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Developing comparable measures of income poverty in Latin America

Xavier Mancero

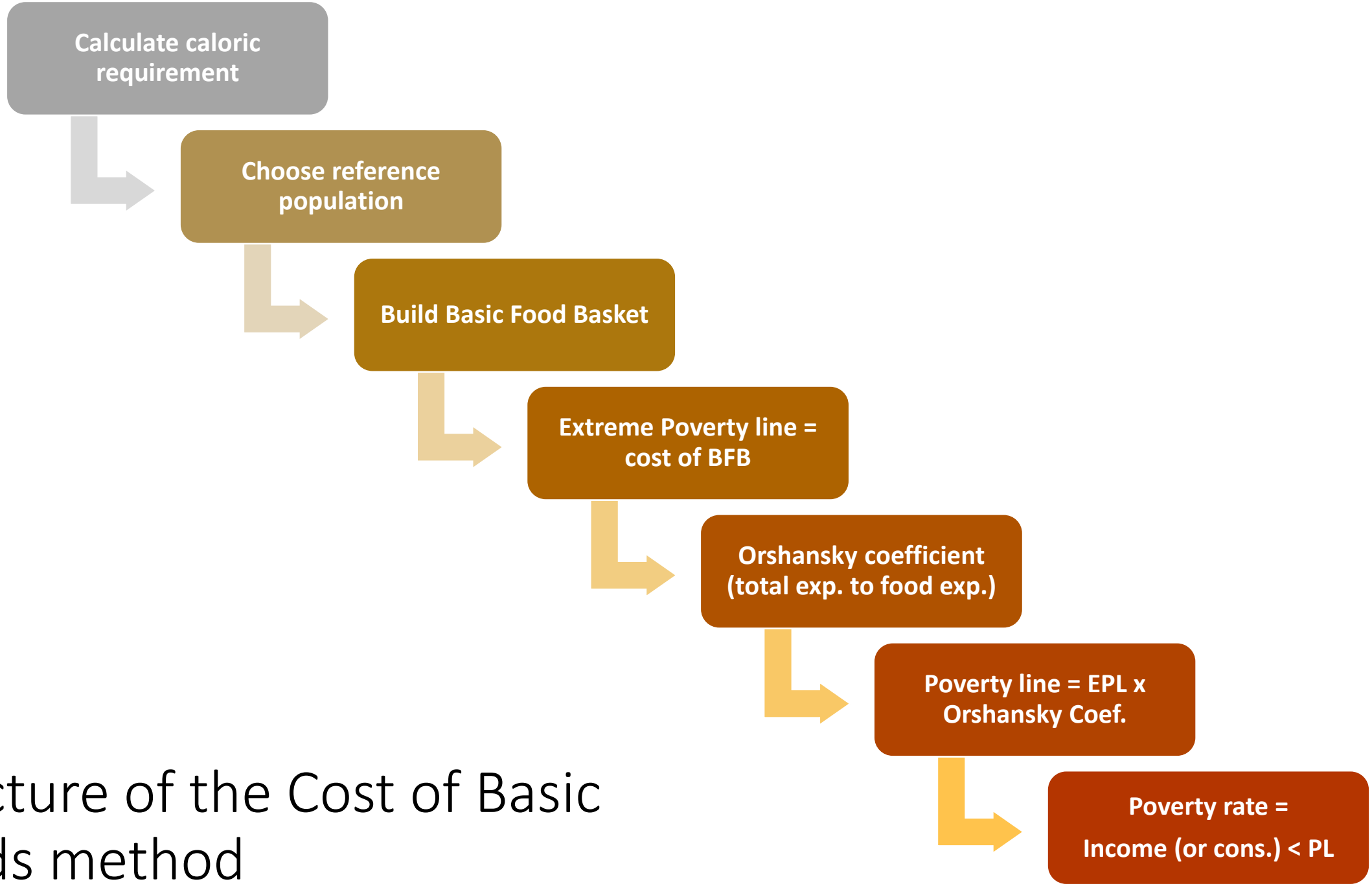
Statistics Division

UN-ECLAC

Preliminary version

Background

- Methods for measuring poverty are well known
  - Group of Rio (2006). Compendium of good practices for the measurement of poverty.
  - UNECE (2017). Guide on Poverty Measurement.
- However, existing measurements tend to have limited comparability
  - Diversity of methods
  - Diversity of criteria within the same method
  - Differences in sources of information
- Countries in Latin America measure absolute poverty based on the “cost of basic needs method”.
  - But poverty figures are not comparable.



