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# Does Monetary Poverty Capture All Aspects of Poverty? Results from 120 Countries

Income and consumption are the workhorse metrics of individual welfare in economic analysis. They summarize a household's capacity to purchase multiple goods and services that are crucial for well-being, such as food, clothing, and shelter. And they do so with one remarkable property: because consumers choose the quantities they consume of various goods taking their relative prices into account, these relative prices serve as natural weights with which to aggregate those quantities consumed. It is why poverty has typically been defined in terms of whether a household's income reaches or surpasses a monetary threshold, the poverty line, which represents the minimum amount needed to purchase a sufficient quantity of essential goods and services.

Yet, monetary-based measures of poverty do not encompass all aspects of human well-being. One reason for this is that not all goods and services that matter to people are obtained exclusively through markets. Consequently, the prices necessary to cost these goods and services either do not exist or do not accurately reflect their true consumption value. Common examples of nonmarket goods without prices are public goods such as a clean environment and a secure community. Examples of goods with prices that often do not reflect the true consumption value include those that require large public investments to make them available—the provision of a power grid is often necessary before a household can access electricity. Other core services at least partially provided through systems supported by direct government spending include health care and education.

If monetary poverty is equally predictive of all non-monetary deprivations in all places, there would be little need to measure anything beyond monetary poverty: One could precisely predict the extent of non-monetary deprivations by measuring deprivation in daily income or consumption. However, if the monetary poor are not the ones suffering from deprivations in other dimensions a comprehensive index requires the consideration of all assessed dimensions.

In this paper, we contrast monetary poverty estimates (measured using the international poverty line expressed in 2011 purchasing power parities) at the national level with access to key nonmarket goods modeled as separate dimensions of well-being. We base these comparisons on a multidimensional poverty measure derived from standardized data for 120 countries that provides a global picture circa 2013. The multidimensional measure is anchored in consumption or income as one dimension of welfare and also includes measures of access to education and utilities -- electricity, water, and sanitation -- as additional dimensions. For a subset of seven countries, we also add measures of health and security to the analysis. The latter dimension captures whether households live in a dangerous neighborhood or have been subject to crime or an environmental catastrophe in the last year.

In this data, poverty is correlated with deprivations in other domains, but this correlation is far from perfect. While many of the monetary non-poor are deprived in either (or both) education and infrastructure, a significant fraction of the monetary poor are not deprived in education or infrastructure. Conversely, there are a significant proportion of individuals deprived in non-monetary dimensions that are not considered poor according to income or consumption. More importantly, the correlation of monetary and non-monetary poverty differs markedly by region and dimension. The monetary poor from wealthier regions have lower deprivation rates in education and basic infrastructure. For example, someone in Latin America and the Caribbean who lives on just $1.90 a day has about a 50 percent chance of living in a household without basic infrastructure, while in Sub-Saharan Africa this probability is closer to 90 percent. On the other hand, the monetary non-poor – those individuals living above $1.90 a day – are much more likely to be deprived in other dimensions if they live in Sub-Saharan Africa. Interestingly, the security dimension is sometimes negatively correlated with monetary poverty. In Ecuador, for example, households that live in dangerous neighborhoods or have been subject to crime tend to live above the international poverty line. 

A summary poverty index changes substantially when more deprivations are accounted for. The share of poor increases by 50 percent—from 12 percent living below the international poverty line to 18 percent deprived in at least one of the three dimensions of well-being. Only a small minority of the poor is deprived in only one dimension: more than a third of the poor suffer simultaneous deprivations in all three dimensions. More than in any other region of the world, in Sub-Saharan Africa shortfalls in one dimension occur alongside deprivations in other dimensions. In South Asia, the relatively high incidence of deprivations in education and sanitation imply that poverty rates could be more than twice as high when these nonmonetary dimensions are added.

The more non-monetary deprivations differ from monetary poverty, the more important it becomes for a country to consider non-monetary measures of poverty when designing anti-poverty policies. In the final part of the paper, we calculate country-level metrics that summarize the divergence between consumption and non-monetary deprivations and use machine learning methods to predict these divergences. Our features include a range of variables, such GDP per capita, inequality, summary transfer payments, measures of national policy orientation, and political factors. This helps to understand when monetary poverty is likely to give an inaccurate picture of deprivations in a country and potential explanations for why this is so.