An Explanation of rural-urban variations in child nutrition status in Malawi

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Malawi has one of the highest prevalence of child malnutrition in the world. The 2004 Malawi Demographic Health Survey found that the three standard measures of malnutrition, namely stunting, wasted (or too thin) and underweight for children under five years of age were 48 percent, 5 percent and 22 percent, respectively. These figures are similar to those found since the inception of the survey in 1992, indicating that child nutrition status has not improved since.

While several studies have focused on the determinants of child nutrition status in Malawi, little attention has been given to the aspect of rural-urban variation in child nutrition status. Rural-urban variation in child malnutrition is firmly established in Malawi. For example, the most recent 2009 Welfare Monitoring Survey show that rural areas in Malawi have a higher proportion of both stunted and underweight children at 36 percent and 18 percent, respectively, compared to urban areas at 31 percent and 12 percent, respectively. With the establishment of the rural disadvantage in average child nutrition status in Malawi, this study uses the Blinder-Oaxaca type decomposition analysis, a technique which enables us to identify and quantify the separate contributions of spatial group differenced in measurable characteristic to the nutrition status of children. In other words, we want to understand how nutrition status of children in the rural areas would have looked like if the individuals sampled in rural areas had faced conditions faced by children in the urban areas, and vice versa.

Two standard indices of physical growth that describe the nutrition status of children, namely stunting and underweight, will be used to proxy the outcome variable of interest, child nutrition status. Stunting is the anthropometric height-for-age Z-scores index (HAZ) that shows pre and post-natal linear growth, while weight-for-age Z-scores index (WAZ) represents a measure of underweight.

Using dataset from the 2004 Malawi Demographic Health Survey, the analysis is undertaken in two stages. The first stage looks at the determinants of child nutrition status. The second stage is the decomposition analysis, which nets out the relative individual contributions of the factors affecting nutrition status of children to the rural-urban variations.

The study finds that consumption of liquid foodstuffs decreases odds of children being malnourished. For instance, intake of milk, water and juice are associated with 2, 6 and 7 percent decreases in the odds of stunting, respectively. These results are similar for the underweight measure of nutrition status. On the other hand, the results finds absence sex preference associated with child feeding. Further, the results from the aggregated decomposition analysis show that 61 percent and 65 percent of the respective stunting and underweight gaps averaging 0.37 for HAZ and 0.24 for WAZ would disappear if urban children were not endowed with the characteristics that rural children do not posses but that positively affect child nutrition.

A detailed decomposition of the rural-urban child nutrition status gap finds that most of the malnutrition variation between the rural and urban children is explained by their parents' education and economic status of their households. Parent's education is measured as a three category dummy variable indicating whether the mother/father has primary schooling, or has secondary or more education, or no education for mothers and fathers. The latter represents the control group. Household economic status is proxied by a wealth index, and the households are categorized into four classes, namely poor, middle, richer, and richest. The poorest group is the base category. Urban children have socioeconomic advantages compared to their rural counterparts, suggesting that poverty is a major driving force behind higher malnutrition outcomes in rural Malawi.