

Session I. Global and Regional Preparations for ICP 2017

Uses of PPPs

Principal Users

- **International organizations**
- **Policymakers**
- **Researchers and Academia**
- **The Private Sector**

United Nations Uses of PPPs

■ Sustainable Development Goals (SDGs)

- Goal 1: End poverty in all its forms everywhere.
 - Proportion of population below the international poverty line of \$1.25 (PPP) per day
- Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all.
 - The compound annual growth rate (CAGR) of energy intensity of GDP, measured in purchasing power parity (PPP) terms

■ Millennium Development Goals (MDGs)

- Goal 1: Eradicate extreme poverty and hunger.
 - Proportion of population below \$1.25 (PPP) per day
 - Proportion of employed people living below \$1.25 (PPP) per day
- Goal 7: Ensure environmental sustainability.
 - CO2 emissions, total, per capita and per \$1 GDP (PPP)

United Nations Uses of PPPs (Cont.)

■ **Human Development Report**

- Human Development Index (HDI)
 - A composite indicator calculated from life expectancy, education, and income per capita (PPP) indicators
- Inequality-adjusted Human Development Index (IHDI)
 - Inequality adjusted HDI
- Gender Development Index (GDI)
 - Gender based HDI

■ **UN Educational, Scientific and Cultural Organization (UNESCO)**

- The relative value of funding provided annually for education is compared across countries using the Government expenditure per student in PPPs indicator.

■ **The UN Children's Fund**

- Measures, among many indicators, the number of children living in poverty using international and national poverty lines calculated using PPPs.

The World Bank Uses of PPPs

- **World Development Indicators**
 - Size of the economy.
 - GNI and GNI per capita estimates converted into international dollars using purchasing power parity (PPP) rates
 - Poverty rates at international poverty lines.
 - The international poverty line is converted to LCU using PPPs
 - Shared prosperity.
 - The mean income or consumption per capita from household surveys used in calculating the welfare growth rate, expressed in purchasing power parity (PPP)–adjusted dollars per day for the bottom 40 percent of a country’s population and for the total population of a country.
 - Health systems.
 - Health expenditure per capita, PPP \$
 - Energy dependency, efficiency and carbon dioxide emissions.
 - Carbon dioxide emissions, kilograms per 2011 PPP \$ of GDP
 - Price levels.
 - Ratio of PPP conversion factor to market exchange rate

International Monetary Fund Uses of PPPs

- **World Economic Outlook (WEO)**
 - Economic indicators, such as estimations of output and growth, of composite groups of economies are weighted by country GDP shares valued at PPP.
- **Quota subscription of member countries**
 - A measure of the financial obligation to the IMF, access limit, share of SDRs and voting power of a member country calculated as a weighted average of GDP (market exchange rate and PPP), openness, variability and international reserves.

European Commission and OECD Uses of PPPs

■ The European Commission

- Investment for growth and jobs goal
 - **The Structural Funds** targeting investment for growth and jobs are allocated to three main regions, which are classified based on GDP per capita for each region measured in PPPs.
 - **The Cohesion Fund** is allocated based on GNI per capita measured in PPPs.

■ Organization for Economic Cooperation and Development (OECD)

- The real GDP and its components for the OECD are aggregated using PPPs. In order to calculate economic indicators, such as growth, the country shares are used as weights.
- OECD uses PPPs in research and policy analysis to compare cross-country macroeconomic aggregates.

Policy-Making Uses

- PPPs are used in a wide variety of topics that involve national, bilateral, regional and global comparisons. The analysis is valuable for policymakers.
- Following is a sample of different topics and their policy implications.

Real GDP and HHC comparisons

Real GDP comparisons are the basis for a true understanding of the relationships between economies and impact of major events on the world economy. Using PPPs to calculate GDP per capita and HHC per capita is also an important tool for evaluating standards of living and relative material wellbeing.

Policy Implications

- Growth rate differentials and contributing factors.
- Relative size and structure of the economy.

Global Poverty

Global poverty measurements rely heavily on PPPs. Continuous production of PPP data is important for updating global poverty measures and monitoring SDG progress.

Policy Implications

- Guides development policy focus at the local, national and regional levels.
- Improves identification of the poor using a common threshold across countries.
- Indicates viability of global poverty goals.

International income inequality

Rising income inequality has increasingly become a major concern. PPPs are (one of the methods) used to convert the incomes in different countries to a common measure.

Policy Implications

- The comparisons of international inequality and its trend is important for improving growth models as well as forecasting the future allocation of global income.
- Repercussions for poverty reduction programs, the environment and international relations.
- Implications for social and political stability, migration flows and geopolitical impact.

Food Consumption

The effects of food consumption on poverty and inequality have been well-studied. PPPs are used to measure these effects as well as the effects of hunger, income and price elasticities in the food categories.

Policy Implications

- Food prices are linked to global demand and could affect food aid.
- Poverty and inequality rates are affected by food consumption.
- Costs of increasing hunger.

Health and Education

Health and education are two of the main topics studied when determining well-being and social progress in a country. PPPs are mainly used to gauge the cost and expenditure on these items.

Policy Implications

- Sustained economic growth is closely linked to education.
- Education and health have direct influence on the levels of poverty and inequality.
- Effects of high cost of health care.

Productivity and Competitiveness

Comparing the competitiveness and efficiency of production systems across countries produces valuable policy considerations. Research finds that weaknesses in certain aspects of an industry, such as products for intermediate use, affect the competitiveness in all industries. With deepening globalization such information is indispensable for policy makers.

Policy Implications

- PPPs infer sectoral productivity differences across countries.
- Illuminating the sources of price competitiveness in industries across countries.
- Reveal industry efficiency across countries.

Trade

Cross-country price data reveals an interesting feature; the positive correlation between levels of development and the price of services relative to tradable goods. PPPs are also used to examine the role of trade barriers on relative price gap between rich and poor countries.

Policy Implications

- Impacts of free trade.
- Impacts of economic resources on economic structure.
- Non-tariff measures.
- Barriers to international trade.
- Distortions to the price of tradable capital goods as a barrier to development.
- Income differences and prices of tradable.

Investment

Multinational corporations increasingly use PPPs to evaluate cross-country investment cost such as unit labor and material costs, project viability, market size and asset allocation. As well as an instrument to assess industry growth potential and associated investment risks.

Policy Implications

- Measure of competitiveness.
- Barriers to attracting foreign investments.
- Impacts on job creation and employment.

Energy efficiency

Energy efficiency of an economy is usually measured by energy intensity; which is the number of energy units needed to generate one unit of GDP. PPPs are used to express energy intensity as it relates energy consumption to the real level of economic activity. Both the UN General Assembly and the G20 use PPPs in measuring their energy efficiency indicators.

Policy Implications

- Improvements in energy efficiency bring social, economic and environmental benefits.
- Address costs, availability and environmental impact of energy use.
- Improved efficiency, health, industrial productivity and product performance.
- Wealth creation and social development.

Cost of living comparison

PPPs are used to determine cost of living differentials across countries. This is used to decide PPP-adjusted cost-of-living allowances across countries to meet the needs of multinational corporations, major non-governmental organizations and international development agencies. Employees also use this measure in salary negotiations.

Policy Implications

- Implications for national aid eligibility and poverty count.
- Wage pressure and competitiveness implications.
- Affects of variation in costs on economic well-being.

PPP Time Series and Methodological Improvements

There exists an extensive body of work on **methodological improvements** of PPP calculations. This research facet ensures continued strive for enhancements and a path toward a stable methodology. This aspect also includes explanation of results which directly ties to research possibilities. This in turn accomplishes the following:

- Fosters trust in methodology and transparency.
- Assures consistent endeavors to optimize results.
- Clears a path for future research and innovations in use of results.

Penn World Tables (PWT) uses PPPs as main inputs in their time series calculations.

Words of wisdom when using PPPs



Recommended uses

- To make spatial volume comparisons of GDP (size of economies), GDP per hour worked (labour productivity), actual individual consumption (AIC) per head (economic well-being)
- To make spatial comparisons of price levels
- To group countries by their volume index of GDP or AIC per head and/or their price levels of GDP or AIC



Uses with limitations

- To analyse changes over time in relative GDP per capita and relative prices
- To analyse price convergence
- To make spatial comparisons of cost of living
- To use PPPs calculated for GDP and its component expenditures as deflators for other values as, for example, household income



Not recommended uses

- As precise measures to establish strict rankings of countries
- As a means of constructing national growth rates
- As measures to generate output and productivity comparisons by industry
- As indicators of the undervaluation or overvaluation of currencies
- As equilibrium exchange rates

Source: OECD Statistics Brief, March 2011

Useful links

- Quarterly updates <http://go.worldbank.org/EJYM7QI020>
 - Highlights in every issue new papers or articles using PPP data
- Research using PPPs <http://go.worldbank.org/AC52LWPRA0>
 - Lists and provides links to all new papers using PPP data
- PPPs in the media <http://go.worldbank.org/7HVKK5WWZ0>
 - Provides links to media article using PPP data