Structure of the Cost of Basic Needs method

Some decisions within the CBN method

Choice of reference population

- Based on energy (calories) intake, iterative method or other?
- Different reference populations for food and non-food?
- One national population or independent populations for urban and rural?

Food basket

- Number of products?
- How is out-of-household food expenditure valued?
- Includes adjustments for nutritional considerations?

Non-food expenditure (Orshansky coefficient)

- Restricted or complete expenditure list?

Price indices for updating the poverty lines

- General CPI, different indices for food and non-food, or other?

Choice of welfare indicator

- Income or consumption?
- Per capita or adult equivalent?

Are national measures comparable?

- Countries in Latin America have oficial poverty measures based on the “cost of basic needs method”.
- Even though the general methodological framework is the same, its implementation is not comparable.
- Some examples (10 countries):

Reference population

- 6 Based on calories, 4 based on iterative method
- 6 national ref.pop, 4 independent urban and rural

Food basket

- From 27 to 100 products
- Different combinations of selection criteria

Non-food expenditure

- 6 use strictly observed OC, 4 apply criteria for selection of items

Welfare indicator

- 7 income, 3 consumption
- 7 per capita, 3 adult equivalent

ECLAC poverty measurements

- ECLAC has systematically measured income poverty in Latin America since the 1980s.
  - Based on poverty lines first calculated in Altimir (1979) and then in ECLAC (1991).
- The current context is different from that of 3 decades ago.
  - Most countries have national measurements, usually on an official basis.
- The ECLAC measures of poverty are aimed at regional comparability.
  - They provide a complementary view to that which comes from official national measurements.
- Estimation of poverty lines for 18 countries, based on a revised methodology and the most recent available data sources.
  - Methodology published in 2018.
  - Poverty figures published annually in *Social Panorama of Latin America*.

Main data sources

- For poverty line
  - Most recent available surveys that collect information on household expenditures.
  - Caloric requirements
    - Calculation based on common criteria for 18 countries (based on FAO-WHO, 2004)
  - Harmonized database of food nutrients.
  - ICP (food and non-food totals)

Latin America (18 countries): Household surveys that collect expenditures

	2004-2006	2007-2009	2010-2012	2013-2015
Income and expenditure survey	El Salvador Uruguay Colombia Dominican Rep.	Panama Brazil Venezuela	Chile Mexico Argentina Costa Rica	
Living conditions survey	Honduras		Paraguay	Bolivia Ecuador Guatemala Nicaragua Peru

- For annual poverty measurement
  - Regular (mostly annual) household surveys that measure household income.

Latin America (18 countries): Periodic household surveys that measure income

	2000-2017
Every year or more frequent	13 countries
Every 2-3 years	3 countries
Undefined	2 countries

Reference population

- The reference population should be a group whose consumption habits are adequate to represent a standard of adequacy
  - An intermediate point is sought between a situation of deprivation and a situation of abundance
- How to identify a group with an adequate standard of living?
- Option 1: Use an exogenous sufficiency indicator
  - Selection for "apparent caloric intake"
- Option 2: Determine sufficiency endogenously
  - Iterative procedure so that the reference population converges with the poverty rate
- Nevertheless, both methods are directly affected by the ability of the household budget survey to measure “caloric intake”

Reference population

- Method combines exogenous and endogenous criteria.
- "Sufficiency" criterion – Reference population satisfies different basic needs:
  - Food
  - Education
  - Basic services
  - Housing
- “Concordance“ criterion – Reference population must have an average expenditure that is not lower than the poverty line obtained (iterative process).

