

A Multidimensional Poverty Index for Latin America



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THE REGIONAL PICTURE

**National Measures and their
main characteristics**

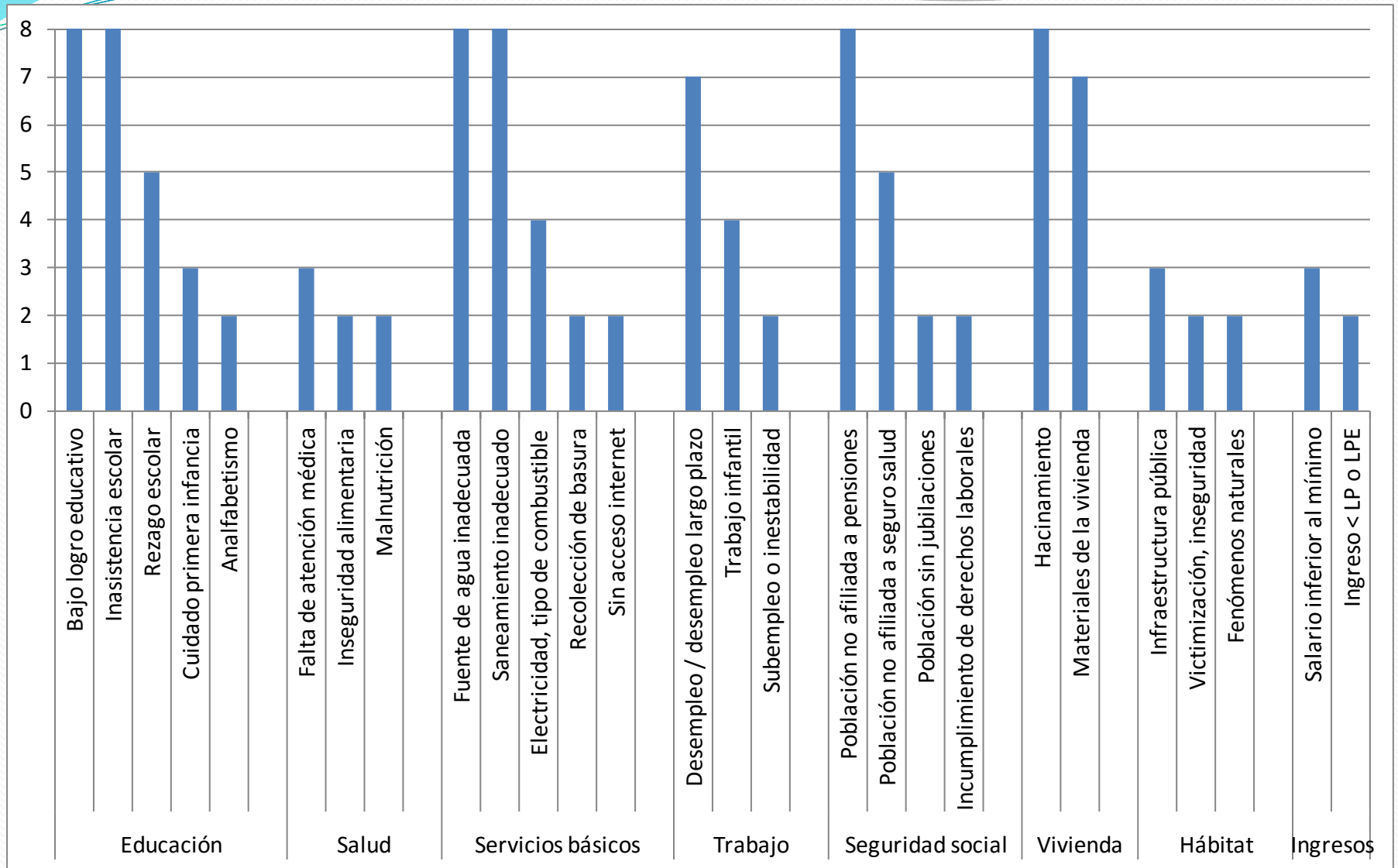
Number of dimensions and indicators in national measures

	México	Colombia	Costa Rica	El Salvador	Chile	Ecuador	Honduras	Panamá
Number of dimensions	6	5	5	5	5	4	4	6
Number of indicators	(8) Composite indicators	15	20	20	15	12	15	18
Indicators by dimensión	(1 a 2)	2 a 5	4	4	3	2 a 4	3 a 6	3

Multidimensional thresholds used in national measures

	Colombia	Costa Rica	El Salvador	Chile	Ecuador	Honduras
Weighted porcentaje of deprivations (k)	33.3%	20%	35%	22.5%	33.3%	25%
Number of deprivations	5 or more	4 or more	7 or more	3 or more	4 or more	3 or more
	More than 1 dimension	Aprox 1 dimension	More than 1 dimension	Aprox 1 dimension	Aprox 1 dimension	Aprox 1 dimension

Deprivation indicators used in national measures ^a (number of countries)



^a Análisis en base a índices multidimensionales de pobreza de 8 países: Chile, Colombia, Costa Rica, Ecuador, El Salvador, Honduras, México, Panamá. Considera solo indicadores usados por al menos 2 países.

