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Discussion Paper 137

Reducing Child Undernutrition: How Far Does Income Growth Take Us?

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Great strides have been made in reducing child undernutrition over the past few decades. Nevertheless, 150 million children in the developing world are underweight, and 182 million are stunted. Moreover, progress in reducing prevalence rates has slowed. At current trends, it is clear that the goal of halving the prevalence of underweight children between 1990 and 2015—one of the Millennium Development Goal (MDG) indicator targets for poverty and hunger—will not be met.

What is needed to accelerate reductions in undernutrition to meet this target? It is well accepted that greater income at the household level means that more can be invested in food consumption; access to clean water, good hygiene, and health care; and more effective care for children and mothers. At the community level, greater income leads to improved access to and quality of health care centers and water and sanitation systems. But is income growth alone enough?

If the relationship between income growth and undernutrition reduction is not sufficiently strong, more direct investments will be required to accelerate declines in undernutrition. The imperfect correlation between nutritional status and either national income levels or national income distribution is often used to distinguish those countries that are atypical or to motivate research to account for this. In places such as Sri Lanka or the Indian state of Kerala, higher levels of health status have been achieved than might have been expected, given their income, often as a result of the provision of public actions that directly affect health or nutrition. Correspondingly, in countries where nutritional status has not improved as rapidly as might have been expected, given income growth, there may be a need to make specific investments in human resources.

The Millennium Development goal of halving the rate of child underweight by 2015 is unlikely to be met through income growth alone. What is needed is a balanced strategy of income growth and increased investment in proven direct interventions.

The majority of studies addressing the causal link between income growth and malnutrition have focused on the response of nutrient *consumption* to changes in income. Surprisingly, there has been no systematic multicountry analysis of the causal relationship between income and undernutrition. This paper helps fill that gap. Our goal is to answer the question of how far moderately rapid income growth takes us toward reducing the rate of child undernutrition.

Methodology and Data

We investigate how household resources affect the nutritional status of preschool children using household surveys from 12 countries. We use an anthropometric measure—low weight-for-age—of child nutritional status as an outcome of household decisions in health and childcare as well as in food consumption. We study the extent to which increased resources at household and national levels explain differences in this crucial outcome.

Using household survey data from 12 countries as well as aggregate data on a set of 61 developing countries, we model the relationship between child underweight and per capita income. We then use the model to predict the declines in undernutrition that can be expected from a sustained 2.5 percent annual increase in per capita income from the date of the survey (in the 1990s) to 2015.

Results

The results—at both cross-country and household levels—show that sustained income growth could produce a sizable reduction in undernutrition in the next decade or so. Even holding community and household infrastructure constant, undernutrition rates (in terms of low weight-for-age) are projected to decline by around 27 percent by 2015 in countries that can achieve per capita income growth of 2.5 percent per annum. Allowing the community and household infrastructure to change over time increases the impact of 2.5 percent per capita income growth to a 34 percent reduction in the national rates of underweight. Cross-country regressions imply similar reductions. The cross-country estimates add an additional dimension, since they show that historical patterns of income distribution are consistent with income growth, leading to marked improvements in nutrition.

While this is encouraging from the perspective of the role of broad-based income growth on undernutrition, there are some disturbing elements of these results as well. First, only 3 of the 12 countries sustained per capita economic growth rates greater than 2.5 percent in the 1990s. Second, even if all 12 countries grew at 2.5 percent over the approximate 20-year period to 2015, only 3 of the 12 countries would meet the MDG of reducing undernutrition rates by 50 percent. Third, among the countries that will not meet the MDG targets, even at a sustained 2.5 percent annual per capita income growth rate, are those with the highest current percentage of underweight preschool children. Fourth, even if all economies managed to grow at a pace that would halve undernutrition rates by 2015, each year a different cohort of preschool children—particularly those less than 36 months of age—would be irreversibly harmed. Do we need to wait this long for undernutrition rates to be halved?

While income growth can take us a long way toward meeting the MDG underweight target, it is unlikely, by itself, to ensure that it is met. What can ensure that these targets are reached and at a more rapid pace? Many effective nutrition- and health-related interventions are available to accelerate reductions in undernutrition in the short term.

Our results point to the crucial importance of pursuing a balanced strategy—including income growth—to accelerate reductions in undernutrition, though they do not identify which investments are more effective.

Keywords: Millennium Development goal, income growth, malnutrition

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