

New Approaches to Defining and Measuring Poverty in a Growing World
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Poverty measurement in Latin America: A regional needs-based poverty line



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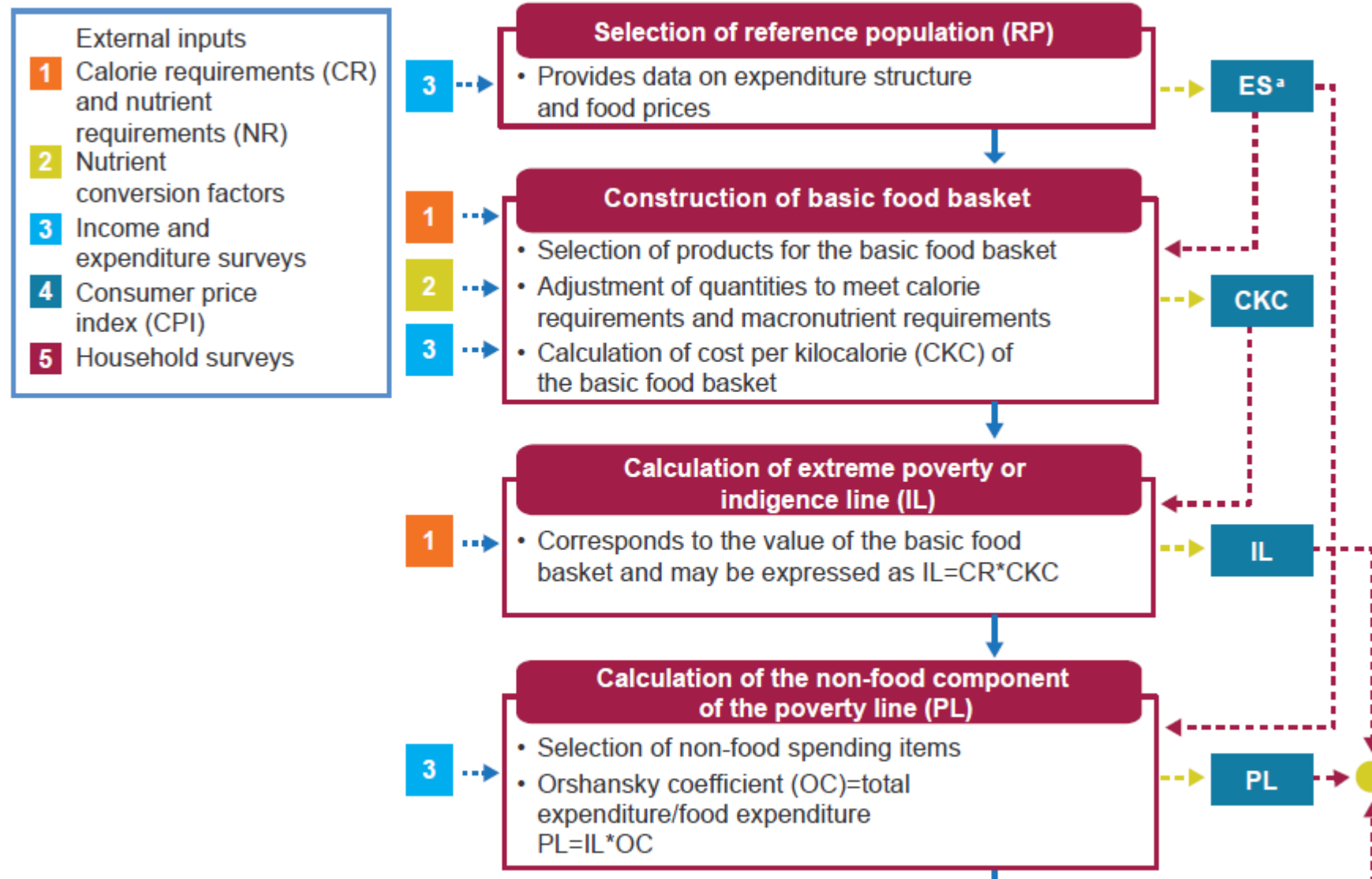
CEPAL
ECLAC

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Regionally comparable poverty lines

- ECLAC regularly produces poverty estimates for 18 Latin American countries since the early 80s.
- ECLAC poverty measures are aimed at regional comparability.
 - National poverty figures are not directly comparable, even when based on a common methodological approach.
- “Comparability” comes from the application of the methodology with the greatest possible homogeneity in all countries.
- The methodology for setting needs-based poverty lines was recently updated (ECLAC, 2019).
 - Based on the most recent survey expenditures (HBS or LCS)
 - Standard “cost-of-basic-needs approach” framework
 - Detailed documentation of processes
- This approach has also been recommended in the Report of the Commission on Global Poverty (2017) (Recommendation 15)

Structure of the methodology



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Data sources

- Expenditure surveys from 18 countries
 - Either “Income or Expenditure” or “Living Conditions” surveys
 - Latest available until 2015
- Food composition tables
 - Single table, based on:
 - USDA Nutrient Database for Standard Reference
 - Table of food composition of Central America (INCAP / PAHO, 2007)
 - Selected products from national tables
 - Edible portion & Kilocalories and nutrients (per 100 net grams)
- Energy & nutritional requirements
 - Estimation based on FAO/WHO (2004)

	2004-2006	2007-2009	2010-2012	2013-2015
IES	Colombia Dominican Republic El Salvador Uruguay	Brazil Panama Venezuela	Argentina Chile Mexico Costa Rica	
LCS	Honduras		Paraguay	Bolivia Ecuador Guatemala Nicaragua Peru

