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SUSTAINABLE FUTURES POLICY BRIEF

The Multidimensional Poverty Index (MPI) in Monitoring Poverty in Jamaica

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This policy brief makes the case for the use of a Multidimensional Poverty Index (MPI) in monitoring poverty in Jamaica, as a complement to the current money metric approach (based on consumption) which limits attention to remedial programmes geared towards lifting households above the poverty threshold. This widely used approach of moving households above some income/consumption threshold overlooks that individuals are poor in different ways and skirts broader issues for designing appropriate social protection policies/programmes. In contrast, the MPI approach has been shown to be a much more stable indicator of poverty and brings attention to the multiple dimensions of deprivation faced by households and the policies needed to address these deprivations. The MPI has four dimensions (education, living standards, employment and health) and a number of related indicators were used to demonstrate and compute the level of deprivation for Jamaica.

There is increasing acceptance that poverty is multidimensional and individuals experience multiple deprivations, which when combined limit individuals', communities' and households' (HHs') capabilities, functionings and abilities to live the lives they value.[1] However, traditional approaches to poverty measurement in Jamaica have focused on the money metric methods of measuring poverty in which HHs are assessed based on their ability to afford required dietary and non-food needs for productive engagement in their community and to perform expected roles. This approach to poverty measurement, which tends to be the remit of social programmes, invariably focuses on income or consumption shortfall and initiatives to raise HH consumption to, or above, the poverty threshold.[2] This has given rise to increased use of targeted transfers such as the Food Stamps Programme (FSP) and its successor the Programme of Advancement Through Health and Education (PATH) as a means of improving the living standards of the poor, but this has proved insufficient as poverty has persisted and in recent times increased (Jamaica Survey of Living Conditions [JSLC] 2015). This approach also suffered from high variability of consumption, which has shown up in similar variability in the incidence of poverty when in fact poverty experienced by HHs tends to go beyond consumption and is likely to be more protracted and entrenched.

How poverty is measured can influence how it is analysed and understood, thus affecting the policies and programmes designed to reduce it. As stated, traditionally, poverty was defined as inadequate income or consumption levels. However, participatory approaches have shown that poor people and communities go beyond income in defining their experiences and the solutions needed. Individuals experience poverty differently based on variables such as their geographical location, stage in their life cycle and gender. In addition, individuals are generally consistent in defining poverty as a lack of education, health, housing, decent jobs, empowerment, inclusion,

[1] This approach also recognises that the consumption/income money metric approach limits the focus of remedial initiatives to supplemental interventions when, in fact, a more broad-based and inclusive approach to poverty reduction is required.
[2] In Jamaica, income/consumption is not in all cases well defined and non-response rates to some questions are high, coupled with the fact that income/consumption is also adversely affected by under and over-reporting of levels by different types of respondents.

justice and personal security. Income or consumption indicators are not uniquely positioned to capture all of these dimensions of poverty and are not highly correlated with variables such as child or maternal mortality, primary or secondary school completion rates and under-nutrition (World Bank 2013). The multidimensional approach allows for a greater level of flexibility in the dimensions and indicators included reflecting country peculiarities[3] and results of participatory poverty assessments. In this study, multidimensional and consumption wellbeing are examined to establish the extent to which they identify the same HHs as poor and the variables that explain the likelihood of being multidimensional poor.

The multidimensional approach to poverty has increasingly gained currency following the 1997 Human Development Report (HDR), the 2000/1 World Development Report (that introduced poverty as a multidimensional phenomenon), the Millennium Declaration and Millennium Development Goals (MDGs), all of which highlighted multiple dimensions of poverty since 2000. In addition, the number of countries introducing multi-topic HH surveys that provided the required inputs for the construction of multidimensional measures has increased dramatically in recent times. In fact, there are ongoing initiatives to construct an MPI for Barbados and the Organization of Eastern Caribbean States (OECS) Region, and many of these countries have built capacity and canvassed surveys to be able to compute multidimensional poverty. In addition, the Caribbean Development Bank (CDB) Country Poverty Assessments done in many Caribbean countries have plans to embrace the MPI approach. In the case of Jamaica, most of the required data is already collected in the JSLC, but there must be a process of deciding what dimensions and indicators are appropriate. Once the latter is established, it is possible for the Planning Institute of Jamaica (PIOJ) to construct a relevant MPI for Jamaica.

