Multidimensional poverty measure in Chile
A new approach for public policy
1. Background

2. Former multidimensional poverty measure in Chile, Casen 2013: Results 2009-2015

3. Missing dimensions in poverty measurement: Including environment, networks and social cohesion

4. Extended multidimensional poverty measure, Casen 2015: results 2015

5. 2030 Agenda for Sustainable Development: challenges on poverty and inequality
1. BACKGROUND

- Considering the existing consensus that a new method to measure poverty was needed, under the government of President Michelle Bachelet, a new way to analyzing and understanding poverty has been developed and implemented, based on the contributions of different stakeholders:
  
- Report of the Poverty Measurement Committee (PMC), created by the previous government (January 2014).
- Recommendations of an Interinstitutional Technical Group (Ministry of Social Development and the National Statistics Office), that analyzed in detail previous PMC proposals.
- The experts advisory provided by ECLAC, international organism that has supported Chilean government performing income poverty measurement for decades.
- The technical advisory Oxford Poverty and Human Development Initiative (OPHI), leading organism in multidimensional poverty measurement.
- The contributions of an Experts Advisory Committee for Casen 2013, created in August 2013, ratified by current government.

- As a result, in December 2014, the Chilean government launched a new official methodology for measuring poverty, which incorporated two main changes:
  - Review and updating of the income poverty measure;
  - Introduction of a multidimensional poverty measure, based on the methodology proposed by Alkire and Foster (2007).
1. BACKGROUND

• The multidimensional poverty measure considered four dimensions: Education, Health, Labor and Social Security, and Housing. The estimation was based on Casen data, main survey of households in the country.

• The delivery of the first results in January 2015, opening new perspectives and contributing to the improvement of the diagnosis and evaluation of social policy.

• Nevertheless, the Ministry of Social Development pledged to improve the original measure, by evaluating new indicators on environment and social networks.

• To this end, in April 2015, the Ministry called an advisory committee made up of academics and representatives of civil society organizations. This committee presented proposals and recommendations which resulted in new questions that were evaluated and incorporated into Casen 2015 questionnaire.

• Information from these questions was then used in the construction of indicators and dimensions that were incorporated into the extended multidimensional poverty measure, which was publicly presented in August 2016.

• In September 2006, Casen 2015 multidimensional poverty estimates were published including Environment, Networks and Social Cohesion.
2. Former multidimensional poverty measure, CASEN 2013

Dimensions and indicators

- Education (25%)
  - School attendance
  - Educational lag
  - Schooling

- Health (25%)
  - Childhood Malnutrition
  - Health insurance
  - Health care coverage

- Labor and social security (25%)
  - Employment
  - Social security coverage
  - Retirement coverage

- Housing (25%)
  - Overcrowding
  - Housing condition
  - Basic services

Former Multidimensional Poverty Measure, Casen 2013

- 4 dimensions and 12 indicators
- Same weight for all dimensions (25%) and same weight for all indicators in each dimension (8.33%).
- Poverty cut-off: 25 percent or more deprivations (equal to a whole dimension’s weight).
3. Missing dimensions on poverty measurement

- Poverty measurement methods often omit essential variables to describe and understand the experience of households and people in poverty, due to the lack of systematic measurement of those variables in official statistics (Alkire, 2007).

- Discussion on "missing dimensions" poses the challenge to design and validate indicators to extend the scope of areas covered by the multidimensional measurement of poverty.

- Civil society, academia and policy-makers have highlighted the role of immediate environment and social networks as two key aspects that should be considered as part of a multidimensional poverty measure.
Why environment should be taken into account?

• Principles of the right to adequate housing (Habitat II, 1996), specifically of adequate location: a housing is not adequate if it "does not offer access to employment opportunities, health services, schools, kindergartens and other social services and facilities, or if it’s located in polluted or dangerous areas"

• Challenges of the 2030 agenda of the UN and, in particular, Objective No. 11: “Make cities inclusive, safe, resilient and sustainable”, which sets a variety of goals, including:
  • Ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.
  • Provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
  • Enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.
**Networks and social cohesion**

Why networks and social cohesion should be taken into account?

- OPHI (2012) has identified the concept of "social isolation" as a key aspect to consider in the context of the missing dimensions of poverty (OPHI, 2012).

- Social isolation refers to deficiencies in the quality and quantity of social relations at different levels of human interaction (at individual, community and society levels) and, therefore, considers a domain of external social isolation (type and frequency of significant social ties) and internal (satisfaction with ties and the sense of belonging and trust) (Zavaleta, Samuel & Mills, 2014).