Reference population

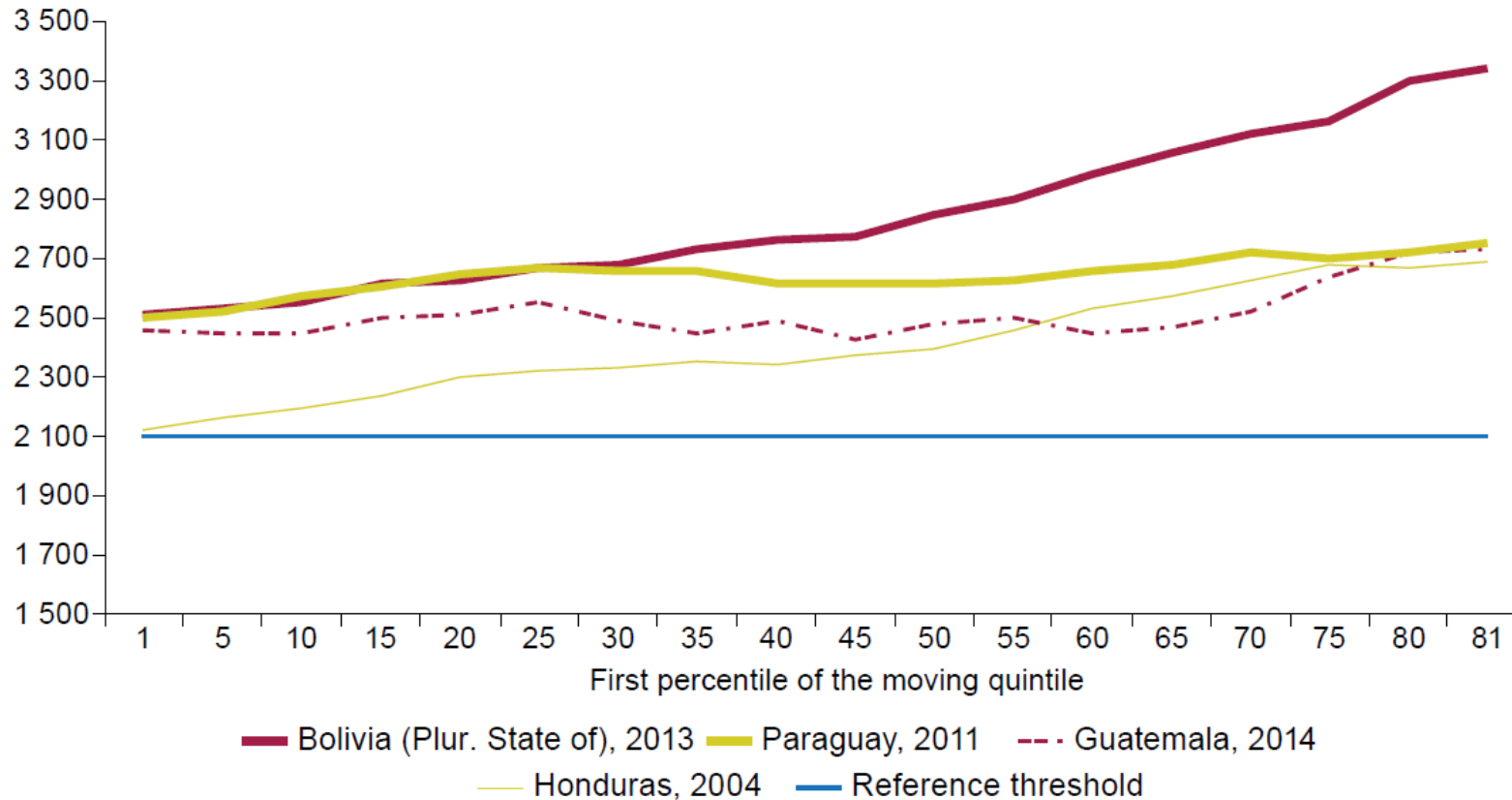
- The reference population provides the information for:
 - Structure and prices for the food basket
 - Structure of food / non-food consumption
- It should be a group whose consumption habits are appropriate to represent a standard of “sufficiency”.
 - We look for an intermediate point between a situation of need and a situation of abundance
- How to identify a group with an appropriate standard of living?
- Option 1: Use an exogenous indicator of sufficiency
 - Selection by “apparent caloric intake”
- Option 2: Determine the sufficiency endogenously
 - Convergence between the reference population and the poverty rate
- **But both of them are affected by “caloric intake”, which is not measured in a comparable manner.**