This paper is, therefore, an important input in the process and fills a gap in our understanding of the differences between multidimensional poverty and other methods of measuring well-being. MPI draws attention to the multiple dimensions of deprivation individuals experience and their inability to meet various basic needs. It enables deeper analysis of the causes of poverty and the patterns and immediately draws attention to the kinds of interventions needed to address acute poverty. This is achieved by focusing on the areas in which HHs experience the highest levels of deprivations. In this study, we show that HHs experience the highest levels of deprivations in youth unemployment and Information and Communication Technology. The application of this approach also makes it possible to evaluate the progress of social policies and programmes in addressing the problem of poverty and social development, based on each of the deprivation dimensions and indicators such as in the case of quality of employment (the third highest areas in which HHs experience deprivation). Work on the proposed sub-regional (Barbados and OECS) multidimensional poverty measurement while retaining some of the dimensions and indicators of the Global MPI has clearly extended both and is adopted in this paper in analysing outcomes for Jamaica. The results for Jamaica are reported below, but first, a brief outline of the global approach is presented.

Computing the Global Multidimensional Poverty Index

MPI moves beyond the consumption poverty approach to measure acute poverty by reflecting the multiple deprivations people experience and the intensity of such deprivations. Acute poverty has two main characteristics: first, people lack basic functionings such as being well nourished, being educated or drinking clean water; and second, people living under conditions where they do not attain minimum standards in several aspects at the same time (Alkire and Santos 2010). The MPI is a product of the proportion of people who experience multiple deprivations and the intensity of their deprivations, or average

[3] For instance, crime has been identified as one of the most severe problems faced by Jamaica and such a dimension may be included.

proportion of deprivations they experience. Mexico has used the poverty headcount to reflect the latter measure. The UNDP, HDR 2015, estimates the first part of the MPI for Jamaica, which suggests that 38.8 percent of individuals are multidimensionally deprived.[4] This paper estimates the proportion of individuals experiencing multiple deprivations and contrasts the outcomes with the consumption approach. MPI can be used for both across, as well as within-country comparison. It allows for comparison across regions, such as urban and rural areas, across subgroups of the population, and other key HH and community characteristics. We show that consistent with the consumption approach, rural areas in Jamaica account for a larger percentage of individuals classified as multidimensionally deprived at 71.4 percent. In addition, the contribution of each dimension to overall poverty can be incrementally analysed. The global MPI is composed of three dimensions: education; health; and living standards.

There are 2 health, 2 education and 6 living standard indicators in Table 1. The indicators were arrived at after a process of consultation with experts in the respective fields, and what was possible given existing data.

Before turning to the proposed dimensions and indicators used in this study, it is important that we briefly outline how the indicators and dimensions for the Global MPI are weighted. While each of the indicators within the living standard dimension[5], for example, are weighted equally, their weights are not the same as the indicators in the other dimensions but are composed in such a way that their total weight is equal to one third. In other words, indicators are weighted equally within each dimension, and each dimension is also weighted equally.[6] Each person is then assessed based on HH outcomes to determine whether they are below the deprivation cut-off for each indicator. As such, if any HH member is deemed malnourished (for example), each individual in the HH is also

Table 1: Inside the Multidimensional Poverty Index - Dimensions, Indicators, Thresholds and Weights

1. **Education** (each indicator is weighted equally at 1/6)
   - Years of Schooling: deprived if no HH member has completed five years of schooling.
   - School Attendance: deprived if any school-age child is not attending school in years 1-8.

2. **Health** (each indicator is weighted equally at 1/6)
   - Child Mortality: deprived if any child has died in the family.
   - Nutrition: deprived if any adult or child for whom there is nutritional information is malnourished.