- According to the points made by an Advisory Committee to the Ministry (2016), "(...) the evidence indicates that social networks in disadvantaged groups, are most useful when they are referred to links outside their immediate social circles. Additionally, it has been established that a society is much more cohesive when it has many different networks".
4. Extended multidimensional poverty measure, including environment, networks and social cohesion

Dimensions and indicators

- **Education (22.5%)**
  - School attendance
  - Educational lag
  - Schooling

- **Health (22.5%)**
  - Childhood Malnutrition
  - Health insurance
  - Access to health care

- **Labor and social security (22.5%)**
  - Employment
  - Social security coverage
  - Retirement coverage

- **Housing and environment (22.5%)**
  - Habitability
  - Basic services
  - Environment

- **Networks and social cohesion (10%)**
  - Social support and participation
  - Equal treatment
  - Safety

*Habitability* indicator: includes both housing condition and overcrowding deprivations.

**Multidimensional Poverty Measure, including Environment, Networks and Social Cohesion**

- Housing dimension has been extended to a Housing and environment dimension.
- A new dimension called Networks and Social Cohesion has been added.
- Weights are equal for former dimensions (22.5%) and smaller for the new dimension (10%).
- Equal weights for all indicators in a given dimension prevail: 3.3% for Networks and Social Cohesion indicators, and 7.5% for all others.
- Multidimensional poverty cut-off: 22.5% or more deprivations (equal to a former dimension’s weight).
Environment

A household is considered as deprived if:

1. Air pollution / bad smell
2. Water pollution in rivers, channels, lakes or reservoirs
3. Irregular garbage disposal in streets, sidewalks or public spaces
4. Water pollution from public pipeline

2 or more environmental pollution situations that has been reported “always” in the last 12 months (in a 15 minutes walking radius from housing)
A household is deprived if:

- Excessive commuting time to the workplace in the case of employed population and lack of at least 1 basic equipment in household residence area.

**TIME OF TRANSPORT AND LACK OF BASIC EQUIPMENT**

(Households WITH employed members)

1. 1 hour or more to reach workplace

2. 2.5 km (1.5 mile) or more from a clinic or primary medical center

3. 2.5 km (1.5 mile) or more from schools or kindergarten

(And/Or) Lack of at least 1 basic equipment

(all households)

1. 1 km (0.6 miles) or more from a public transport station or bus stop

2. 2.5 km (1.5 mile) or more from a clinic or primary medical center

3. 2.5 km (1.5 mile) or more from schools or kindergarten
Social Support and Participation

A household is deprived if:

Lack of support networks and/or lack of participation in social or labor organizations of at least one household member

<table>
<thead>
<tr>
<th>SOCIAL ORGANIZATIONS</th>
<th>LABOR ORGANIZATIONS</th>
<th>SUPPORT NETWORK OF HOUSEHOLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>No member of 14 years or older has participated in the last 12 months in social organizations, including...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighborhood associations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sports and recreation associations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Church or religious organizations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Artistic or cultural groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnic or cultural identity groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Young people or students associations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women associations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elderly people organizations</td>
<td></td>
<td></td>
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<tr>
<td>Volunteer organizations</td>
<td></td>
<td></td>
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<tr>
<td>Health self-help</td>
<td></td>
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<tr>
<td>Ideological or political organizations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guild associations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents associations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No member of 14 years or more has been participating in the last 12 months in labor organizations, including...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unions (within a firm, between firms, occasional or independent workers)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public employees associations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrepreneurial or guild associations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional associations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No member does know a person who can help or support household members in case of need of...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borrowing a vehicle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Money</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal or financial issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using ICT’s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing improvements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finding a job</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counseling in case of trouble between family members</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Equal treatment

A households is deprived if:

At least 1 household member has been mistreated or discriminated in the last 12 months for one or more of the following reasons...

- **Socioeconomic level**
- Being male or female
- Civil or marital status
- His/her clothes
- Tone of skin
- Being a foreigner
- His/her age
- Sexual orientation
- Having tattoos, piercing, expansions
- Physical appearance
- Religion or beliefs
- Ideological or political opinion
- Being or not being a member of an union
- The place where he/she lives
- The school where he/she attended
- Belonging to an indigenous people
- His/her health condition or disability

*Ministerio de Desarrollo Social*
Safety

A households is deprived if:

- Drug trafficking in public spaces: Always in the last month in their neighborhood (within a radius of 15 minutes walking from housing).
- Shooting: Always in the last month in their neighborhood (within a radius of 15 minutes walking from housing).

