

# Household Economic Well-Being and Child Health in The Democratic Republic of Congo

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## **Abstract**

Health is both a direct component of human well-being and a form of human capital that increases an individual's capabilities and opportunities to generate income and reduces vulnerability. It is argued that these two views are complementary, and both can be used to justify increased investment in health in developing countries. Therefore, investment in child health constitutes a potential mechanism to end the intergenerational transmission of poverty. This paper examines the empirical impact of household economic well-being on child health, and the gender differences in effects using the Democratic Republic of the Congo (DR Congo, or DRC) Demographic and Health Survey

conducted in 2014. A series of econometric tools are used; the control function approach appears to be the most appropriate strategy as it simultaneously removes structural parameters from endogeneity, the sample selection and heterogeneity of the unobservable variables. Results suggest a significant positive effect of household economic well-being on child health. However, the magnitude of the effect varies by gender of household head; children from households headed by males appear healthier compared to those from female-headed households. In the context of DR Congo, female-headed households often have a single parent, therefore, the economic well-being effect on child health in the male sub-sample can be considered to include the unobserved contribution of women. These results have implications for public interventions that enable women to participate in paid labour market activities as a means of improving household economic well-being, which in turn could improve child health.

## Introduction and background

Pioneering research on human capital (Becker, 1964; Schultz, 1960; Mushkin, 1962) placed an emphasis on education. Only later was health afforded the same importance (Grossman, 1972b). As a component of human capital, health improves an individual's productivity and, hence, a community's welfare (Bloom and Canning, 2000). This is the main reason why health became a major concern for national and international stakeholders. In this regard, the World Health Summit in 1990 set the goal of achieving "health for all" in the year 2000. However, while the indicators of some programmes carried out in sub-Saharan Africa to combat disease indicate some improvements, the impact on access to health care and health status remains limited. In order to improve this, the international community prioritized health, especially for children under five, as part of the Sustainable Development Goals (SDG, with a target date of 2030), which followed on from the Millennium Development Goals (MDG, for which the deadline was 2015).

In the DRC, improving children's health remains an important challenge; although there has been some progress, the indicators remain unsatisfactory. The Demographic and Health Surveys (DHS) suggest that the percentage of children under five who are underweight remains high compared to the African average, even though it dropped from 25.1% in 2007 to 23% in 2014. It is also still higher than the 16.8% target in the MDG framework. The high number of underweight children should be seen in the context of the overall food security situation in the country, which remains of great concern. With a score of 41, the DRC was in last place, 82nd out of 82 countries, in the 2010 Global Hunger Index, having fallen significantly since 1990 into the "extremely alarming category" (Von Grebmer et al., 2011). The DHS reports indicate that children from the low quintiles of household economic well-being (poor households) are more often underweight compared to those from wealthy households. Children in poor

households also face more health problems, and these households have high infant and child mortality rates.

Empirical studies in economics have focused on the relationship between parents' socioeconomic background, such as income and level of education, and their children's health status. This relationship was explored by using a set of anthropometric measures, subjective and objective indicators to measure the children's health status (Becker and Tomes, 1986; Meer et al., 2003; Chalasani and Rutstein, 2014). A strong relationship was reported between maternal education, household income and child health. However, these studies have hardly been able to analyze the mechanisms through which the underlying variables affect health indicators.

Although the literature has shown that children from poor families experience more health problems than those from well-to-do families (Case et al., 2005), this does not necessarily translate into a causal relationship between a family's socio-economic situation and the children's health status (Rosenzweig and Schultz, 1983). Moreover, most of the research in this area has only used income as a measure of household economic well-being in analyzing the effects on child health and have therefore ignored the importance of moving beyond income. Researchers have also largely neglected the problem of endogeneity caused by the backward effect (simultaneity) between household economic well-being and child health. Most of these studies covered developed countries, where family structures differ radically from those of developing countries.

This paper investigates the impact of household economic well-being on child health in DR Congo by analyzing trends in children who are underweight. The potential heterogeneous effect according to households' level of economic well-being is also addressed. The hypothesis is that the richest households would be more likely to invest in seeking health care and good health behaviours that would reduce the risk of children becoming underweight. This study is of great importance in terms of policy that is rooted in the international community's commitment to end all forms of malnutrition by 2030 according to the United Nations' SDG. Thus, this study will be a major contribution to informing policies aimed at achieving the third SDG in DR Congo.

## Methodology

The data used in this study are from the 2013–2014 Demographic and Health Survey (DHS) conducted by the DR Congo Ministry of Planning, the Ministry of Public health, MEASURE DHS, ICF International in collaboration with UNICEF, and other international donors. The sample was selected stratum by stratum. Thus, the sample was based on an area sample, stratified at the level of primary units and selected over multiple stages. The final sampling unit used was the cluster (quarter or village) and, in total,

540 clusters were selected. A total of 18,360 households (5,474 from urban areas grouped into 161 clusters, and 12,886 from rural areas grouped into 379 clusters) were selected. The objective of the DHS was to produce representative results at the national as well as urban, rural and provincial level (Ministère du Plan et al., 2014). Within households, questionnaires were administered to women aged 15 to 49 years old. Information on birth history, individual characteristics, health behaviour, and child health was collected. Data for the analysis were taken directly from the children's records and from the women surveyed; only the last-born child who was younger than five years old was considered.

## Conclusion and policy implications

This study attempted to establish an empirical link between household economic well-being and child health using the DR Congo's Demographic and Health Survey data. The effect of household economic well-being on child health was also estimated and gender disparities in spill-over effects were examined. A series of econometric estimation methods were used and the control function approach emerged as the most appropriate strategy as it concurrently excludes structural parameters from endogeneity, sample selection and heterogeneity of unobservable variables. The results suggested a significant and positive effect of household economic well-being on child health. Correcting for endogeneity and taking into account the unobserved heterogeneity significantly increases the magnitude of the effect. The magnitude of the effect varied by gender, as households headed by males were seemingly more likely to undertake better health behaviours that would improve health inputs than their female counterparts. In the context of DR Congo, female-headed households are often single parents, therefore the economic well-being effect on child health depicted in the male sub-sample is considered to include the unobserved contribution of women. Moreover, among the sociodemographic variables it was noted that younger children are more likely than older children to be underweight, and that birth weight remains a significant determinant of children's health under five years of age.

These results have implications for state intervention in the promotion of social facilities (child care centres and health centres) as an important factor for the allocation of women's time to paid activities in the labour market as a means of enhancing income growth and household economic well-being, which in turn will improve child health. These results also have implications for public intervention in the creation and promotion of employment opportunities in all sectors, particularly in the agricultural sector. By doing this, the income generated by employment could support the accumulation of household assets and the improvement of housing and habitat conditions and good living conditions, which will result in the improvement of children's health.

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