3. **Living Standards** (each indicator is weighted equally at 1/18)
   - Electricity: deprived if the HH has no electricity.
   - Drinking Water: deprived if the HH does not have access to clean drinking water or clean water is more than 30 minutes of walk from home (round trip).
   - Sanitation: deprived if the HH lacks adequate sanitation or if their toilet is shared.
   - Flooring: deprived if the HH has dirt, sand or dung floor.
   - Cooking Fuel: deprived if the HH cooks with wood, charcoal or dung.
   - Asset ownership: deprived if the HH does not own more than one of radio, TV, telephone, bicycle, motorcycle, or refrigerator, and does not own a car or tractor.

[4] These outcomes are computed using the Global MPI methodology, which used slightly different dimensions and indicators than those used in this study. As a result, the results for Jamaica are not directly comparable with the results derived in this study.

[5] The living standard indicators are means rather than ends and have two strengths, unlike income their means are very closely connected to the ends they are supposed to facilitate and most of the indicators are related to the MDGs, which provide strong grounds for their inclusion in the index.

[6] In deriving the MPI all the data/indicators relating to the HHs' wellbeing must come from the same survey and, if cross country comparisons are to be made, then it is important that the indicators are similarly constructed and comparable. In addition, in constructing a national or sub-regional MPI there is no limit to the number of dimensions or indicators which may be included.

defined as deprived in nutrition. The deprivation of each person is then weighted by the indicator's weight. If the weighted sum of the deprivation indicator is 33 percent or more, the HH or individual is classified as multidimensionally deprived.

Countries, however, have the flexibility to include dimensions and indicators that reflect their peculiarities. Most important, is the process through which they have been selected and the level of consensus. The HDR Guiding Modules (2011) suggest that consensus may be derived from various sources, such as participatory process, legal basis, international agreements such as the MDGs or human rights, and empirical evidence regarding people's values. In addition, the indicators' deprivation cut-offs must be based on clear and well-founded reasons. The cut-offs (33rd percentile) for the Global MPI are based on internationally agreed MDG standards. However, for national MPIs the cut-offs may be informed by current policy priorities, standards set by the culture, empirical evidence and previous practice (UNDP 2015). In the section that follows the illustrated dimensions and indicators to be considered for Jamaica's MPI are analysed.

Multidimensional Deprivation – The Case of Jamaica

Table 2 shows the level of deprivation for each indicator within the four broad groups of well-being dimensions. The highest levels of deprivation are in youth unemployment and HHs' access to Computer and Internet resources, suggesting that 82.3 percent and 80.7 percent of HHs respectively, did not meet the established condition. In fact, the employment dimension, which is composed of unemployment, youth unemployment and quality of employment, has the highest levels of deprivations (with the one exception of Information Communications Technology [ICT]). However, fewer HHs experienced housing and food security deprivations. The four dimensions of education, living standards, employment and health are weighted equally and combined. If the deprivation threshold is set at the 25th percentile, for example, a HH will be classified deprived if it experienced a shortfall in at least one dimension. In this case, the results suggest that 26 percent of individuals are deprived. For sensitivity analysis, various deprivation thresholds are investigated to establish how the percentage of individuals classified as deprived changes. This varies between 21.13 percent and 42.16 percent when the threshold is set at 20 percent and 40 percent respectively.

Table 2: Dimensions, Indicators and Cut-Off: Jamaica Survey of Living Conditions 2012

Dimensions	Indicators	Deprivation Cut-off	Percentage Deprived
Education	Educational attainment	A HH is not deprived if at least one member older than 17 has at least completed secondary education.	28.08
	School attendance	A HH is NOT deprived if all children aged between 3 and 16 are attending school and are not delayed by 3 or more years compared to their cohort.	38.23
	ICT	A HH is not deprived if it has a computer and internet connection.	80.66
Living standards	Assets	A HH is not deprived if it has more than four small assets and at least one big (own dwelling) asset.	48.40