Any of these situations has been reported as “always during last month”
1.1.1 Percentage of people under the international poverty line (1.9 USD ppp)

1.2.1 Percentage of people under the national income poverty line

1.2.1 Percentage of people under the national multidimensional poverty line

Percentage of population under multidimensional and income poverty (2009-2015) (former 4 dimensions MPI)

(Percentage, population)

<table>
<thead>
<tr>
<th>Year</th>
<th>Multidimensional poverty</th>
<th>Income poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>27.4</td>
<td>25.3</td>
</tr>
<tr>
<td>2011</td>
<td>24.3</td>
<td>22.2</td>
</tr>
<tr>
<td>2013</td>
<td>20.4</td>
<td>14.4</td>
</tr>
<tr>
<td>2015</td>
<td>19.1</td>
<td>11.7</td>
</tr>
</tbody>
</table>

Nota: At 95% confidence level, differences are statistically significant between years, using both income and multidimensional poverty measures.

Percentage of population under multidimensional poverty (2009-2015) (former vs extended measure)

(Percentage, total population)

<table>
<thead>
<tr>
<th>Year</th>
<th>Former measure (4 dimensions)</th>
<th>Extended Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>27.5%</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>24.3%</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>20.4%</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>19.1%</td>
<td>20.9%</td>
</tr>
</tbody>
</table>

%  

Fuente: Ministerio de Desarrollo Social, Encuesta Casen, 2009-2015
Percentage of population under income and/or multidimensional poverty (2015) (extended measure)

<table>
<thead>
<tr>
<th>Persons in poverty by</th>
<th>Percentage, total population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income poverty</td>
<td>11.7%</td>
</tr>
<tr>
<td>Multidimensional</td>
<td>20.9%</td>
</tr>
</tbody>
</table>

- Only income poverty: 4.5%
- Only multidimensional poverty: 16.4%
- Both income and multidimensional poverty: 4.5%

Relative contribution of dimensions to multidimensional poverty (2015) (extended measure)

(Percentage, Adjusted Headcount Ratio (M0))

- Education: 25.8%
- Health: 12.9%
- Labor and social security: 31.1%
- Housing and environment: 24.5%
- Networks and social cohesion: 5.7%

Fuente: Ministerio de Desarrollo Social, Encuesta Casen, 2015,
Percentage of household deprived in each indicator (2015) (extended measure)

<table>
<thead>
<tr>
<th>Percentage, households</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
</tr>
<tr>
<td>School attendance</td>
</tr>
<tr>
<td>Underachievement</td>
</tr>
<tr>
<td>Schooling</td>
</tr>
<tr>
<td>Malnutrition</td>
</tr>
<tr>
<td>Affiliation to health insurance system</td>
</tr>
<tr>
<td>Access to health care</td>
</tr>
<tr>
<td>Employment</td>
</tr>
<tr>
<td>Social security coverage</td>
</tr>
<tr>
<td>Retirement coverage</td>
</tr>
<tr>
<td>Habitability</td>
</tr>
<tr>
<td>Basic services</td>
</tr>
<tr>
<td>Environment</td>
</tr>
<tr>
<td>Social support and participation</td>
</tr>
<tr>
<td>Equal treatment</td>
</tr>
<tr>
<td>Safety</td>
</tr>
</tbody>
</table>

Percentage of population under income or multidimensional poverty by zone (urban / rural) (2015) (extended measure)

(Percentage, total population)

* Differences by geographical area (urban / rural), income poverty: At 95% confidence level, differences ARE statistically significant.

* Differences by geographical area (urban / rural), multidimensional poverty: At 95% confidence level, differences ARE statistically significant.

Percentage of population under income or multidimensional poverty by region (2015) (extended measure)

(Percentage, population by region)

Arica y Parinacota: 21.0% (Income poverty), 20.5% (Multidimensional poverty)
Tarapacá: 7.1% (Income poverty), 5.4% (Multidimensional poverty)
Antofagasta: 13.8% (Income poverty), 12.0% (Multidimensional poverty)
Atacama: 26.3% (Income poverty), 23.9% (Multidimensional poverty)
Coquimbo: 18.2% (Income poverty), 13.7% (Multidimensional poverty)
Valparaíso: 23.0% (Income poverty), 18.7% (Multidimensional poverty)
O'Higgins: 17.6% (Income poverty), 17.6% (Multidimensional poverty)
Maule: 19.2% (Income poverty), 23.6% (Multidimensional poverty)
Biobío: 16.8% (Income poverty), 22.6% (Multidimensional poverty)
La Araucanía: 16.1% (Income poverty), 23.2% (Multidimensional poverty)
Los Ríos: 16.9% (Income poverty), 6.5% (Multidimensional poverty)
Los Lagos: 4.4% (Income poverty), 7.1% (Multidimensional poverty)
Aysén: 9.1% (Income poverty), 11.7% (Multidimensional poverty)
Magallanes: 6.5% (Income poverty), 20.1% (Multidimensional poverty)
Metropolitana: 20.9% (Income poverty), 20.9% (Multidimensional poverty)