Reference population – Deprivation indicators

- Housing
  - Precariousness of housing materials
    - Dwellings with dirt floor and / or with roofs or walls with precarious materials
  - Overcrowding
    - Households with more than three people per room
- Basic services
  - Lack of improved water sources
    - Households that obtain public network water off-site (in urban areas); unprotected wells; river, stream, rain and others
  - Lack of improved sanitation
    - Households in any of the following situations: with evacuation not connected to a sewer or septic system (in urban areas); that do not have toilet service; with evacuation without treatment or to the surface, river or sea
- Education
  - School attendance
    - Households with at least one child of primary or secondary school age (7 to 15 years of age) who does not attend an educational establishment
- Food
  - Caloric intake
    - Households with caloric intake per capita lower than the average requirement
  - Participation of food expenditure in total expenditure
    - Households that allocate more than 75% of their budget to the purchase of food

Basic Food Basket

- The BFB provides a monetary reference on the cost of acquiring food that meets the needs of food.
- The general procedure:
  - Select a representative set of foods (according to the percentage of households that purchase them)
  - Around 60 products
  - Nutritional adjustments (proteins, carbohydrates and fats)
  - Rescale quantities to reach the caloric requirement
- The BFBs are valued at median prices
- BFBs are built separately for urban and rural areas

Non-food component

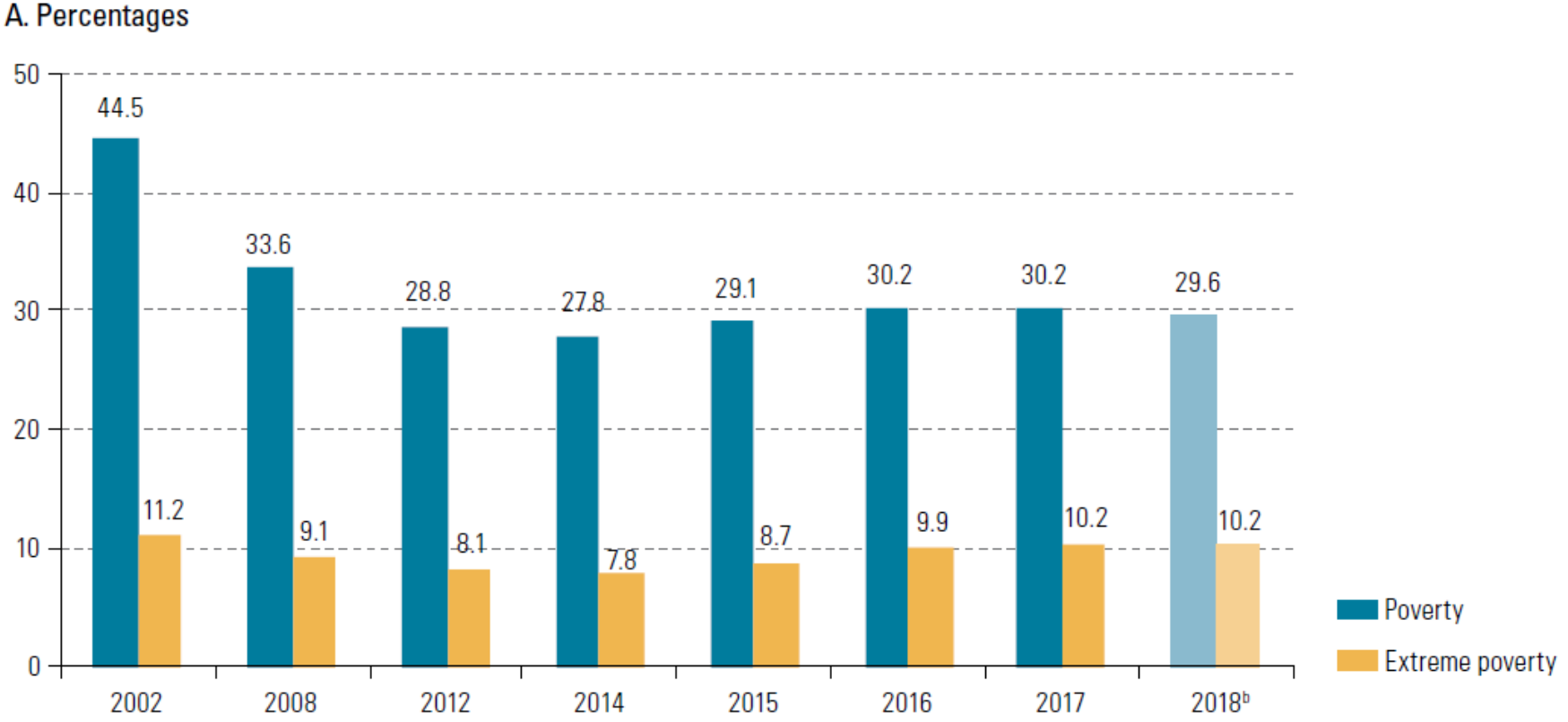
- The non-food component is expressed by a ratio ("Orshansky Coefficient" = GT / GA).
- Includes the following items:
  - Housing (rents and basic services)
  - Health
  - Clothing
  - Transportation (public and private)
  - Housing equipment
  - Education (primary / secondary and other education expenses)
  - Personal expenses and others
- The main expenses in each item are selected in a similar way to the CBA (% of households).
- CO is calculated for urban and rural areas separately

