



Health is Wealth: The Impact of Health Insurance on Multidimensional Poverty in Ethiopia

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Abstract

While previous empirical studies extensively examined the determinants of households' health insurance (HI) uptake, little has been done to evaluate the accompanying impacts on household welfare and poverty incidence. This study bridges the existing gap in literature by examining the impact of HI on multidimensional household poverty. The data comes from the latest wave of the Ethiopia Socio-economic Survey (ESS) collected in 2018/19. The study uses propensity score matching and inverse probability weighted regression adjustment to even out the distribution of observed characteristics across

purchasers and non-purchasers of HI. As these methods could not address simultaneity and self-selection biases, the study uses the endogenous switching analysis, which integrates HI uptake and multidimensional household poverty equations, considering the interdependencies among the equations and their relationships with relevant observed household characteristics. The results reveal that households' uptake of HI significantly reduces their probability of being multidimensionally poor. Moreover, the heterogeneous impact assessments of this study show that the desired impact of HI is more pronounced among male-headed households, households with a majority of adult male members, and households in urban areas. This study sheds light on the role of universal health coverage through HI as a policy instrument in the fight against multidimensional deprivations in the context of sub-Saharan Africa.

Introduction

Health endowment is a crucial individual attribute that determines household welfare by affecting labour force participation (Nwosu and Woolard, 2017). People's health depends in part on their ability to access appropriate and quality healthcare services (Moscone *et al.*, 2019). From the supply side of healthcare services, the political economy of "the right to health" in Sub-Saharan Africa (SSA) mainly centres around governments' proactive efforts to increase investment in public health facilities (Sambo and Kirigia, 2014). From the demand side, users' out-of-pocket (OOP) health expenditure has been identified as a vital element that determines households' ability and willingness to utilize healthcare services. Most governments consider eliminating or heavily subsidizing user fees at public health facilities.

However, public health facilities in SSA are often unstaffed, or have inadequate drugs and essential equipment. The breakdown in public service delivery has meant that people have to get their services from the private sector, exposing them to 'catastrophic' health expenditures (James *et al.*, 2006). This calls for health insurance (HI) schemes to improve healthcare utilization at the appropriate place of health service delivery that matches the needs of households without inducing health-related poverty traps. The topic of HI has not yet touched the heart of national politics of SSA countries as it has been in other parts of the world. Recently, there are promising developments to improve health coverage in SSA through innovative schemes such as community-based HI.

In this light, the Government of Ethiopia is pushing the agenda of compulsory health insurance schemes targeting households in agricultural and informal sectors using community-based health insurance (CBHI) and those in the formal sectors in urban settings using social health insurance (SHI) as a means of achieving universal health coverage in the country (Ali, 2014; Lavers, 2019). As shown in Table 1, though the proportion of households with HI in Ethiopia almost tripled between 2016 and 2019,

more than 80% of the population remains without HI. Previous studies on the topic of HI schemes mainly focus on identifying drivers of households' HI uptake decision (Mebratie *et al.*, 2015; Nsiah-boateng and Aikins, 2018; Minyihun *et al.*, 2019), their effects on healthcare utilization, and OOP healthcare payments (Atnafu *et al.*, 2018; Gustafsson-wright *et al.*, 2018; Mebratie *et al.*, 2019), and health outcomes (Fink *et al.*, 2013) of households. However, empirical evidence on the impact of HI on alleviating multidimensional poverty (MP) is non-existent. Furthermore, plausible variations in the impact of HI on multidimensional poverty based on variables that may add to households' vulnerabilities (such as gender or rural-urban divide) have not been identified and discussed.

