

Measuring Poverty with the International Poverty Line

Emmanuel Skoufias

Poverty Global Practice

The World Bank Group

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National Poverty Lines

➤ National poverty lines chosen based on what is considered as appropriate for the country

- In poorer countries national poverty line is determined based on Cost of Basic Needs (CBN) (absolute poverty) based on the principle that there is a socially acceptable minimum standard or set of basic needs. Households with a standard of living below the socially acceptable minimum standard are those considered to be poor.

- In richer countries national poverty lines are higher based on the relative standard of living in the country

International Poverty Line

- To measure the welfare of people living in different countries on a common scale, the differences in the purchasing power of currencies need to be adjusted for.
- ICP 1993, 2005 (and recently 2011) → PPP conversion factors
 - PPP can be defined as the number of units of a country's currency needed to buy the same amount of goods and services in that country as one U.S. dollar would buy in the United States.
- 2005 round of the International Comparison Program, surveyed prices in 146 countries
 - Note: the ICP computes many different PPP conversion factors with different uses: e.g. PPP conversion factor for GDP, PPP conversion factor private consumption, etc.

International Poverty Line

➤ Setting an international poverty line is a process of finding the lower bound of national poverty lines.

- E.g. convert national poverty lines in local currency units to US \$ using 2005 PPP conversion factors for private consumption and plot against (log) mean consumption at 2005 PPP

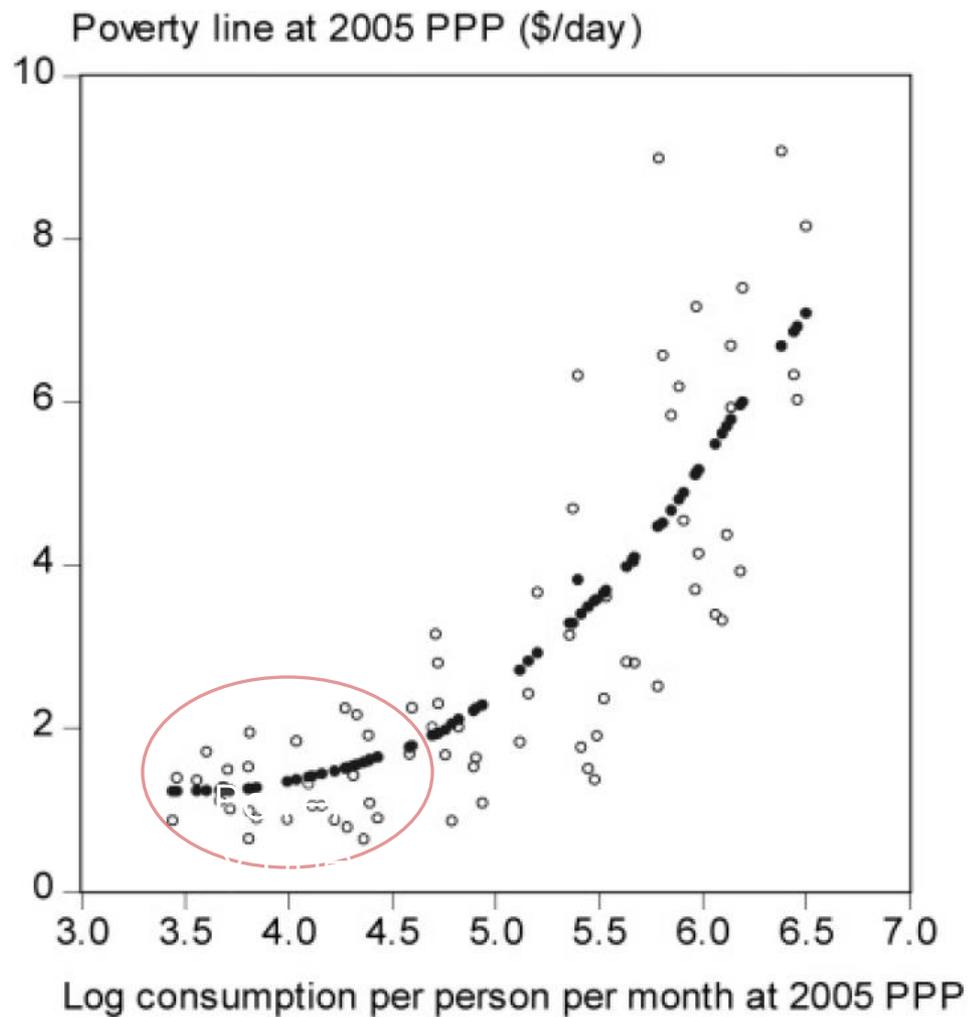


FIGURE I

National Poverty Lines Plotted against Mean Consumption at 2005 PPP
Bold symbols are fitted values from a nonparametric regression.

The International Poverty Line of \$1.25 per person per day...