Multidimensional poverty and data: the challenge of reducing heterogeneity

- 1) National measures of multidimensional poverty in the region are very important for national policies.
- At the same time they are heterogeneous in its construction and for that not comparable.
- Part of this heterogeneity is reduced by constructing a regional MPI by applying a common methodology and structure to data from different countries. This is what ECLAC presented in its Social Panorama of Latin America 2014, issued in 2015. ECLAC is working on a refined version of the regional MPI.
- 2) Another part of the heterogeneity comes from divergences in the sources of information. There are different ways of asking about similar topics and not all surveys include relevant information for certain welfare dimensions.

The MPI-LA: main characteristics

- The index draws on the regional tradition and the recent developments in the field of poverty measurement
- Builds upon indicators based on the “Unmet Basic Needs” method
- **Considers monetary and non-monetary indicators, so as to minimize errors of inclusion and exclusion in identifying the poor**
- Includes deprivations in terms of employment, social protection and schooling gap, thus widening the set of dimensions commonly used
- Includes new deprivation cut-offs that reflect better the current regional reality

A “pragmatic” approach

- The index borrows from three frameworks, using them as complementary: **the basic needs approach, the capability approach, and the rights approach.**
- Household surveys typically collect information on *deprivations*, which can be used for measuring needs, rights or functionings.
- Direct measurement of functionings is not common in the surveys of the region.
- Even when functionings can be considered of intrinsic value, not all of them can be translated into rights which can be legally enforced.

The first building block

- A set of core deprivation indicators typically included in the UBN method in the region.
- All of them are well-established indicators of poverty in the Latin American context as well as globally, as they are MDG indicators (or related to them)
- They are widely available in household surveys across Latin American countries.

Including income

- There is abundant empirical evidence regarding the mismatches between monetary and non-monetary measures in identifying the poor
- There are risks of exclusion and inclusion errors if monetary and non-monetary measures are used separately
- Two arguments frequently offered to justify the practice of keeping the monetary and non-monetary measures separate
 - Each of these measures captures different aspects of poverty.
 - Income can be used to satisfy a variety of needs, including those considered in the non-monetary indicators.

Different aspects of poverty

- Of the typical non-monetary deprivations in the UBN measure, in most countries, only water and sanitation are provided by the state, and these services are not free.
- Electricity, gas, education and housing are primarily provided through markets.
- Even when UBN might reflect a more *structural* poverty while income might reflect a more *transient* poverty, such a distinction is a characterization rather than a difference in the state of being poor.
- The results of a factor analysis do not suggest such a differentiation into types of poverty reflected by monetary and non-monetary indicators.

Redundancy risks?

- **Redundancy occurs when the level and trend of two indicators match, for example because they are equivalently affected by the same policy instrument.**
- **But the fact that two deprivations tend to occur simultaneously in one period does not necessarily indicate redundancy.**
- Accounting for the joint distribution of deprivations is at the core of multidimensional poverty measurement.
- Not always two indicators appear to be redundant should one be dropped; normative reasons as well as the information they can provide for public policy can be good reasons to keep both.
- Empirical analysis does not suggest as high co-occurrence between monetary and non-monetary deprivations as many would think *a priori*.

Advantages of Including Income

- Empirically, the income deprivation is a strong indicator of poverty in the region
- But it is clearly insufficient as a standalone measure.
- Income can act as a surrogate for some missing dimensions, even if imperfectly (nutrition, health)
- Income can complement the information provided in the included non-monetary indicators, especially when such indicators are limited or likely to have measurement error
- Combining monetary and non-monetary indicators can exploit the properties of the AF methodology better than a contingency table

New deprivations

- We included three deprivation indicators that complement the usual UBN indicators: insecure housing tenure, energy deprivation and deprivation of durable goods
- We incorporated indicators that aim to reflect precarious linkages with institutions.
- This implies broadening the criteria of poverty identification, introducing a somehow greater level of relativity.
- We included:
 - An indicator of deprivation in employment based on its intrinsic importance and its implications for social integration
 - Access to social protection, which is a fundamental human right and part of ILO's decent work agenda
 - An indicator of schooling gap. Although imperfect, the schooling gap indicator offers a proxy for the quality of education children receive

MPI-LA Structure

- The MPI -LA has the structure of one of the measures of the AF multidimensional poverty measures (2011), the M_0 measure, or the adjusted headcount ratio:

$$\text{MPI} = M_0 = H \times A$$

- **H = unadjusted headcount ratio.** It shows the incidence of multidimensional poverty.
- **A = the average (weighted) deprivations among the poor.** It shows the poverty intensity.