Household income

- Income aggregate
  - Revision of income components according to international recommendations (Canberra Group)
  - Concept of income: total income (disposable income not attainable)
- Imputed rent
  - Imputed rent is considered as part of household income. Included to make the well-being of owner and non-owner households comparable.
  - However, it leads to an underestimation of poverty when it is greater than the cost of the rent implicit in the poverty line.
  - To reduce this bias: apply upper limit to the imputed rent of each household.
    - The imputed rent can not exceed the value of the other income received by the household.
    - It reduces the possibility that a household with low monetary income and having a high imputed rent will be classified as not poorly erroneously.
- Imputation for income non-response
  - A non-response correction procedure is applied to:
    - Paid employees who do not report the income from their main occupation.
    - Retirees or pensioners who do not declare the amount of their retirement or pension.
  - Application usually combines non-response and zero values.
  - Hotdeck method
  - Applied only when countries do not correct for non-response.

Aggregate results

Figure II.1
Latin America (18 countries): poverty and extreme poverty rates and persons living in poverty and extreme poverty, 2002–2018[a]
(Percentages and millions of persons)



Source: ECLAC (2019). Social Panorama of Latin America 2018. https://www.cepal.org/en/publications/44396-social-panorama-latin-america-2018

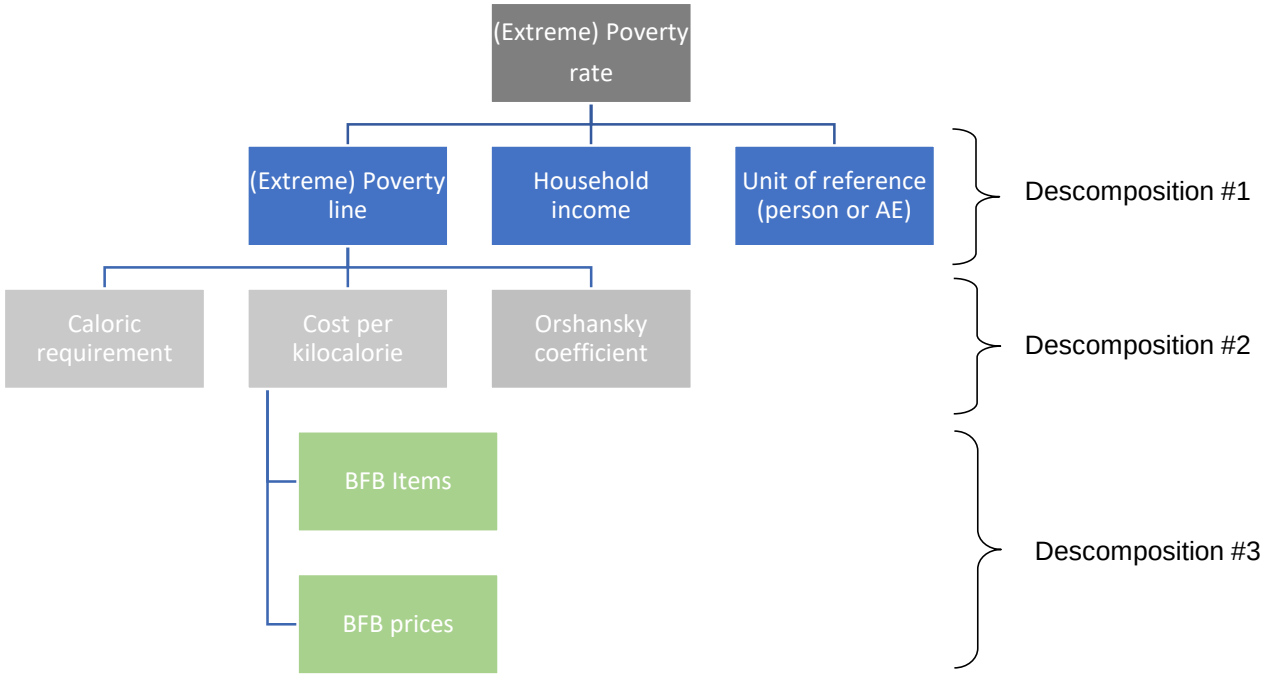
Comparison to national measures

- ECLAC figures may be lower or higher than national estimates

		Countries where ECLAC extreme poverty figures are ... than national official figures	
Countries where ECLAC poverty figures are ... than national official figures		**Lower**	**Higher**
	Lower	Argentina, 2016	Paraguay, 2016
		Bolivia, 2015	Perú, 2016
		Costa Rica, 2016	Dominican Rep., 2016
		Guatemala, 2014	
		Honduras, 2016	
		México, 2016	
		Panamá, 2016	
		Uruguay, 2016	
		Venezuela, 2012	
	Higher	Brasil, 2014	Colombia, 2016
		Chile, 2015	Nicaragua, 2014
		Ecuador, 2016	El Salvador, 2016

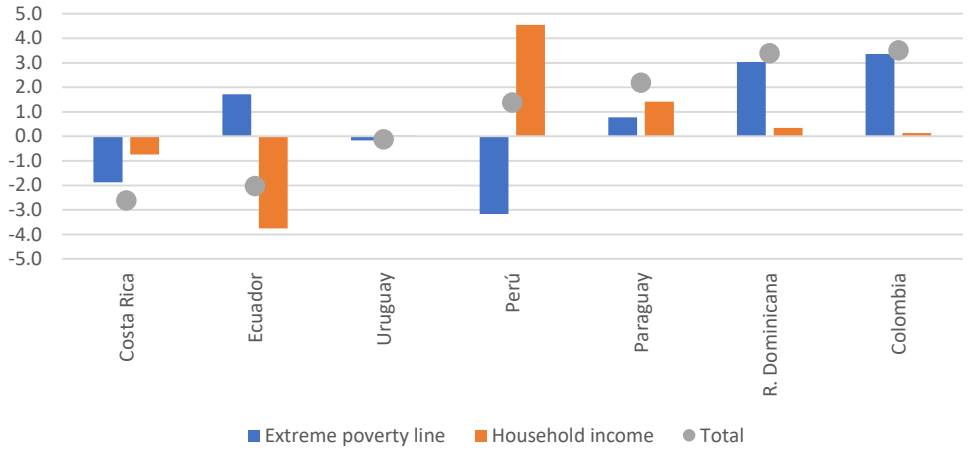
Comparison to national measures

- Differences between results can be decomposed into several factors



Comparison to national measures

Latin America (18 countries): Decomposition of differences in extreme poverty rates (2 factors)