As health shocks may induce multidimensional deprivations by affecting households' income generating capacities and diverting resources from utilization of basic goods (such as food) and services (such as education), it is equally important to examine the impact of HI on the incidence of multidimensional poverty among households to extrapolate on the socio-economic consequences of political actions that intend to ensure universal health coverage in Ethiopia. This is particularly interesting in the presence of multiple overlapping shocks or intersecting vulnerabilities. The COVID-19 pandemic traps households into deeper poverty, aggravating downward mobility in Ethiopia Mekasha and Tarp (2021). Gender and geographical location are also major sources of vulnerabilities to health shocks. Women in rural areas have limited ability to utilize essential health services due to their limited access to and control over resources (Nwogwugwu, 2020). This adds to the challenge in the fight against poverty in Ethiopia, where significant progress has not been observed in reducing multidimensional poverty. The Oxford Poverty and Human Development Initiative (OPHI) report shows that 15.3% of all the 559 million multidimensionally poor people in SSA live in Ethiopia, and thus next to Nigeria, Ethiopia has the second largest number of multidimensionally poor people in the region (OPHI, 2018).

However, in Ethiopia, there is a huge difference in incidence of poverty and reported reduction in headcount poverty rate depending on how poverty is measured. According to the World Bank (2020) Ethiopia poverty assessment, using a monetary measure of poverty (i.e., share of households with consumption expenditure below a certain threshold, defined as the poverty line), poverty incidence was 29.6% in 2011 and declined to 23.5% in 2016 (Table 1). Based on figures from OPHI (2014; 2018), the multidimensional poverty rate in Ethiopia was 87% in 2011 and reduced to around 84% in 2016. Therefore, the incidence of poverty is around 60 percentage points higher and the reduction in poverty headcount is less than half of what has been reported when multidimensional measure of poverty is used than monetary measure. Such variations in the estimates of national poverty status may result in lack of common perceptions of elites on national welfare and poverty which, according to Reis (2010), has adverse consequences on the willingness and the extent of resources that elites would mobilize towards poverty reduction. Elites common understanding of poverty as a major

development challenge may lead to what Stefan Dercon calls a ‘development bargain’, whereby a country’s elites shift from protecting their own positions to gambling on a growth-based future by addressing key development challenges.

Table 1: Trends in HI uptake and incidence of multidimensional poverty

Variables of interest	Year			
		2011	2016	2019
HI uptake in Ethiopia (%)				17
MP head count (%)	Ethiopia	87	84	81
	SSA	59.5	57.7	

The multidimensional poverty challenge is not homogeneous everywhere and for everyone. There is a significant variation between rural and urban areas in multidimensional poverty incidence in the context of Ethiopia. Specifically, rural areas bear the brunt of multidimensional poverty compared to urban areas (Tigre, 2018; Bersisa and Heshmati, 2021; Debebe and Wuletaw, 2021). Out of the total multidimensionally poor households, the 2018/19 ESS data show that rural areas have 10 percentage points higher multidimensionally poor households than urban areas, where 45% of the multidimensionally poor households reside. Furthermore, the World Bank’s 2018 Poverty and Shared Prosperity Report shows that the incidence of multidimensional poverty is higher among women than among men globally. This is the same for Ethiopia where women were more likely to head multidimensionally poor households than men (Admasu *et al.*, 2021).

Against this background, this study provides empirical evidence on the impact of HI on multidimensional poverty incidence and conducts comparative analyses through gender lens and rural-urban divide using data from the Ethiopia Socio-economic Survey (ESS). However, establishing the correct relationship could be obstructed without addressing the possible feedback effect of poverty on the HI uptake of households. To this end, this study uses the endogenous switching analysis as a preferred causal inference method to account for simultaneity and self-selection biases, which could not be addressed using simple regressions or matching methods. In so doing, the findings of this empirical study provide evidence on the desirable impact of improving rural households’ access to HI on reducing the incidence of multidimensional poverty in Ethiopia. The average treatment effect estimates shows that the incidence of multidimensional poverty among households in Ethiopia can be reduced by four percentage points attributed to universal health coverage through HI. However, the impact of HI on multidimensional poverty status of households is heterogeneous, conditional on their place of residence (i.e., rural vs urban) and gender (i.e., female vs male-headed households and households with majority female adults vs households with majority male adults). As such, female-headed households, households with majority female adult members, and households living in rural areas benefited less from HI than their counterparts - male headed households, households with majority male adult members, and households living in urban areas, respectively.

