Construction PPPs

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# Background

**TWO PAPERS BY Theodore R. Breton**
- First one based on ICP 2005 results
- Second one based on ICP 2011 results
- Both papers claim that the ICP overestimates capital formation in low- and middle-income countries

**THIS PRESENTATION**
- ICP 2011 construction approach recap
- Breton’s approach
- Breton’s findings
- Issues with Breton's approach
ICP 2011 Construction Approach Recap

**INPUT PRICE BASED APPROACH**

- Prices for materials, equipment hire and labor (50 items; 55 with splitting of equipment hire)
- Material items allocated to three construction basic headings (residential, non-residential and civil engineering) based on “relevance”
- Elementary PPPs for materials, equipment and labor under each basic heading calculated based on CPD to arrive at “sub-heading” PPPs
- Elementary PPPs aggregated (GEKS) using “resource mixes” as weights to arrive at basic heading PPPs
- Basic heading PPPs aggregated (GEKS) using national account expenditures to arrive at total construction PPPs
- Note:
  - Eurostat-OECD linked based on the ICP input approach through 10 countries
  - Machinery and Equipment PPPs used as a proxy for equipment hire for global linking
  - Data on mark-ups and professional fees collected but not applied
Breton’s Approach

REVIEW BASED ON BRETON’S WORKING FILES

- Input data used is the global ICP 2011 construction data for materials and labor, available for researchers
  - This excludes regional input data, especially for Eurostat-OECD and CIS
  - ICP 2011 Machinery and equipment results used for equipment hire
- All reported prices converted to USD prices using exchange rates
- Eurostat-OECD USD prices are averaged (arithmetic average)
- Price ratios are calculated as country x USD price to Eurostat-OECD average
- Countries’ price ratios are averaged (arithmetic average)
- Countries price ratios are weighted with resource mixes (weighted average) → “Input-based” results
- Countries material price ratios are divided by material resource mix shares → “Project-based” results
Breton’s Findings
Issues With Breton's Approach

**REVIEW BASED ON BRETON’S WORKING FILES**

- Gaps in the price matrix are not addressed (ICP uses CPD)
- Selected items were removed
- Price ratios are calculated as arithmetic, not geometric, means
- Results are not made base-country invariant (ICP uses GEKS)
- Results are being compared to ICP’s total construction aggregate, while the prices and resource mixes used refer to residential buildings only
- Regional data, most notably for Eurostat-OECD and CIS, is not taken into account
- **CONCLUSION**: Due to these significant shortcomings, it is difficult to draw a conclusion on Breton’s “findings”
THANK YOU