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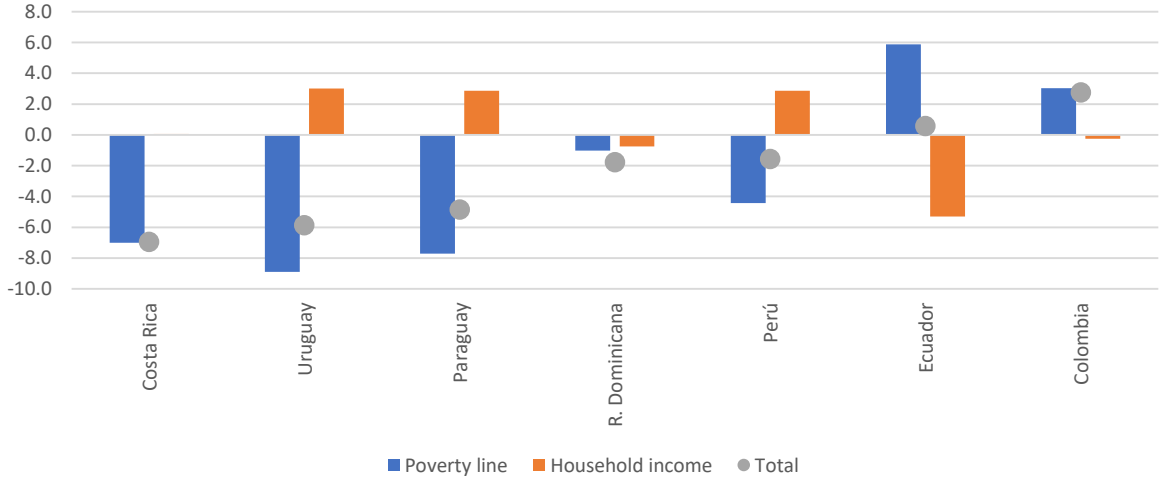
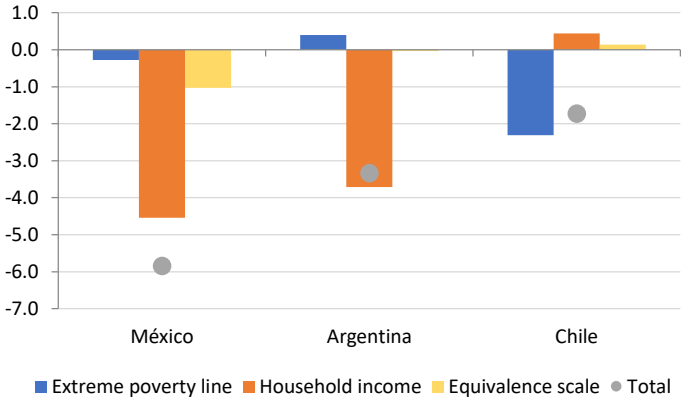


Latin America (18 countries): Decomposition of differences in extreme poverty rates (3 factors)



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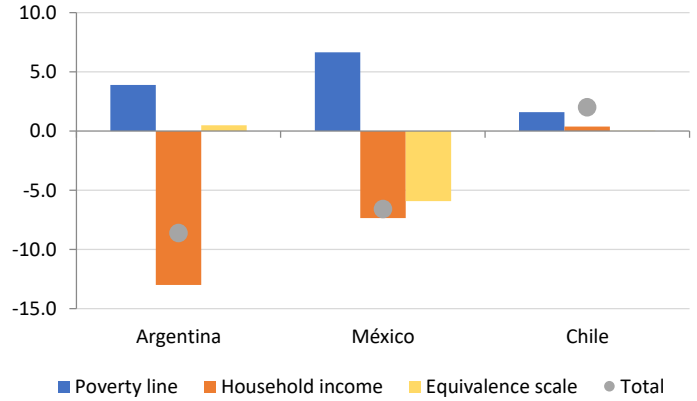

Final remarks

- Absolute comparability is not feasible, but it is possible to find a balance between a harmonized methodology and flexibility to account for specific needs of each context.
- The implementation of a common methodology to data from several countries shows useful insights about its possibilities and constraints.
  - One important issue is the extent to which expenditure surveys adequately measure average food consumption. Average caloric intake can be significantly under- or overestimated.
  - Absolute poverty lines tend to capture different degrees of “relativity” in each country. When absolute poverty is very low, continuous updates of the poverty line will continually increase its purchasing power in real terms.
- Some issues that need to be further considered:
  - Pertinence of including imputed rent
  - Ability to account for in-kind income (or consumption), specially goverment transfer programs
  - “Lower bound” of the “cost of basic needs method”