➤ ...is an average of the national poverty lines from 15 poorest countries, whose PCE per capita from national accounts (PPP adjusted, 2005 prices) is less than \$60 per day.

- The reference countries include Malawi, Mali, Ethiopia, Sierra Leone, Niger, Uganda, Gambia, Rwanda, Guinea-Bissau, Tanzania, Tajikistan, Mozambique, Chad, Nepal and Ghana.

➤ Used by the **Millennium Development Goals** to measure Global Poverty and monitor global progress towards cutting the 1990 poverty rate by half by 2015.

Based on the \$1.25 poverty line...

➤ The proper way of estimating the evolution of poverty rates within a country is as follows:

- Convert the international poverty line \$1.25 per capita per day to Local Currency Units (LCU) using **the private consumption PPP conversion factor (Brazil = 1.571) (and not the GDP PPP conversion factor, for Brazil, 1.357)** from the 2005 round of the International Comparison Program. This determines the value of the poverty line in LCU in 2005.
- Multiply the 2005 international poverty line in LCU by the value of the domestic CPI (rebased to 2005) to get the real value of the international poverty line in other years
- or
- Adjust nominal income in other years by the value of the domestic CPI (rebased to 2005)

Standard Methodology

➤ Poverty Line (t) =

$$\$1.25 \times \text{PPP}_{\text{ICP}}(t=2005) \times \text{DOMCPI}_{2005=100}(t)$$

➤ Formula above adjusts the value of the poverty basket for domestic inflation (DOMCPI) and thus keeps the real value of the basket constant in year t

- Ideally the CPI used should capture the change in the cost of living for those below or at the poverty line
- Paper by A. Deaton and O. Dupriez

Brazil

Poverty Headcount (\$1.25 USD a day)



Note: Calculations using “domicilio” (**dwelling**) income [as opposed to **family** income] and updated population weights

Source: World Bank calculations based on SEDLAC data (CEDLAS and World Bank)

Implications of methodology used for the \$1.25

➤ International poverty line is linked to the PPP rate used.

- ICP 2005 led to new international poverty line (of \$1.25) e.g. based on 1993 PPP international poverty line was \$1.08 (see next figure)