Reference population: inadequacy of traditional methods

Calorie intake, by per capita income moving quintile, urban areas

A. Countries with a per capita GDP of under US\$ 2,500
(Constant 2012 dollars)

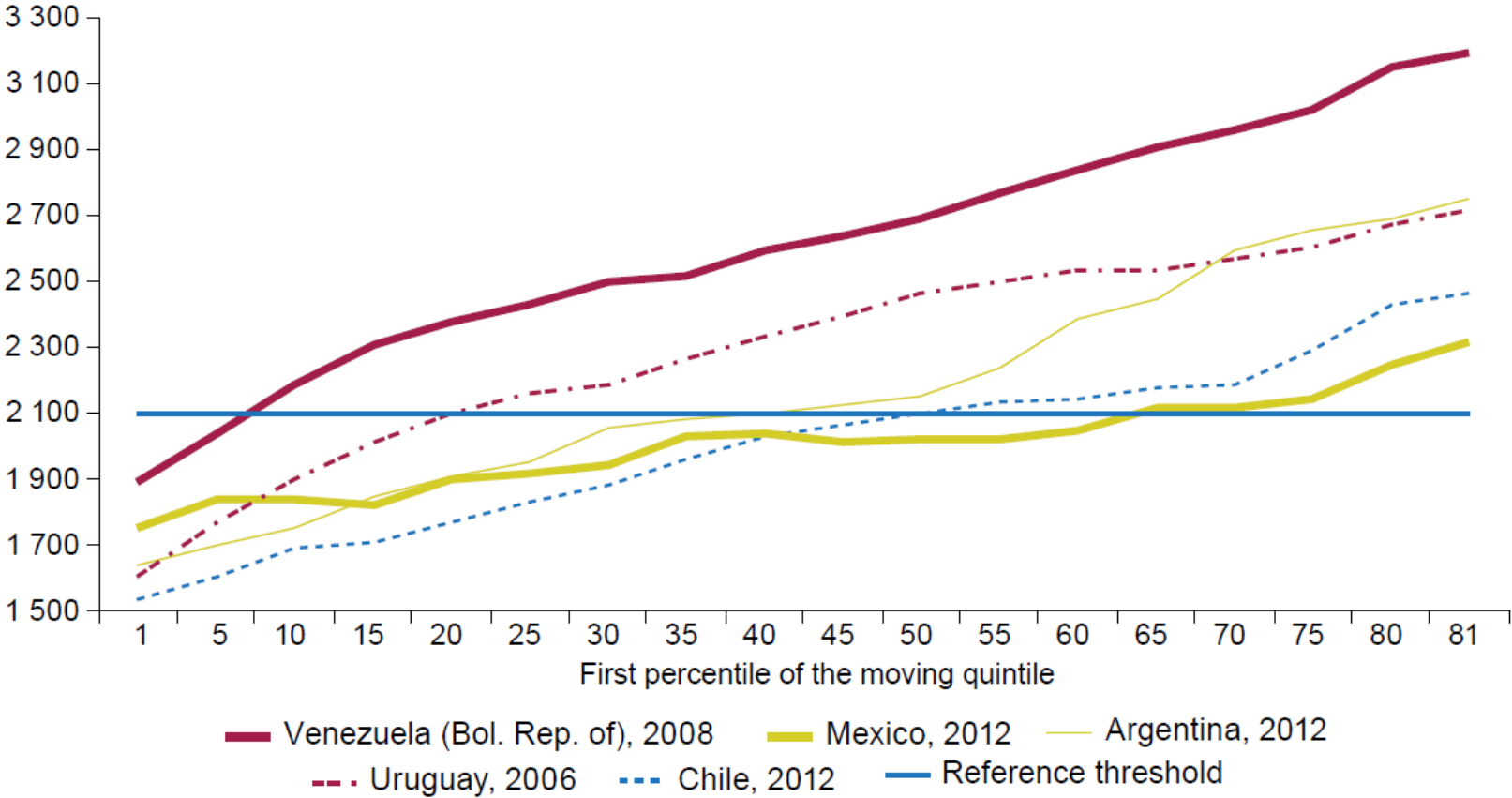


Source: ECLAC (2019), Income poverty measurement. Updated methodology and results.

<https://www.cepal.org/es/publicaciones/44314-medicion-la-pobreza-ingresos-actualizacion-metodologica-resultados>

Reference population: inadequacy of traditional methods

B. Countries with a per capita GDP of over US\$ 6,000
(Constant 2012 dollars)



Source: ECLAC (2019), Income poverty measurement. Updated methodology and results.
<https://www.cepal.org/es/publicaciones/44314-medicion-la-pobreza-ingresos-actualizacion-metodologica-resultados>

Reference population: inadequacy of traditional methods

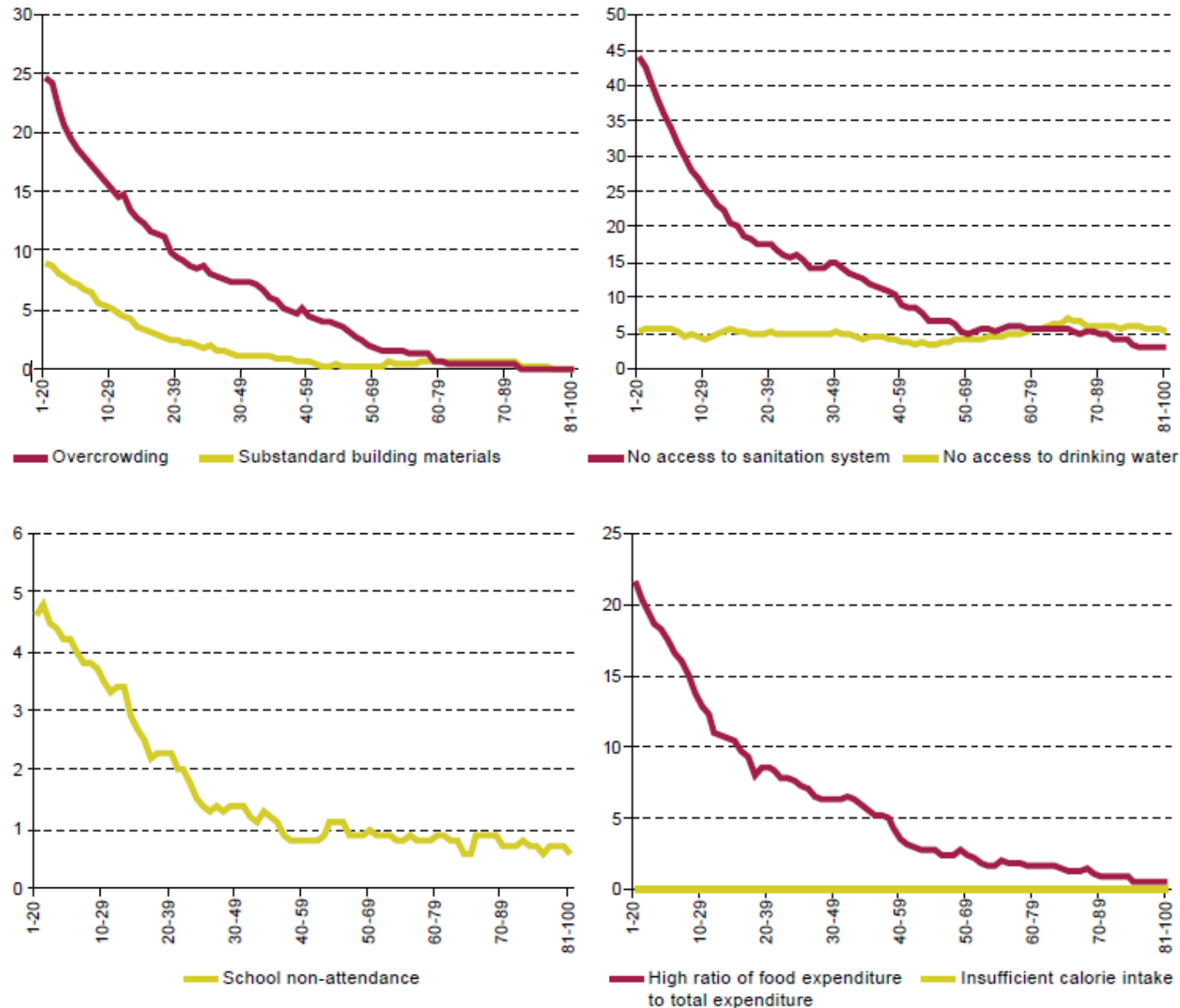
- The “iterative method” is also sensible to the caloric intake measured by the survey.
- Given that:
 - $E_i = Kcal_i * Cost_per_Kcal_i + NFE_i$
 - $PL = Kcal_Req * Cost_per_Kcal_i + NFE_i$

(E = Expenditure; Kcal = Caloric intake; NFE = non-food expenditure; PL = poverty line)
- For simplicity, convergence is defined as $E_i = PL$.
 - Thus, it requires that $Kcal_i = Kcal_Req$

