Expert Group Meeting

on

Multidimensional Poverty Index:

Simulation and Optimization Methodologies

Beirut, 10 February 2022, 13:00-16:00 Beirut time

Concept Note

1.   Background

The 2030 Agenda for Sustainable Development recognizes that eradicating poverty in all its forms and dimensions, is the greatest global challenge and an indispensable requirement for sustainable development. Countries pledged to leave no one behind in the implementation of the Agenda and endeavour to first reach those furthest behind. The COVID-19 pandemic has had devastating consequences on social development in all countries, reversing progress made in reducing extreme poverty for the first time since 1988. The poorest and the most vulnerable populations have been disproportionately affected. With less than ten years left to achieve the Sustainable Development Goals (SDGs), now is the critical time to re-examine developing countries' standing and their prospects for getting back on track to sustainable development.

Regional Context

In most Arab countries, money-metric poverty is used as the main official reference for poverty measurement and policy interventions. Money-metric national poverty lines are typically calculated based on the cost of a minimum food diet, which itself is based on the recommended dietary requirements of calories and protein intake for healthy functioning given households' demographic characteristics. Notwithstanding its importance, money metric poverty analysis offers only a limited perspective on households' needs, well-being and functionings. The emphasis on multidimensional poverty, or capability poverty, has grown in recent years based on the work of the Nobel Laureate Amartya Sen. His capability approach suggests that the freedom people must have to achieve certain critical functionings is crucial for poverty measurement and analysis. According to this approach, poverty can be viewed as the inability (or lack of capability) to enjoy the basic rights and freedoms of life. In deciding the domains or dimensions of multidimensional poverty, several normative decisions must be taken based on contemporary theories and practice. The capability approach has the advantage that it can be tailored to fit the conditions of all countries, rich and poor.

The progress in contextualizing multidimensional poverty has given rise to a variety of measurement approaches. Multidimensional poverty indices (MPI) articulate nonmonetary deprivations across various social dimensions, providing a more accurate depiction of the experience of the poor. MPI provides a clear picture of where and how people are poor, enabling more efficient allocation of resources, coordinating policies across different social spheres, and targeting sectors and regions that are the most in need of support, in line with the principle of leaving no one behind. Measuring the multiple dimensions of poverty and inequality can help identify policy gaps and re-approach poverty in a more comprehensive way going beyond consumption, income and wealth, and instead stimulate a discussion around the manifestations of poverty and inequality in the Arab region, policies for targeting the main drivers, and evidence-based evaluation of these policies.

Computation of MPI relies on microdata in demographic and health surveys, or household budget surveys. Because the surveys required to compute multidimensional poverty indices are conducted on an infrequent and irregular basis in the Arab region, to understand the current or future status of multidimensional poverty, one may need to project poverty indices to more recent or future years or even to counterfactual scenarios. The projected measures are important as they allow states to better allocate resources in their quest to set MPI targets and reduce poverty in its various forms.

Despite their strong assumptions, nowcasting and forecasting approaches to computing poverty indices remain an essential exercise from a policy perspective. The proposed EGM aims to contribute to the current state of knowledge about this modeling and simulation exercise, with the aim to identify the most advanced and practical approaches.

2.   Objectives

The EGM offers a platform for presenting methodologies and policy tools developed recently by ESCWA and its partners, and bringing together panelists and participants from among thought-leaders in the area of multidimensional-poverty modeling, to make technical and policy recommendations about the path forward. The EGM aims to establish channels for future coordination and collaboration in order to learn and maximize the impact of the knowledge attained.

The methodologies and tools presented at the EGM are presently being considered, and even actively applied, in ESCWA's Regular Programme for Technical Cooperation with member States, most notably the work on national poverty reduction strategies. Given this, the outcomes of the EGM will have an immediate impact on ESCWA's core mandate and on member States' access to critical evidence for policy setting.

3.   Themes

(1) First approach: The purpose of shock simulations is to examine the effect of certain social or economic shocks on poverty figures (MPI, poverty headcount…). The simulation methodology can be used to predict the impact of social policies, this may constitute a positive shock such as cash transfer, as well as the effects of negative shocks such as the COVID-19 pandemic. The simulation exercise is based on the Monte Carlo method, the reasoning behind using this method is because the shocks are (generally) not deterministic: although we can estimate the total intensity of the shock (percentage of people attained), we cannot determine the exact concerned people (targeting).