- New PPP estimates imply new international poverty line

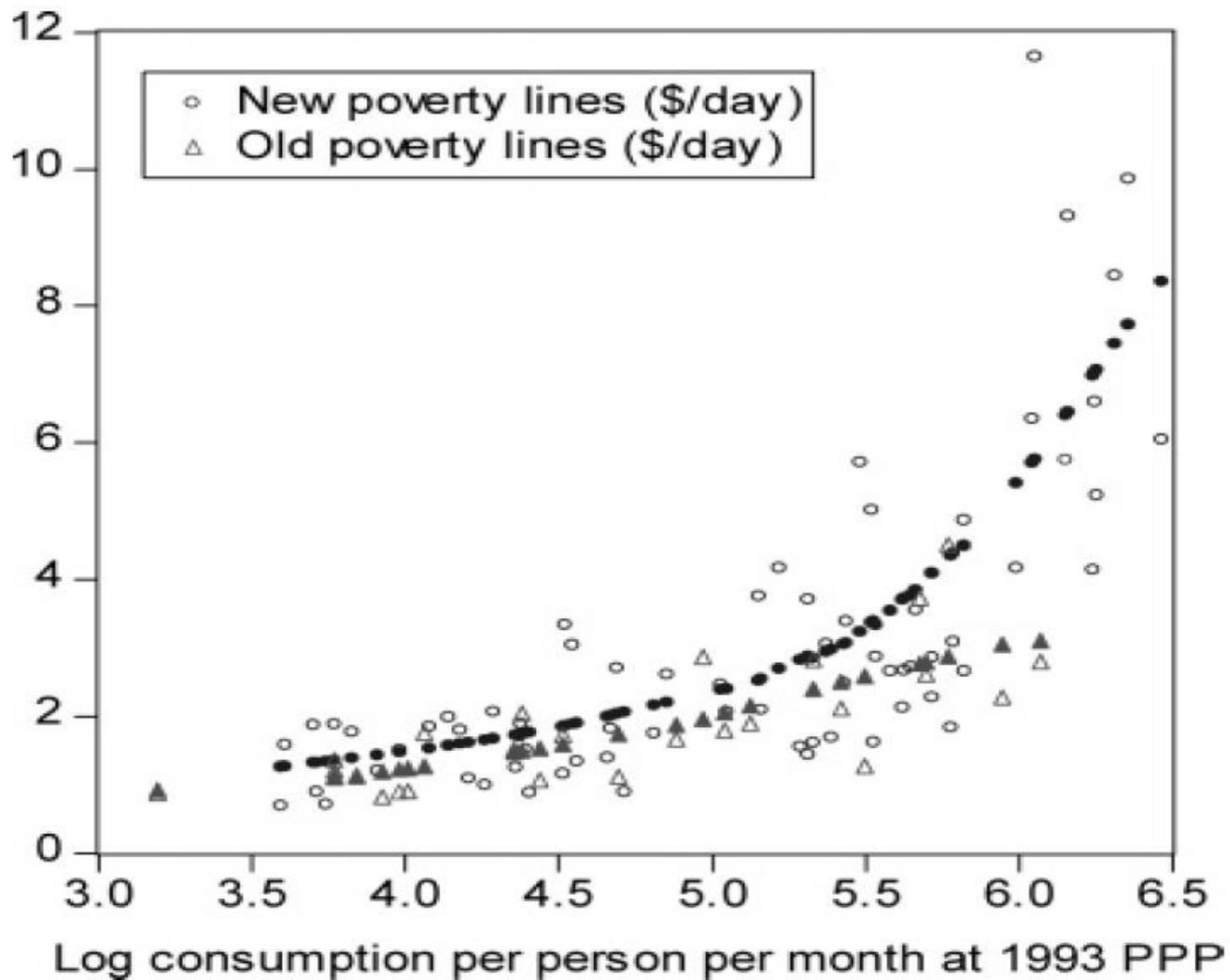


FIGURE II

Comparison of New and Old National Poverty Lines at 1993 PPP
Bold symbols are fitted values from a nonparametric regression.

ICP 2011

- ICP 2011 summary report was published on April 29th, 2014
- Large decrease in PPPs for non-OECD countries relative to the US
- Makes the world much less unequal
- China is not larger than the US, but close
- India is bigger than Japan
- These received lots of attention in the media

Implications of the methodology for Int'l Poverty Line

➤ ICP 2011 lowered PPPs for poor countries relative to extrapolations

- Center for Global Development (CGDEV) in Wash DC
- Holding global line at \$1.25 (updated for US inflation since 2005) → a 'new' international poverty line for 2011 US dollars for \$1.44
- And concluded that the share of people in the developing world living below the absolute poverty line of \$1.25 per day in 2010 "fell" by nearly half, from about 19.7 percent to 8.9 percent. !!!!

➤ But...new PPP rates from ICP 2011 → must also revise the \$1.25 line

What is next?

- World Bank is currently analyzing the implications of the ICP 2011 PPP rates for the estimation of poverty.
 - Until then FOR POVERTY the \$1.25 and 2005 PPP rates are to be used
- New PPP rates from ICP 2011 → need also revise the \$1.25 line
- Various proposals circulating:
 - Don't change the line at the same time as an ICP revision, b/c/ this multiplies confusion
 - Divorce global poverty counts from the ICP
 - Might be possible to price a basic food bundle in most poor countries
 - Don't use PPPs at all

Brazil: Issues to consider in the estimation of Poverty using \$1.25

- Consider adopting the use of the PPP conversion rates for private consumption (instead of the PPP conversion rates for GDP)
- Closer consideration of the use of PPP conversion factors that “guarantee” international comparability of US\$ PPP 1.25 in the long term.

Muito obrigado



Caution on the use of the “Annual” PPP conversion factors

➤ Annual PPP conversion factors available are typically constructed as follows:

$$PPP_{ICP}(t) = PPP_{ICP}(t=2005) \times DOMCPI_{2005=100}(t) / USCPI_{2005=100}(t)$$

➤ These are useful for international comparisons of RGDP over time but not for poverty rates.

➤ Use of the $PPP_{ICP}(t)$ in essence **changes the real value** of the national poverty basket in each year. It is critical to keep the real value of the national basket constant.

Exemplo: Valores em Reais da Linha 1,25 dolar PPP, segundo diferentes fatores de conversão

YEAR	Conversion factor PPP GDP CPI YR	\$1.25/day PLINE PPP GDP CPI YR	Conversion factor PPP Cons CPI YR	\$1.25/day PLINE PPP Cons CPI YR	Fator conversão PPP - GDP (IPEA)	Linha 1,25 em reais *	Fator conversão PPP - Consumo (IPEA 1,25 PPP)	Linha 1,25 em reais *
2005	1.357	51.6	1.571	59.737	1.3567	51,6	1.5713	59.7
2006	1.401	53.281	1.622	61.684	1.3972	53,1	1.5859	60.3
2007	1.458	55.458	1.688	64.204	1.441	54,8	1.598	60.8
2008	1.554	59.104	1.799	68.424	1.5311	58,2	1.6261	61.8
2009	1.633	62.085	1.89	71.876	1.6286	61,9	1.7116	65.1
2010	1.716	65.26	1.987	75.552	1.7416	66,2	1.7688	67.3
2011	1.83	69.568	2.118	80.538	1.827	69,5	1.8285	69.5
2012	1.929	73.348	2.233	84.915	1.8916	71,9	1.8882	71.8