Proposed solution: reference population based on multiple deprivations

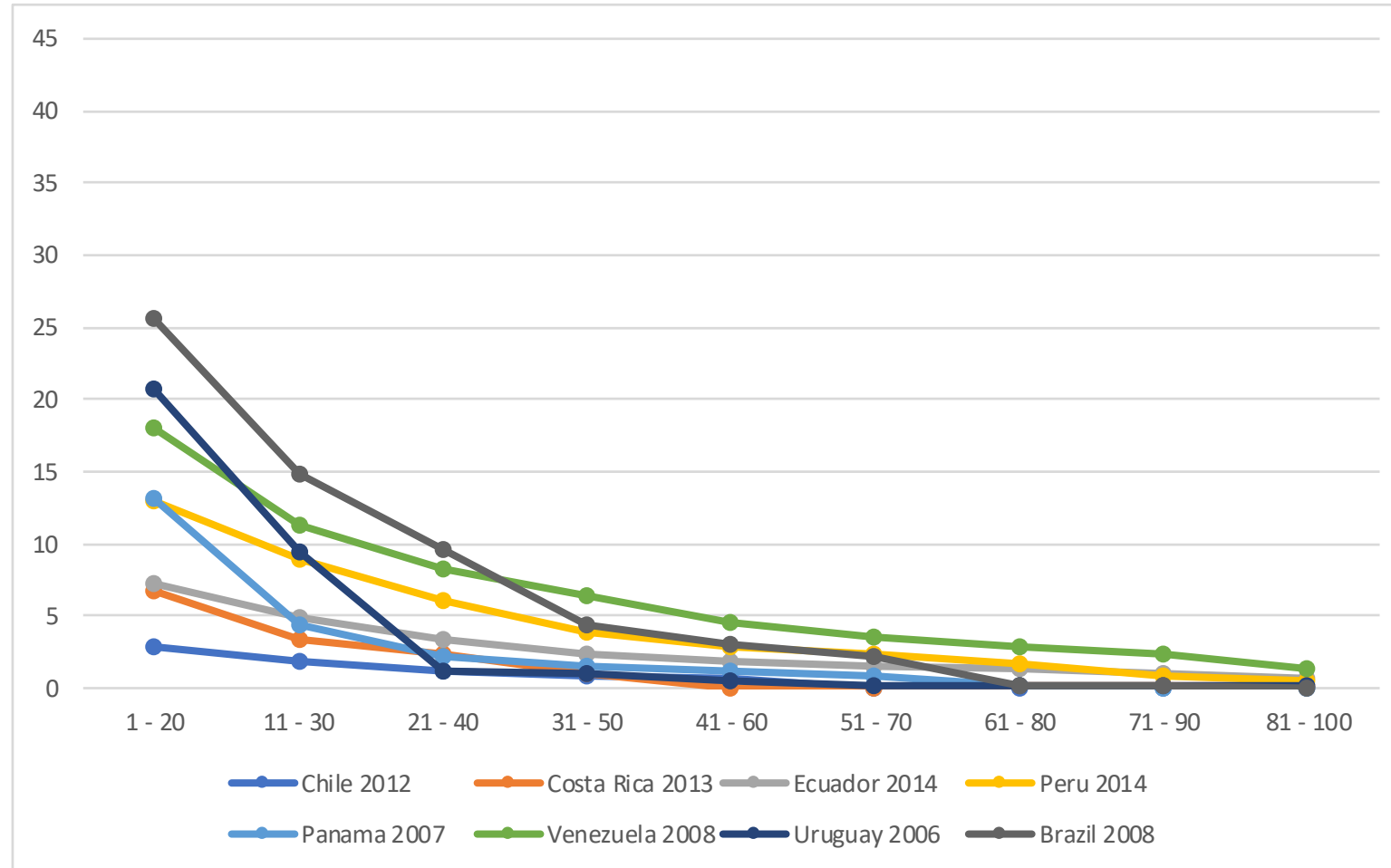
- Find a group of households, sorted by income, that adequately meets a set of needs (not just food)
 - Households in groups of 20 centiles (“mobile quintile”) of per capita income
 - Selected group is the first to achieve 10% or less of households with 2 simultaneous deprivations
 - One group selected at national level. Subnational groups can be extracted to estimate disaggregated poverty lines (urban-rural, etc.)
- "Sufficiency" criteria: households that satisfy a set of deficiencies (common in the NBI method):
 - Food
 - Education
 - Basic services
 - Housing
- “Concordance” criterion: the reference population must have an average expenditure that is not less than the poverty line obtained (iterative process).

Example: critical deprivations, by moving quintile (Percentage of households)



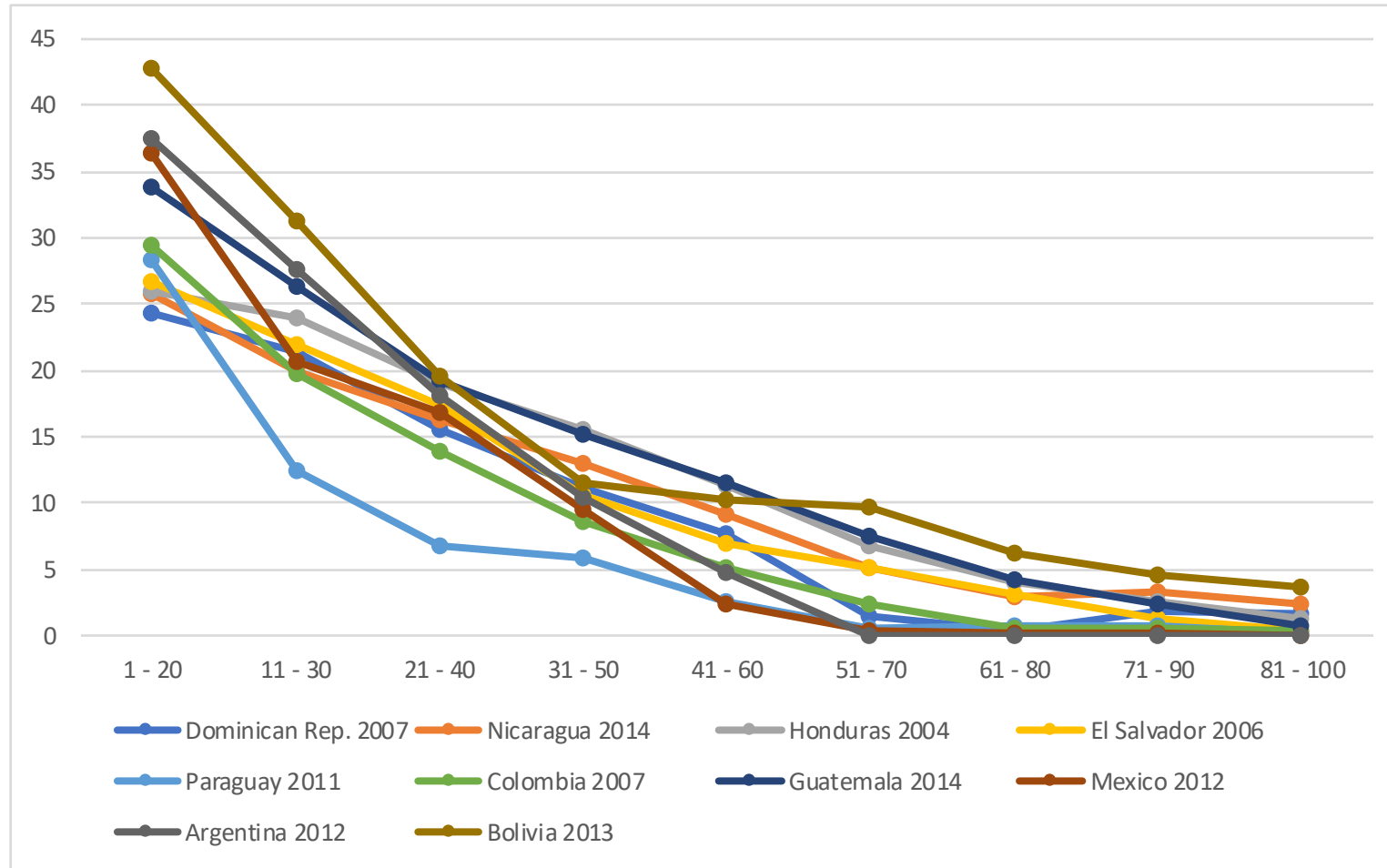
Source: ECLAC (2019), Income poverty measurement. Updated methodology and results.

