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TECHNICAL NOTE

ALTERNATIVE APPROACHES TO THE MEASUREMENT OF POVERTY IN JAMAICA: COMPARING THE ESTIMATES OF THE PLANNING INSTITUTE OF JAMAICA AND THE INTERNATIONAL MONETARY FUND

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Planning Institute of Jamaica



EXECUTIVE SUMMARY

1. The methodologies used by the Planning Institute of Jamaica (PIOJ) and the International Monetary Fund (IMF) to estimate poverty are patently different: The two institutions are using two different approaches for estimating poverty, using two different poverty lines in two different time periods, using two different sources of data and hence the rates produced are not comparable. The Planning institute of Jamaica (PIOJ) uses a consumption-based method to estimate poverty.¹ The poverty lines used to determine the prevalence of poverty are per adult equivalent regional poverty lines. The source of consumption data is the annual Jamaica Survey of Living Conditions household expenditure survey. The most recent figure reported is for the year 2010.
2. The IMF estimate is derived from the Socio-Economic Database for Latin America and the Caribbean (SEDLAC), which relies on an income-based methodology to estimate poverty using a 2005 Purchasing Power Parity (PPP)-adjusted per capita reference poverty line of US\$2.50 a day. The source of income data is the annual Jamaica Labour Force Survey (JLFS). The most recent figure reported is for the year 2002.
3. Table 1 below summarizes the different approaches.

¹ The PIOJ is currently undertaking a comprehensive review of its poverty estimation methodology in order to re-examine the “least-cost consumption basket” underlying the computation of the poverty line and to review the method used to update the poverty line on an annual basis.

Table 1: Summary Comparison of the PIOJ and IMF Poverty Estimation Methodologies

	PIOJ	IMF - SEDLAC
Most recent poverty rate	2010: 17.6%	2002: 43.1%
Methodology	Consumption-based	Income-based
Poverty threshold	J\$124 408	US\$2.50 2005 PPP per day
Source of Data	Jamaica Survey of Living Conditions	Jamaica Labour Force Survey

Source: PIOJ

4. The use of income rather than consumption data has long been critiqued as being inferior and fraught with problems such as non-reporting, under-reporting, missing and zero values and unreliable income. The case of zero values is particularly relevant to Jamaica. In addition to this, the use of the 2005 PPP-adjusted standard of US\$2.50 has been critiqued as being simplistic as it does not allow for (a) regional variations in price and localized consumption patterns, and (b) variations in expenditure requirements based on sex and age - individuals of differing sex and age may require differing caloric needs, and hence different expenditures.
5. To account for, among other things, spatial comparability, survey reporting errors and age-sex biases, the Planning Institute of Jamaica has employed the use of consumption-based, regional per adult equivalent poverty lines. The use of these lines alleviates the problems associated with using income data and addresses the issues of regional variations in price and varying expenditure needs based on sex and age by using regional per adult equivalent poverty lines.

ALTERNATIVE METHODOLOGIES FOR ESTIMATING THE PREVALENCE OF POVERTY IN JAMAICA

The Planning Institute of Jamaica (PIOJ) Approach to Estimating Poverty

6. The PIOJ uses a consumption-based approach to measuring poverty, constructing a consumption-based poverty line as the threshold for determining the poor and the non-poor.

7. In its broadest sense, consumption can be thought of as being composed of two portions: a food and a non-food portion.
 - To account for the food portion of consumption, the PIOJ constructs and costs a food basket which satisfies the minimum Recommended Daily Allowances (RDAs) as stipulated by the WHO for a reference family of 5. The basket is meant to be a culturally relevant, low-cost means of satisfying the RDAs.
 - Baskets are constructed for each of the three regions (the Kingston Metropolitan Area, Other Towns and Rural Areas) to account for variation in prices across regions.
 - The basket only represents the food portion of consumption and a non-food portion must be accounted for, for expenditure on Clothing, Transportation, Education, etc.
 - The non-food portion of the poverty basket is incorporated by applying a multiplier (the reciprocal of the food share of quintiles 1 & 2) to the food basket to arrive at the total poverty line for the family of 5.
8. The total poverty line, though constructed for a family of 5, is converted into a per adult equivalent poverty line.
 - The per adult equivalent transformation is necessary to account for varying dietary needs based on sex and age. For instance, an adult female does not require as much calories as an adult male, hence her consumption expenditure should be less than that for the adult male. The differing dietary needs based on sex and age translate into different weights for different individuals in the household with everything being normalized to the adult male who has a weight of 1. Comparatively, the adult female has a weight of 0.74.
 - Each family has a unique per adult equivalent figure that corresponds to the size and demographic structure of the household.
 - The per adult equivalent consumption is arrived at by dividing the total household consumption by the per adult equivalent figure. The per adult

equivalent consumption is then compared with the per adult equivalent poverty line to determine whether the individuals in the household are poor or not.