MPI – LA: dimensions, indicators, weights

Dimension	Type of deprivation	W
Dwelling	Inadequate housing materials Overcrowding Insecure housing tenure	22,2%
Basic services	Lack of access to improved water source Lack of improved sanitation Source of energy	22,2%
Education	Non-attendance Schooling gap Low attainment	22,2%
Living standard	Insufficient income Lack of durable goods	22,2%
Employment and social protection	Unemployment Lack of social protection	11,1%

DEPRIVATION INDICATORS		W
DWELLING		22,2%
Housing materials	Households with dirt floor or precarious roof or wall materials (waste, cardboard, tin, cane, palm, straw, other materials).	7,4%
Crowding	Three or more people per room	7,4%
Insecure housing tenure	Households: (i) living as squatters; or (ii) living in ceded or borrowed housing.	7,4%
BASIC SERVICES		22,2%
Water source	<ul style="list-style-type: none"> -Main network off the premises (only in urban areas) -Unprotected wells or lacking a motor pump -Mobile sources (village tank, tank cart, tanker truck, etc.) - Bottled water - River, stream, rainwater, other 	7,4%
Sanitation	<ul style="list-style-type: none"> -Waste not connected to a sewer system or septic tank (urban areas) -Shared toilet -No sanitation -Waste going untreated to ground surface, river or sea. 	7,4%
Energy	Households without electricity or using firewood, coal or waste for cooking.	7,4%
EDUCATION		22,2%
Non-attendance	Household has at least one child of school age (6 to 17 years old) who does not attend school.	7,4%
Education lag	Household has at least one child or adolescent aged 6 to 17 who is more than two years behind schooling grade for age.	7,4%
Non-attainment	Household has nobody aged 20 or above with a minimum level of schooling. <ul style="list-style-type: none"> - Persons aged 20 to 59: have not completed lower secondary education. - Persons aged 60 and above: have not completed primary education. 	7,4%

	DEPRIVATION INDICATORS	W
LIVING STANDARD		22,2%
Insufficient resources	Households with insufficient per capita income to meet food and non-food needs.	14,8%
Lack of durable goods	Households that have none of the following goods: (i) vehicle; (ii) refrigerator; (iii) washing machine.	7,4%
EMPLOYMENT AND SOCIAL PROTECTION		11,1%
Unemployment	Household has at least one person aged 15 to 65 in one of the following situations: <ul style="list-style-type: none"> - Unemployed - Employed without pay - Discouraged worker 	7,4%
Social protection	Household has at least one of the following situations: <ul style="list-style-type: none"> - No member has some sort of contributory health insurance - No member is affiliated to a contributory social security system and No member has income from pensions or retirement 	3,7%

MPI-LA: weights and K

- Weights
 - Equal weights (7.4%), excluding social security (3.7%) and income (14.8%).
 - Deprivation of social protection → less associated with the traditional concept of poverty.
 - Income → income is itself a synthetic indicator of welfare.
- Multidimensional threshold $k = 25\%$.
 - Poor = deprivation in a complete dimension plus an indicator from other dimension; or deprivation in income and at least two additional deprivations.
 - No person who is deprived in only one dimension is identified as multidimensionally poor.

