. In consequence, when comparing any two economies, the shift from aggregate to "poor" weights has roughly the same affect in both economies so that, if the prices are the same in the aggregate and "poor" comparisons, the PPPs are affected minimally. There are some exceptions, for example in economies that have extensive food subsidies so that the poor pay lower prices, and there would be more exceptions if prices paid by the poor were systematically different from average prices in a way that varied from one economy to another. Thus, additional research will be necessary before international poverty rates can be estimated using the ICP PPPs.

**27. How are PPPs imputed for non-participating countries?**

In order to provide a complete view of the world economy in PPP terms, results are imputed for economies that do not participate in the benchmark exercise. In ICP 2011, a regression method is used to impute PPPs for non-benchmark countries. The regression model uses the PLI for benchmark economies as the dependent variable. The explanatory variables include GDP per capita in US dollars at market prices, imports as share of GDP, exports as share of GDP, the age dependency ratio, dummy variables for sub-Saharan African economies, OECD economies, island economies, and landlocked developing economies, and finally, interaction terms of GDP per capita and the dummy variables.

## **28. What were some of the major findings from ICP 2011?**

Low and middle income economies (developing economies) now account for about half of the World's GDP; a significant increase over real expenditures based on ICP 2005 PPPs extrapolated to 2011. Six of the twelve largest economies were in the middle income category. When combined, the 12 largest countries account for two-thirds of the world economy and 59 percent of the world population. The US is still the largest economy; however, the shares of the GDP of the second and third largest economies, China and India, have more than doubled relative to the US since 2005.

The median per capita expenditures is slightly over \$10,000 in PPP terms meaning that half of the world's population has per capita expenditures above that amount and half below. In spite of this spread in living standards, it is smaller than what was previously measured using 2005 PPPs extrapolated to 2011.