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## PSC WORKING PAPER

# An Equilibrium Model of the African HIV/AIDS Epidemic

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**Abstract**

Eleven percent of the Malawian population is HIV infected. