Preferences, Purchasing Power Parity and Inequality: Analytical Framework, Propositions and Empirical Evidence

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Background

Examining the results of the 2011 International Comparison Programme (ICP):

- **Comparison with previous ICP 2005**
- **Major impacts on PPPs and derived data (poverty line, GDP per capita…)**

Recap: reasons for the differences between market exchange rates and PPP rates (capital movements, non-tradeable items…)

>> Impacts developed/developing countries

An extended analysis of the results of ICPs

Role of in-country inequality movements affecting temporal changes in PPP

- **In the context of non-homothetic consumer preferences**

Addressing the large time delay between ICP results (need annual or even quarterly PPPs)

- **Generating PPPs between benchmark years**

Is a single PPP number appropriate across all expenditure classes?

Distinctive features

Two previous approaches to estimating PPPs between benchmark years:

- **"Accounting approach" – use inflation differentials**
- **" Real GDP approach" – use evolution of real GDP**

This paper's approach – link PPP changes to changes in consumer preferences over time

Analytical framework

Section 2: Theoretical model extending the classic Balassa/Samuelson model to include consumer preferences (which depend on both prices and income distribution)

Section 3: Analyse ICP data from different rounds to find evidence that households in poorer countries spend proportionately more of their income on food and clothing than households in richer countries ("Engel Curve")

Section 4: Model the determinants of PPP changes ("Dynamic Penn effect" following Ravallion), including inequality as an explanatory factor

Section 5: Model estimating alternative PPPs based on consumer expenditure data (not prices) >> understatement of PPPs in 2011 ICP (and moving base country from the US to India)

Non-homothetic preferences

"item-wise budget shares must vary with aggregate household expenditure"

>> Cross-country regressions of mean budget shares on aggregate per capita expenditure, GDP deflator and country dummies for income, based on pooled 2005/2011 results

Results: Engel's law confirmed, and support for non-homothetic preferences

Determinants of PPP changes

Panel regressions with "unpacked" exchange rate and PPP… relate changes in PPP to

GDP deflator (Inflation measure chosen)

GDP per capita (national prices)

Nominal exchange rate

Gini measure of inequality

Result: Evidence of a positive relationship between PPP and intra-country inequality (where PPP < exchange rate)

Counterfactual PPPs

Method extends Coondoo et al (estimation of Engel curves on single cross section data):

> Does not require specific price data (given "controversy .. over the accuracy of the price information used in the ICP 2005 and ICP 2011 rounds")

Counterfactual PPPs from Almas "complete demand systems" estimation procedure >> PPPs viewed as True Cost of Living Index

Result: Finds biases compared with ICP data (ICP higher in African countries, lower in Asian countries)

Some overall reactions from me

Points of agreement

1) 6 years is too long between ICP rounds *(current plans to bring down to 3 and even annual in future)*

2) Use of one PPP per country is not very useful for poverty analysis

3) Impact of (intra-country) inequality on PPPs provides a good research opportunity; could ask for access to detailed ICP data?

Points questioned

4) Interpreting statistical changes as something else?

5) Using past ICPs to correct (statistically better) later ICP?

6) Experience shows easier to collect price data than detailed expenditure data in developing countries? Differences found could be caused by inconsistencies prices/expenditure?

On the assumptions/model

- Proposition 4: PPP only increases if share of non-tradeables increases in first country?
- GDP deflator (current/constant price GDP) not independent from PPP?
- Equation 21 is in levels except $\ln(P_{it})$ which is a change?
- Figures 3 and 3a don't show a visually strong PPP/Gini relationship?
- Static Penn effect seems to be evidenced by strong correlation between PPP/XR and GDP?
- Tables 6a and 7a apply consumption PPPs to GDP (6b and 7b better as consumption only)? 7b has some counter-intuitive results (Albania 20 times richer than Bosnia; Romania and Russia poorer than India?) – could be discussed…

Possible points for discussion

1) To what extent changes between ICPs are statistical effects rather than changes to be interpreted economically

2) The approach of including inequality as a determinant of PPP change

3) The conclusion that ICP 2011 has produced biased results, albeit that the bias varies across regions