Latin America (10 countries): households with 2 or more critical deprivations, by moving income quintile (Percentages)



Source: : ECLAC (2019), Income poverty measurement. Updated methodology and results.

Latin America (10 countries): households with 2 or more critical deprivations, by moving income quintile (Percentages)

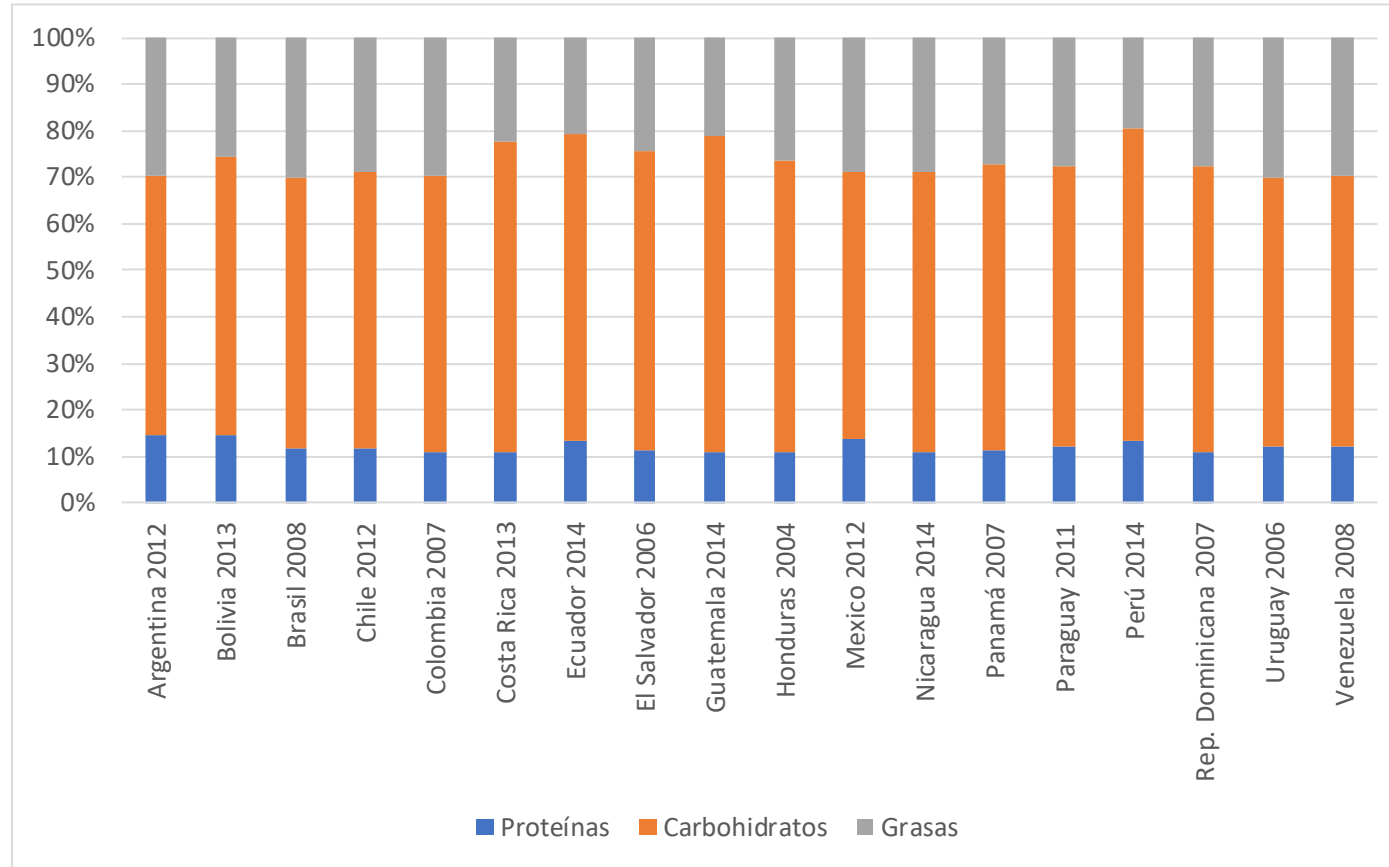


Source: ECLAC (2019), Income poverty measurement. Updated methodology and results.

Basic Food Basket

- The BFB provides a monetary reference on the cost of satisfying food needs
- Based on the spending patterns of the reference population
 - Most representative products of the population's consumption.
 - Items acquired by at least x% of households (x% selected to attain a 60 product basket)
 - Items valued at median prices
- Basket should be compatible with an “adequate” diet, as otherwise it would be underestimated
 - An adjustment is made to comply with recommended macronutrient structure.
 - Increasing or decreasing the relevant food groups in the same proportion.
 - (For example, increase the groups "legumes", "meats, poultry, fish and eggs" and "dairy" to increase protein).
 - No adjustments made for micronutrients, as they are largely discretionary.
 - For most nutritional outcomes, the resulting BFBs allow purchasing a healthier basket.
 - Substitution of nutritionally inefficient items, which are not necessarily cheaper (e.g. out-of-household foods).