	Housing	A HH is not deprived if the dwelling is not lacking in walls or roof.	7.33
	Overcrowding	A HH is not deprived if there are fewer than 3 individuals per room.	16.49
	Toilet	A HH is not deprived if it has an improved toilet or its toilet is not shared.	31.72
	Water	A HH is not deprived if it has an improved source of drinking water.	25.96
Employment	Unemployment	A HH is not deprived if each member (in the labour force) older than 30 is employed (not in long term unemployment)	53.55
	Youth Unemployment	A HH is not deprived if each member (in the labour force) between 18 and 30 is employed (not in long term unemployment)	82.28
	Quality of Employment	A HH is not deprived if all working members are in formal employment.	61.09
Health	Access	A HH is not deprived if no member of the family used an established doctor or medical centre.	19.57
	Food security	A HH is not deprived if no member ate fewer meals in a day because there was not enough food.	7.72
	Nutrition indicator adjusted to include the food poor.	A HH is not deprived if no member is malnourished (stunting for under 5 children and Body Mass Index for adults).	9.13

In addition, we analyse the distribution of individuals classified as deprived by consumption quintile to establish the overlap between the two methods. Individuals classified as deprived can be found in all consumption quintiles, but progressively less in higher quintiles. What is of interest is that a larger proportion of deprived individuals are in the poorest consumption quintiles (Quintiles 1 and 2) varying between 54 and 64.7 percent. In addition, the percentage of individuals that are both multidimensional and consumption poor varies between 9.5 percent and 13.9 percent. A question that is clearly of interest and addressed later in this paper is: how are the characteristics of these individuals different from those of individuals who are multidimensionally deprived but not consumption poor, and vice versa?

A number of models were analyzed to establish the probabilities of being multidimensionally poor or MPI poor, consumption poor and poor on both fronts and to establish differences between these outcomes. We present a brief description of the variables that are highly correlated with being poor. Table 3 suggests there are differences in the main variables that explain the reasons HHs are poor on different fronts, but there are more similarities than differences. The variables that contribute to the probability of being multidimensional poor are dominated by: living conditions/housing quality outcomes; poor educational attainment and possibly lack of decent work reflected in the occupations and sector of employment of the HH head; and the presence of a HH member with disabilities. This is somewhat similar for the

Table 3: Top Five Variables that Influence the Marginal and Impact Probabilities of Being Poor

	MPI	Both (MPI+Consumption)	Consumption
Increased likelihood of being poor	Living in an overcrowded dwelling No access to public water sources HH member with a disability Poor housing quality Head in construction sector	Living in overcrowded dwelling No access to public water sources HH member with disability Poor housing quality Head in agriculture & fishing sector	Head education basic/pre-primary Larger number of adult males HH unemployment rate higher Reside in urban area Larger number of female elderly
Decreased likelihood of being poor	HH employment rate Head employed in private sector Number of adult males Number of adult females Number of male children 6 – 14	HH employment rate Receive remittances Head occupation technical associate or professional Head education tertiary	HH earns a pension Head in manufacturing sector Head occupation plant/machine operator Head education tertiary All members in decent work

living conditions/housing quality outcomes, and HH member with disabilities (though not in the top 5) are the main factors increasing the likelihood of being consumption poor. The factors contributing the most to the probability of being poor on both fronts are somewhat consistent with the outcome for the multidimensional and consumption poor. In fact, regardless of the poverty classification used, the presence of a HH member with disabilities; poor living/housing conditions; HH head in Agriculture and Fishing sector; Female Headed households (FHHs); FHH head not in a union; and Male Headed Households (MHHs), all increase the likelihood of being poor.

Results from both the probit and multinomial models show that employment plays the most important role in reducing both multidimensional and consumption poverty, and also contributes the most to the probability of being non-poor. The variables that contribute the most to the probability of being non-poor are employment, sector of work and occupation, coupled with quality educational outcomes, decent work and the receipt of remittances. The receipt of remittances also plays an important role in reducing the probability of being poor on both fronts. These outcomes are also generally consistent when we control for difference in scales. The results consistently suggest that HHs where a member has a disability are likely to be poor regardless of the definition or measurement of poverty used (but is ranked higher in importance when multidimensional poverty is assessed) and is consistent with Gayle-Geddes' (2015) argument that despite advances in education and labour market outcomes, the exclusion and inequalities faced by persons with disabilities is evident in limited sociocultural identity; poor educational outcomes; fragile employment; high non-employment and unemployment; overrepresentation in low-skills occupations; lower income; failure to secure decent work; and challenging education, training and labour market conditions. Despite the fact that most of these individuals can function normally, they are stymied by disability-induced inequalities that are exacerbated by multiple vulnerabilities associated with gender, location, age and type of disability. "By failing to acquire the skills and competences required to participate in the job market, persons with disabilities are less likely to secure decent work and an independent existence" (Economic Commission for Latin America and the Caribbean 2015:32).