9. The consumption data used to compute the PIOJ's national poverty lines are derived from the Jamaica Survey of Living Conditions (JSLC). The JSLC has been compiled on an annual basis from 1989, based on fieldwork and data management conducted by the Statistical Institute of Jamaica (STATIN). The JSLC was an early pioneer of the well established World Bank methodology for the conduct of Living Standards Measurement Surveys (LSMS). The JSLC is world renowned for its quality and is widely used for academic and policy research by both local and international researchers and policymakers.

The International Monetary Fund (IMF) Approach to Estimating Poverty Based on the Socio-Economic Database for Latin America and the Caribbean (SEDLAC)

10. A recent IMF report titled "*Regional Economic Outlook -Western Hemisphere: Shifting Winds New Policy Changes*"² cites cross-country data on poverty. In particular, in the table titled "*Selected Economic and Social Indicators, 2005-2011*" (p. 71), it is reported that Jamaica's poverty rate was 43.1 per cent based on a US\$2.50 standard. When the figure reported by the IMF was cross-referenced with the Socio-Economic Database for Latin America and the Caribbean (SEDLAC), it was apparent that the figure reported in the IMF report pertained to the year 2002. Using the PIOJ methodology, the poverty rate for Jamaica in 2002 was estimated at 19.7 per cent.
11. The methodology employed by SEDLAC uses income as opposed to consumption data to determine whether an individual is poor. Below, we highlight several concerns with that approach.
12. The report uses an unconventional US\$2.50 threshold as its reference point for gauging poverty and justifies its use due to the fact that the Latin America and Caribbean region is mainly characterized by middle income countries, hence lower standards would not be appropriate.

² World Economic and Financial Surveys (International Monetary Fund, Washington, D.C.: October 2011).

13. Whilst this dollar value threshold is suitable for cross country-comparisons, it is less familiar than previous standards of US\$1.00, US\$1.25 and US\$2.00. However, they all share common flaws:

- Problems with using income (rather than consumption) have long been documented. These problems arise mainly from the fact that many individuals are either unwilling or unable to accurately report their incomes for various reasons. These reasons vary from a desire to evade (or avoid) taxes, or because they do not want others to know, or because persons may have multiple sources of income (labour income, non-labour income, remittances) which they inaccurately record and report.³ These concerns call into question the validity of income data, when it is available. In contrast, consumption typically can be measured and reported more accurately. In addition, consumption is more stable than income. Whilst income fluctuates from period to period, individuals normally smooth consumption over time as income fluctuates.
- The use of income thresholds does not account for the fact that individuals of a different sex and age may require differing caloric needs and hence different expenditures. The use of these income standards also does not account for regional variation in prices. Hence, these income-based measures are overly simplistic, and where data availability permits, some countries also have a parallel national poverty line to allow for some degree of local customization and relevance.

14. It is explicitly acknowledged in the SEDLAC guide to the database that when analysing the income data, the authors encountered the problem of non-reported and missing income, zero income, underreporting (when matched with consumption) and unreliable income. The guide cited the problem of zero income to be particularly relevant to Jamaica.

15. In the 2002 Jamaica Labour Force Survey (JLFS), when employed persons were asked to report their labour income, 63.8 per cent of the values were zero. Although in some instances attempts are made to correct these problems by imputing estimates,

³ World Bank (1994) Jamaica: A Strategy for Growth and Poverty Reduction, Country Economic Memorandum. April Report No. 12702JM)

this example vividly highlights the difficulties of gathering accurate estimates of income data.

16. In reference to the use of income rather than consumption, the SEDLAC guide explicitly states that “it is well known that household consumption is a better proxy for well-being than income”. However, it appears that the use of income by SEDLAC is justified purely to facilitate cross-country comparison across the Latin America and Caribbean region, as most countries have income rather than consumption data more readily available.

CONCLUSION

The PIOJ uses a consumption-based method to estimate poverty, with data derived from the JSLC. The IMF estimate is based on data from SEDLAC, which relies on an income-based method with data derived from the JLFS. However, the use of income data to estimate poverty is more problematic than the use of consumption data. The use of an income-based estimate of poverty may permit more convenient cross-country comparisons but such estimates should be interpreted with much caution.