Latin America (18 countries): macronutrient structure of basic food baskets



World Health Organization population nutritional targets, 2003

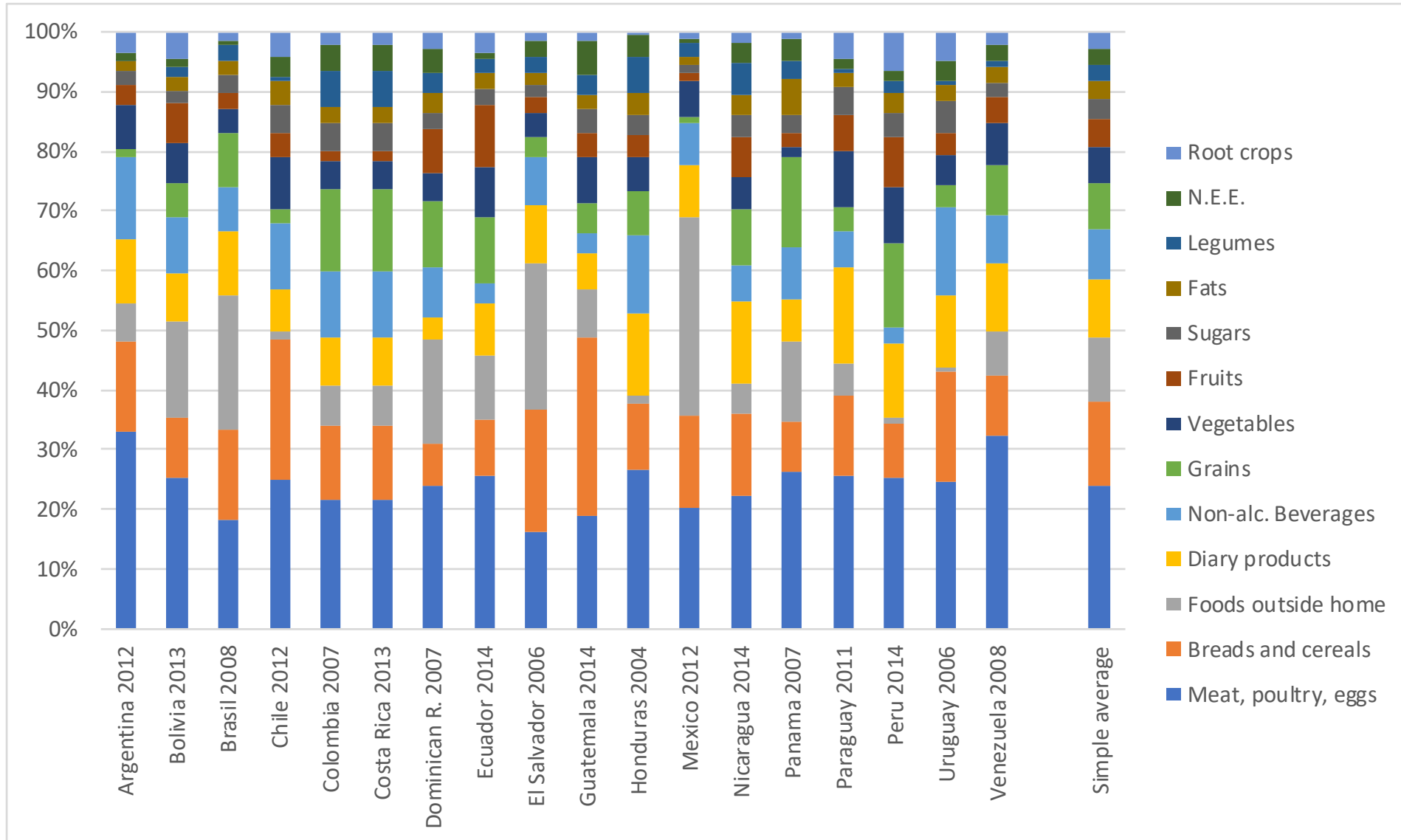
(Percentages of total energy)

Dietary energy source	Nutritional Intake goal
Total fats	15-30
Total carbohydrates	55-75
Proteins	10-15

Source: World Health Organization (WHO), "Diet, nutrition and the prevention of chronic diseases", *Technical Report Series*, No. 916, Geneva, 2003.

Latin America (18 countries): cost structure of basic food baskets (urban areas)

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Source: ECLAC (2019), Income poverty measurement. Updated methodology and results.