Promoting the rights and inclusion of persons with disabilities is important in addressing the multiple forms of discrimination they face, removing barriers and guaranteeing their equal rights to develop their capabilities and functionings. According to Gayle-Geddes (2015), persons with disabilities must be able to access social protection and basic social services, including a number of other enablers. Social protection can assist poor HHs in meeting the extra cost associated with members with a disability and

facilitate access to basic social services such as healthcare, education, nutrition, sanitation, security and justice[7]. PATH provides benefits to individuals who are disabled, but the sufficiency of the benefit and the level of coverage of the disabled are of concern. The approach of providing supplementary benefits to households with members who have disabilities is consistent with poverty viewed as consumption shortfall.

The fact that HHs with a member who has disabilities are more likely to be poor suggests that disability is also interwoven with other known vulnerabilities and that persons with disability are vulnerable, at risk, marginalised and excluded (experience multiple overlapping vulnerabilities), and there is greater need for disability to be treated as a cross-cutting issue in public policy. An approach that focuses on the inequalities, exclusion, discrimination and multiple deprivations faced by individuals with disabilities and their Households is consistent with the multidimensional approach, which goes beyond consumption shortfall and draws attention to the kinds of interventions needed to address the multiple deprivations HHs may face.

Conclusion

This paper applied the multidimensional approach to estimating poverty in Jamaica and showed that HHs experience the greatest level of deprivation in the employment dimension. The paper suggests that when the multidimensional deprivation threshold is set at the 25th percentile, a HH is classified as MPI poor if deprived in at least one dimension. The results also show that the method used in estimating poverty influences HHs classified as poor. The MPI allows us to establish the underlying deprivations that HHs experience and direct our attention to the kinds of remedial interventions necessary to reduce/eliminate multidimensional poverty, but it is also important for us to be able to identify who these individuals are. This brief triangulates several methods used to identify the poor to establish robust characteristics, which can be used in interventions such as social protection/safety net programmes. The Caribbean Development Bank (CDB) 2016 report on poverty and inequality shows that HH that experience: poor living conditions; the presence of a HH member with disabilities; poor educational outcomes; receipt of support from family and friends locally; and head employed in Agriculture and Fishing sector, and in some cases Construction, are likely to be multidimensional poor. At the same time, the variables that significantly reduced the likelihood of being MPI poor are: HH employment rate, which also seemed to be related to the number of adult members in the HH; educational outcomes at upper-secondary or tertiary levels; HH members employed in decent work; head without chronic illness; receipt of remittance; and member has pension (CDB 2016).

HH members with disabilities are likely to be in poor HHs, and this can put even more strain on other members and may affect their labour force participation. There is a need for increased initiatives to reduce discrimination faced by individuals with disabilities and for greater inclusion both in the educational system and the labour market. This may require inclusive and accessible schools and awareness and training programmes for teachers, other staff, and parents (as sometimes parents hide their disabled children, not allowing them to participate in society) and society generally. This is essential for promoting inclusion, acceptance, equity, opportunities at school for children with disabilities, as well as for enhancing the prospects of a smooth transitioning into the labour market. In addition, the social protection/safety net system can play a facilitative role, (and there are already some programmes such as PATH that target the disabled), but more needs to be done to reduce discrimination and stigma and facilitate inclusion. By focusing on the multi

[7] The role of Social Safety Nets (SSN) in reducing poverty and vulnerability is increasingly recognised in social policy. Well-designed safety nets can play a productive role in promoting development, as well as improving the distributive effects of economic policies to reach the most vulnerable. They also provide a tool by which governments may fulfil various rights-based commitments to which they are signatory. A well-designed and correctly-targeted social protection system is, therefore, an important factor to boost economic growth.

ple deprivations that individuals and households face, the MPI approach is best positioned to bring attention to these concerns.

Further reading

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Credits
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