(2) Second approach: Speaking of targeting, and instead of assuming random societal responses, the probability for households to become deprived in certain indicators is calculated using a probabilistic model. Based on the results, a better focused and more objective targeting approach can be devised.

(3) Third approach: Nowcasting using counterfactual events, and reflecting the occurrence of one event in the dynamics of the MPI indicators. The modelling approach may consider political, security or other secular factors that may influence the dynamics of selected indicators, more so than simple chronology and change in macroeconomic conditions.

(4) Fourth approach: Using linear programming and optimization, this methodology is more policy-oriented and can guide governments on the best feasible directions for exerting resources in their aim to reduce MPI going forward. This can be done by better targeting of public resources in accord with the "poverty heat map" priorities, whereby the governments aim at minimizing the total efforts across all indicators, and across demographic or geographic cells. So, the approach centers on searching and identifying the space characterized by high deprivation rates, high deprivation-to-poor ratios, and the least cost.

4.   Participation and registration

Panelists and participants will include academics and subject-matter experts from several partner organizations, including the Oxford Poverty and Human Development Initiative (OPHI) and UNICEF. Registered participants include:

Touhami Abdelkhalek (Université Mohammed VI Polytechnique)
Khalid Abu Ismail (ESCWA)
Sabina Alkire (OPHI)
Dorothee Boccanfuso (Université Mohammed VI Polytechnique)
Sama El Hage Sleiman (ESCWA)
Lucia Ferrone (University of Florence)
Hassan Hamie (ESCWA)
Vladimir Hlasny (ESCWA)
Jinane Jouni (ESCWA)
Leonardo Menchini (UNICEF)
Corinne Mitchell (OPHI)
Ricardo Nogales (OPHI)
Majd Olleik (Technical University of Vienna)
Racha Ramadan (Cairo University)
Margherita Squarcina (University of Florence)
Nicolai Suppa (OPHI)

5. Organization, format, venue, and dates

The EGM is organized by Cluster 2, the "Gender Justice, Population and Inclusive Development Cluster" at U N ESCWA. The EGM will take place on Thursday 10 February, 2022, from 13:00 to 16:00 (Beirut time). The meeting will take place virtually on the MS Teams platform.

6. Agenda

Thursday 10th of February 2022
Opening Notes, 13:00
Ms. Sabina ALKIRE, OPHI, & Mr. Khalid ABU ISMAIL, ESCWA
Session 1, 13:05 to 13:20
Multiple overlapping deprivations analysis: simulations (Approach 1) – Ms. Lucia FERRONE and Ms. Margherita SQUARCINA, University of Florence and UNICEF
Discussion (5 minutes)
Session 1, 13:25 to 13:40
Multidimensional poverty in Lebanon: a proposed measurement framework, and the impact of socioeconomic crisis (Approach 1) – Ms. Sama EL HAGE SLEIMAN, ESCWA
Discussion (5 minutes)
Session 2, 13:45 to 14:00
Impact of social protection programs on multidimensional poverty: new targeting approaches and application to Morocco (Approach 2) – Mr. Touhami ABDELKHALEK and Ms. Dorothee BOCCANFUSO, Université Mohammed VI Polytechnique
Discussion (5 minutes)
Session 3, 14:05 to 14:20
Nowcasting multidimensional poverty in the occupied Palestinian territory (Approach 3) – Mr. Paul MAKDISSI, University of Ottawa
Discussion (5 minutes) + Break (10 minutes)
Session 3, 14:35 to 14:50
Global multidimensional poverty and COVID-19: A decade of progress at risk? – Mr. Ricardo NOGALES and Mr. Nicolai SUPPA, OPHI
Discussion (5 minutes)
Session 4, 14:55 to 15:45
Optimization model(s) development for MPI poverty reduction (Approach 4) – Mr. Hassan HAMIE and Mr. Majd OLLEIK, ESCWA and Technical University of Vienna
Discussion (10 minutes) led by Racha RAMADAN, Cairo University
Closing Notes, 15:55 to 16:00
Ms. Sabina ALKIRE, OPHI, & Mr. Khalid ABU ISMAIL, ESCWA