Total: 20.9% (Income poverty), 20.9% (Multidimensional poverty)

Percentage of population in income or multidimensional poverty by indigenous people (2015) (extended measure)

(Percentage, population by indigenous people)

<table>
<thead>
<tr>
<th></th>
<th>Income poverty</th>
<th>Multidimensional poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not belonging to an indigenous population</td>
<td>11.0</td>
<td>19.9</td>
</tr>
<tr>
<td>Belonging to an indigenous population</td>
<td>18.3</td>
<td>30.8</td>
</tr>
</tbody>
</table>

* Differences by indigenous people, income poverty: At 95% confidence level, differences ARE statistically significant.
* Differences by indigenous people, multidimensional poverty: At 95% confidence level, differences ARE statistically significant.

### Relative contribution of dimensions to multidimensional poverty
by region (2015)
(Percentage, adjusted headcount ratio (M0) of households)

#### (5 dimensions MPI)

<table>
<thead>
<tr>
<th>Region</th>
<th>Education</th>
<th>Health</th>
<th>Labor and social security</th>
<th>Housing and environment</th>
<th>Networks and social cohesion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arica y Parinacota</td>
<td>23.3%</td>
<td>12.5%</td>
<td>31.3%</td>
<td>27.4%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Tarapacá</td>
<td>27.5%</td>
<td>15.3%</td>
<td>30.6%</td>
<td>21.7%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Antofagasta</td>
<td>24.9%</td>
<td>13.2%</td>
<td>27.1%</td>
<td>26.9%</td>
<td>7.8%</td>
</tr>
<tr>
<td>Atacama</td>
<td>24.6%</td>
<td>15.7%</td>
<td>29.4%</td>
<td>24.9%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Coquimbo</td>
<td>24.2%</td>
<td>15.4%</td>
<td>33.0%</td>
<td>23.0%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Valparaíso</td>
<td>24.4%</td>
<td>12.2%</td>
<td>33.4%</td>
<td>24.9%</td>
<td>5.1%</td>
</tr>
<tr>
<td>O'Higgins</td>
<td>28.0%</td>
<td>14.5%</td>
<td>29.9%</td>
<td>22.7%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Maule</td>
<td>27.7%</td>
<td>12.8%</td>
<td>32.3%</td>
<td>23.6%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Biobío</td>
<td>27.5%</td>
<td>10.2%</td>
<td>32.9%</td>
<td>25.2%</td>
<td>4.2%</td>
</tr>
<tr>
<td>La Araucanía</td>
<td>27.1%</td>
<td>7.8%</td>
<td>28.1%</td>
<td>33.7%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Los Ríos</td>
<td>27.5%</td>
<td>11.0%</td>
<td>29.6%</td>
<td>29.1%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Los Lagos</td>
<td>30.9%</td>
<td>11.1%</td>
<td>27.8%</td>
<td>27.6%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Aysén</td>
<td>30.3%</td>
<td>12.9%</td>
<td>27.3%</td>
<td>27.1%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Magallanes</td>
<td>25.5%</td>
<td>20.2%</td>
<td>35.6%</td>
<td>16.2%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Metropolitana</td>
<td>24.3%</td>
<td>14.2%</td>
<td>31.4%</td>
<td>22.3%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Total</td>
<td>25.8%</td>
<td>12.9%</td>
<td>31.1%</td>
<td>24.5%</td>
<td>5.7%</td>
</tr>
</tbody>
</table>

- Education
- Health
- Labor and social security
- Housing and environment
- Networks and social cohesion
5. 2030 Agenda for Sustainable Development: challenges on poverty and inequality

- Poverty and inequality should be tackled with comprehensive actions, combining social protection with the promotion of people's capabilities.

- The fight against poverty and inequality must be driven simultaneously, as the most recent academic evidence suggest that poverty reduction rate is slower in unequal societies.

- Overcoming poverty and inequality together with respect for human rights are substantial concerns of the 2030 Agenda for Sustainable Development.

- Both multidimensional and income poverty measures are useful tools to establish a national baseline, monitoring progress and improve social policy responses.
Expands knowledge on poverty and it allows to evaluate public policy performance in line with a comprehensive vision of social development and well-being.

It’s a valuable tool for identifying specific population groups and territories that, regardless of income, remain excluded from opportunities.

Allows to observe structural changes in society that income poverty measures do not capture.

Strengthens multi sectoral collaboration between different ministries and public services, identifying specific gaps that require integral interventions.