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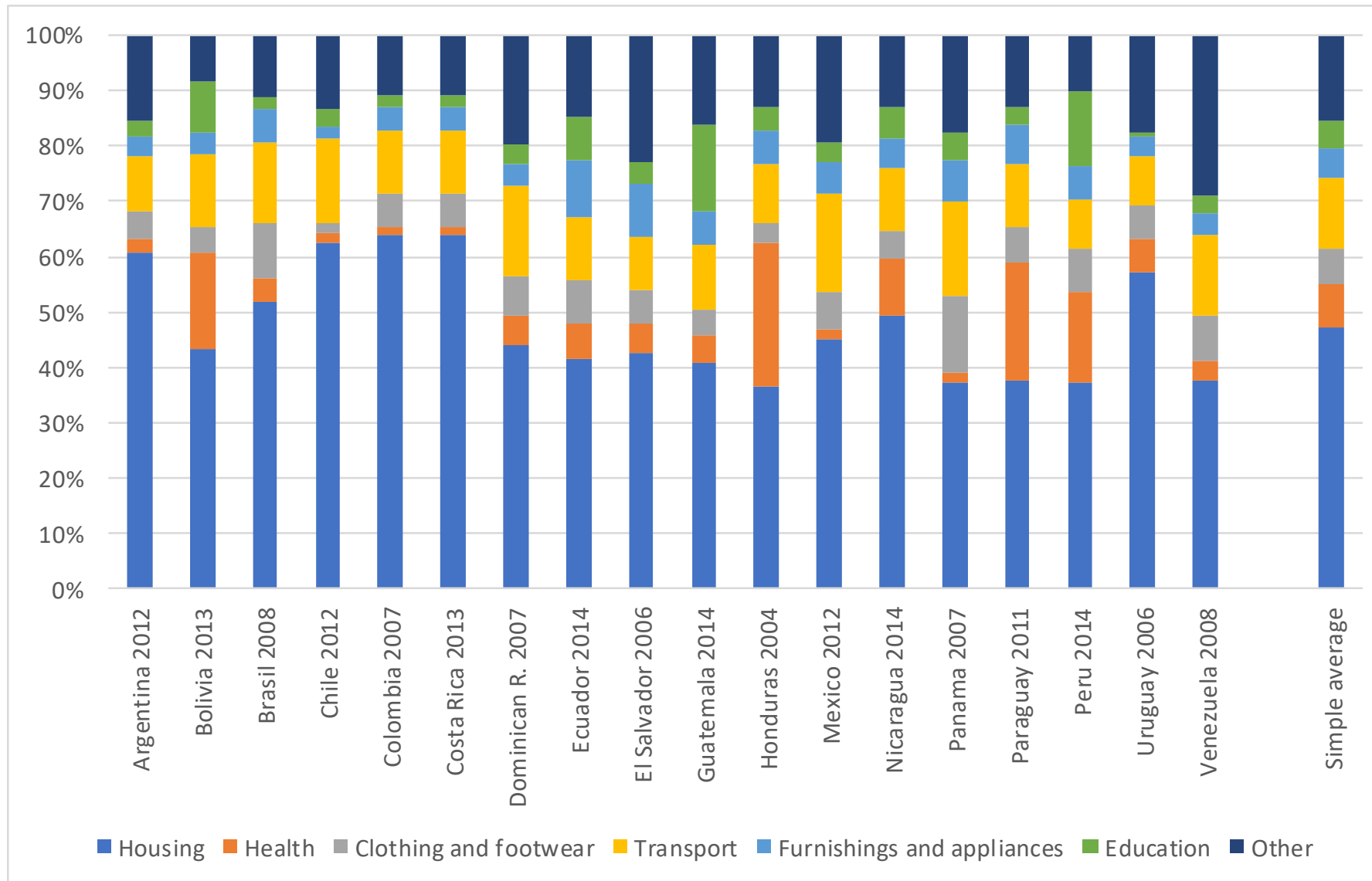
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Non-food component

- As with the BFB, it is desirable to include the most representative products and exclude those not consistent with the notion of a “basic” basket.
- Product selection based on percentage of households that purchase the item.
 - General threshold of at least 10% of households.
 - Some categories were included completely:
 - Primary and secondary education
 - Public transport
 - Housing rental
 - Basic housing services
- The non-food component is expressed by the "Orshansky coefficient" (total expenditure / food expenditure).

Latin America (18 countries): cost structure of non-food component (urban areas)

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Source: ECLAC (2019), Income poverty measurement. Updated methodology and results.



6 Poverty line

- Extreme Poverty Line = Caloric requirement x Cost-per-calorie
- Poverty Line = EPL x Orshansky coefficient

- Updating over time:
 - EPL by changes in Consumer Price Index for food
 - Non food component by Consumer Price Index for non-food goods and services

7 Income

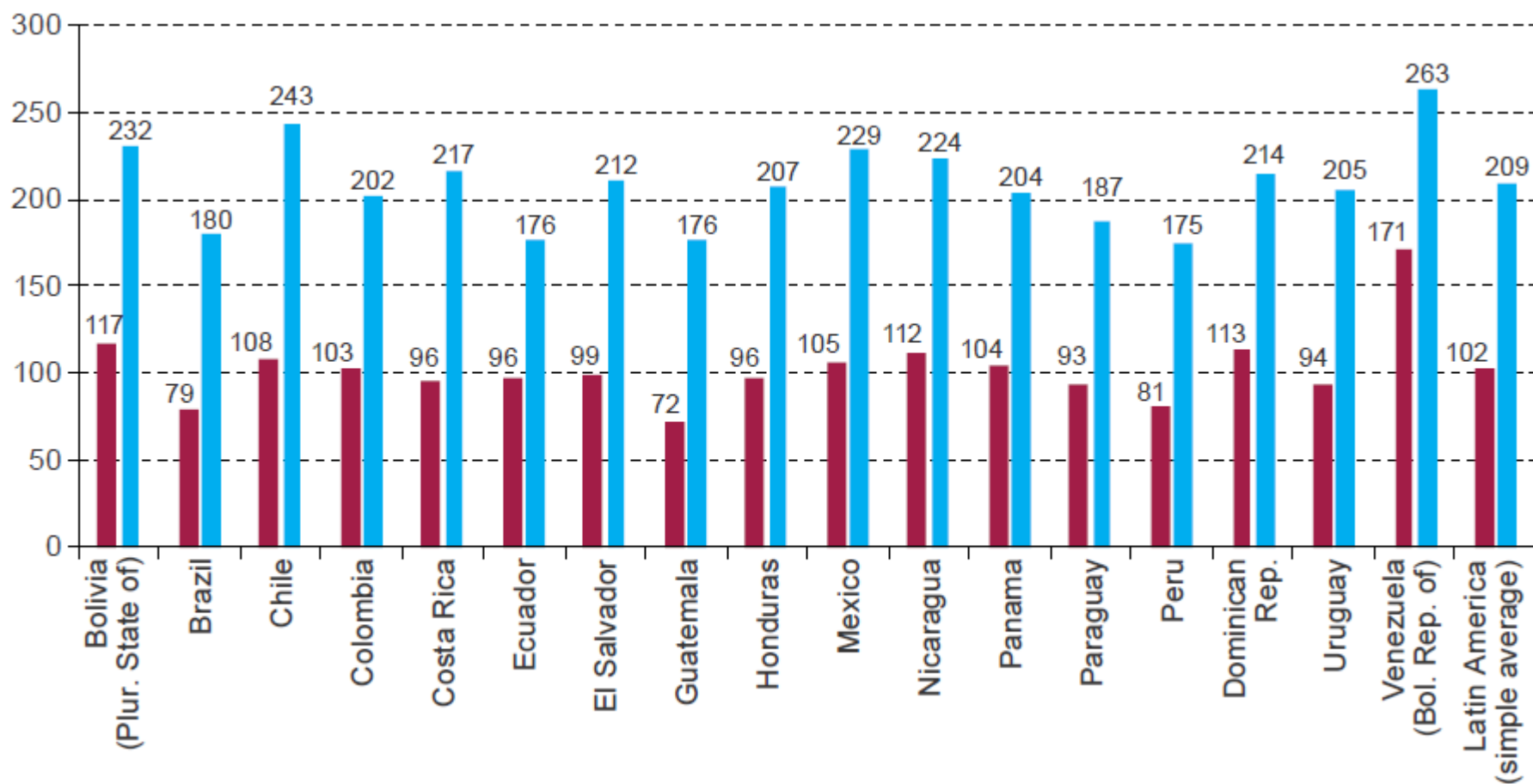
- ECLAC household surveys databank covers 1990 to 2018, but updated poverty series estimated only from 2000 onwards.
- Income definition
 - Corresponds mainly to “total income”, but in some countries wages and salaries are reported net of taxes (closer to “disposable income”)
 - Review of income components according to international recommendations (Canberra Group)
 - Includes imputed rent for home-owners, but truncated (max. value equal to total monetary income of household)
- Imputation for income missing values
 - Hot-deck for income from work and pensions (if not already corrected in official survey databases)