The findings and recommendations of this study provide valuable insight into policy action to reduce multidimensional poverty in Ethiopia. In doing so, the study will contribute to realizing the strategic pillars of Ethiopia's ten years perspective development plan (2021-2030), which maps the country's pathways to prosperity and what should be done to leave no one behind in the fight against poverty. Out of the six strategic pillars that support the development plan, this research aligns with two of them, namely: (i) ensuring quality economic growth (that should ensure improved standard of living of every citizen and reduced poverty); and (ii) increasing/raising production and productivity including through improving and protecting human capital development.

Source of data

This study uses the Ethiopia Socio-economic Survey (ESS), a nationally representative data set fielded in the year 2018/19 and consists of 6,770 households. Though the ESS generates panel data for the years 2011/12, 2013/14 and 2015/16, the 2018/19 survey round is not a follow-up of the previous waves. Moreover, unlike the previous ESS waves, the 2018/19 survey round (ESS4) contains data on the type of health insurance that each household was covered under (such as through employer provision, community-based health insurance or private health insurance). Therefore, the ESS4 is used for cross-sectional analysis as it presents recent data on health insurance uptake of households in Ethiopia.

Conclusion and policy recommendations

The significance of health to individual and household welfare and living conditions has been reflected in universal proverbs such as "health is wealth". The main aim of this study is to contribute to the evidence base on the poverty reduction impact of HI and shed light on the extent to which the role of HI in protecting households' consumption of basic goods and services and improving their living standard varies based on gender aspects and rural-urban divide. This study uses endogenous switching analysis to account for selection and simultaneity biases, which are major concerns of causal inference methods using cross-sectional data. The results from the selection equation show that living in a community with a large proportion of households with HI has a strong effect in getting households to take-up health insurance. Age of the household head and family size are also positively correlated with HI uptake. The treatment effect estimates of the endogenous switching model reveal that HI significantly decreases the incidence of multidimensional poverty among households in Ethiopia. As such, HI can play a substantial role in the fight against multidimensional poverty in Ethiopia, which has the second largest number of multidimensionally poor people in SSA next to Nigeria. Therefore, HI can serve as an instrument of poverty alleviation and development in Ethiopia and possibly across SSA.

The heterogeneous impact assessment of this study reveals that the impact of HI on household multidimensional poverty varies based on gender-related factors (specifically, female vs male headed households and households with majority female adults vs households with majority male adults) and place of residence (i.e., rural vs urban). Accordingly, HI significantly decreases the incidence of multidimensional poverty only for male-headed households and households with majority male adult members. In this light, as it stands, HI has a limited role in the fight against feminized poverty. Moreover, the desirable impact of HI in alleviating multidimensional poverty is the highest among urban households. This is plausibly because of HI in avoiding catastrophic health expenditures that urban households are more likely to be exposed to as health care service providers tend to concentrate in urban areas.

The study highlights the role of designing national policies and strategic plans to enforce mandatory health insurance to the citizens as an instrument of development to alleviate multidimensional poverty in Ethiopia. Therefore, this study recommends designing and implementing national policies towards universal health coverage through health insurance schemes in the country. Considering the findings of this study on heterogeneous impact of HI based on gender aspects and area of living of households, one-size-fits-all type of policy making should be avoided to design universally accessible health insurance schemes that aim to halt inequality and exclusion. The study also calls for the design and implementation of policies that promote supply of healthcare services and health seeking behaviour among vulnerable groups, such as female-headed households, households with majority women members, and households in rural areas, to capitalize on the poverty reduction impact of HI in Ethiopia. Through multidimensional benefits of universally accessible HI schemes, household-level gains may transcend into poverty alleviation and economic development at the meso- and macro-level.

The study findings and resulting policy recommendations are based on household-level cross sectional data. Particularly, this study relies on econometric techniques to construct counterfactuals, and assess variations in multidimensional poverty status of households with and without HI uptake at a given point in time. There is need for further investigation on the within-household variations of this study's outcome variables of interest across time in relation to HI uptake. To this end, panel data before and after households' HI uptake and preferably with random assignment of households to HI schemes will facilitate empirical investigations on within-household multidimensional poverty dynamics related to HI uptake. Furthermore, cost implications of UHC through HI in Ethiopia could also be a relevant research topic that would shed light on budgetary requirements of the country.

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