

## Researcher

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# How Beliefs About HIV Affect Fertility, Infant and Child Mortality, and Child Schooling in Rural Malawi

This project analyzes how women's beliefs about their own HIV status affect fertility and intergenerational investments in human capital in rural Malawi. It also evaluates the scope for different policy interventions to affect fertility patterns, infant and child mortality, and child schooling.

I develop a dynamic lifecycle model of women's decision-making with regard to fertility and schooling of children in an environment of uncertainty about own HIV status. The uncertainty about own health status implies uncertainty about the length of one's own life and the probability of infant mortality. I structurally estimate the model using the Malawi Diffusion and Ideational Change Project data set, collected in three rural regions of the country between 1998 and 2008. I use the estimated model to make quantitative predictions about the impact of a range of actual and hypothetical policies. Examples of such policies include (but are not limited to) increasing access to educational and health facilities and services, provision of antiretroviral drugs, and different cash transfer schemes.

## Countries where the research will take place

Malawi

## How does the research describe the impact of population/reproductive health on poverty reduction and/or economic growth?

Parents' decisions about fertility and investments in the human capital of their children depend on their beliefs about their own longevity and child mortality. The HIV/AIDS epidemic reduces the longevity of infected individuals and increases rates of child mortality through mother-to-child transmission. In an environment with high levels of mortality and morbidity due to HIV, such as in rural Malawi, parents' beliefs about their own infection status have the potential to affect their choices regarding reproduction and investments in child education.

Decisions regarding reproduction and child schooling have particular importance when considering economic well-being in the rural Malawian setting. With subsistence farming the main source of income, parents are likely to rely on assistance from their children at least for some portions of their life cycle. Therefore, investments in children are also

investments in the future welfare of the parents. At the macrolevel, population growth and aggregate human capital levels are closely related to economic growth.

## How will the research address a policy need, and what kind of policy lesson is expected?

The structural estimation approach will enable me to simulate the effects of a range of actual and hypothetical policies and make quantitative predictions about their impact on fertility patterns, child and infant mortality, and schooling outcomes.

## Methods used

I develop a dynamic lifecycle model of women's decisionmaking with regard to fertility and schooling of children in an environment of uncertainty about own HIV status. It extends modeling frameworks developed by Wolpin (1984) for fertility and by Todd and Wolpin (2006) for fertility and schooling. A central feature of the model is that women have beliefs about whether they are infected with HIV. These beliefs affect decisions through two channels: by shortening the women's expected life horizon and by increasing the expected probability of child mortality (through mother-to-child transmission). I structurally estimate the model and evaluate its performance in explaining decisionmaking by women with different subjective risk assessments. Using the estimated model, I assess the impact of existing and counterfactual policy interventions.

## Data used

The main source of data is the Malawi Diffusion and Ideational Change Project, a rich longitudinal data set designed to study how individuals, households, and communities in rural Malawi cope with the consequences of high levels of mortality and morbidity. I complement it with the Malawi Second Integrated Household Survey data set, which includes more comprehensive information on household consumption and expenditures.