Robustness of MPI-LA

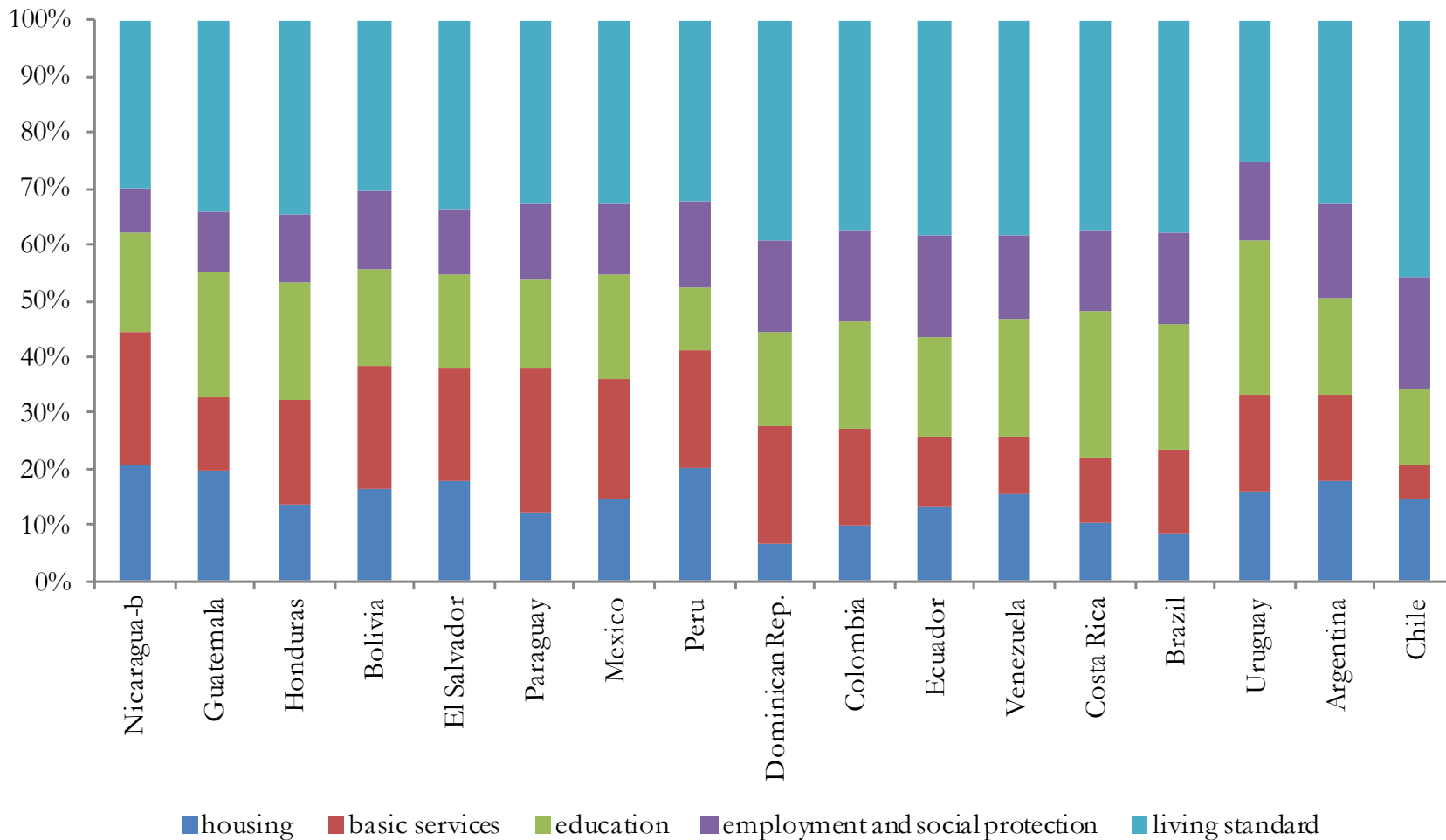
- When deciding on an index, it is fundamental to have a sense of its robustness to changes in its parameters, especially if the index will constitute an instrument for informing public policy
- We estimated a total of 58 alternative specifications of the MPI-LA, varying one parameter at a time as well as several at the same time. All of them were estimated for the full range of k poverty cutoff

Robustness of MPI-LA

% of robust pairwise comparisons

CHANGES IN...	K between 10% - 70%	K between 20%-40%
The poverty cutoff only	93	98
-The way indicators were grouped into dimensions -Combining certain indicators and -Weighting structures Just for observations without missing values	81	88
-The way indicators were grouped into dimensions -Combining certain indicators and -Weighting structures All observations included	85	91

Contribution of each dimension to overall poverty, around 2012



Source: Santos et al (2014), "A Multidimensional Poverty Index for Latin America"

Some results

- Deprivations suffered by the poor vary from country to country in respect of intensity and the forms they take.
- Income insufficiency is important, but it is not the only hardship that the poor suffer.
 - **Income deprivation has the highest contribution, and it is higher in countries with low poverty rates.**
 - **Contribution of precarious housing, lack of energy and of durable goods is higher in high-poverty countries.**
- Multidimensional poverty yields similar headcount ratios to income poverty in most countries, but both methods do not necessarily identify the same population as poor.

Multidimensional poverty and data: challenges and the way forward

- Current information is insufficient in some ways and lacks comparability.
 - Education: Indicators of access but not quality or competency in adults.
 - Housing: variables and categories in many cases are not clearly linked to deprivations.
 - Health: not measured in most regular surveys of the region.
- **Current context (SDGs and Data Revolution) offers an opportunity to improve household surveys.**
 - **Moving towards the harmonization of certain basic dimensions.**
 - **More comprehensive (within the constraints of sample size and representativeness).**
 - **Taking advantage of existing survey programs, in the context of stronger and better coordinated National Statistical Systems**



Thank you very much!