7 Income

- The “adjustment to National Accounts” procedure applied by ECLAC in its previous series is discontinued.
- Surveys underestimate income, but discrepancy with National Accounts cannot be attributed entirely to limitations of the survey.
 - “Household account” of NA available in less than half of LA countries.
 - Size of discrepancy is not explained by quality of the survey.
 - In some cases variation of NA income has been considered less reliable than the survey (for example Chile experience).
- Distribution of underestimation requires additional information
 - Underestimation comes also from lack of respondents, not only values declared.
 - Greater consensus towards “adjusting” only top incomes, based on tax records.
 - (Implies underreporting is less relevant for poverty measurement).

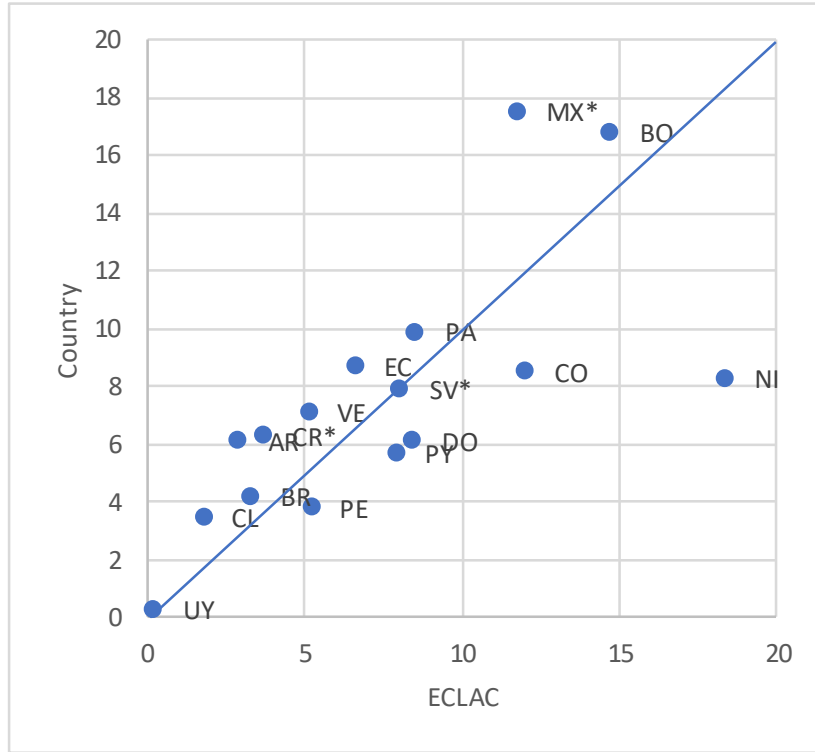
Some results

Latin America (17 countries): extreme poverty and poverty lines around 2016^a
(Purchasing power parity dollars per person per month)

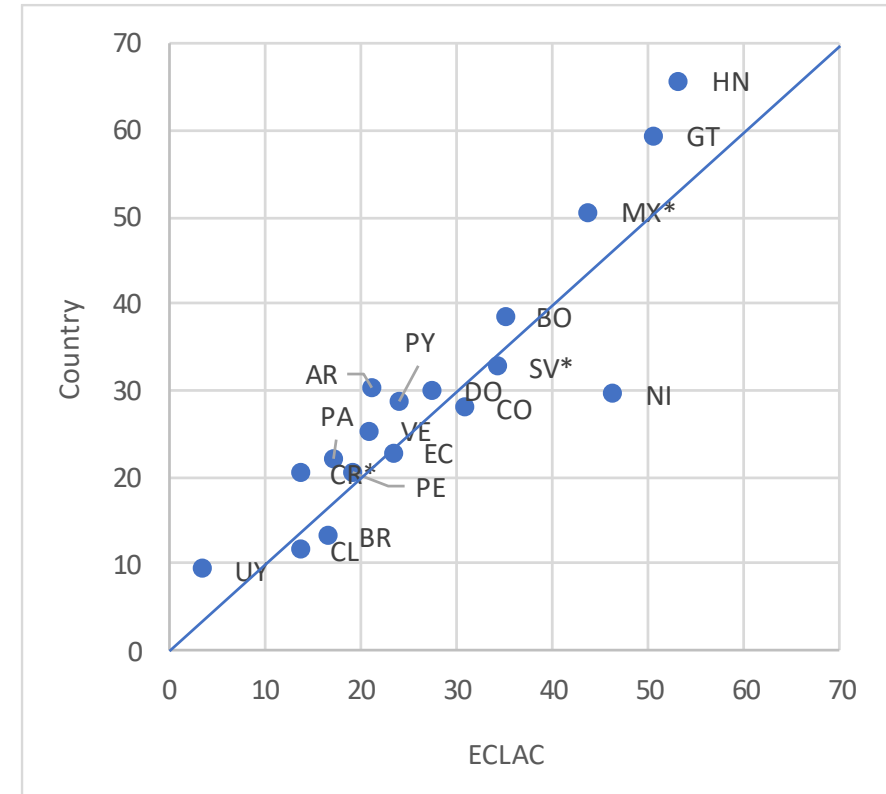


Latin America (18 countries): Extreme poverty and poverty rates, ECLAC estimations and national official figures

Extreme poverty



Poverty



* Official poverty figures correspond to households, not individuals

Final comments

- The proposed methodology achieves comparable needs-based poverty lines ...
- ... but comparability of data sources can still be largely improved:
 - Measurement of food expenditure
 - More evidence is needed on the differences between instruments, especially recall vs diary.
 - Measurement of out-of-household food expenditure should be prioritized.
 - Measurement of income
 - Household surveys underestimate income, but National Accounts do not necessarily provide a reliable reference.
 - More information is needed on the inputs and assumptions involved in the estimation of the “household account” from NA.
 - Household surveys in LA would highly benefit from more comprehensive quality assurance processes.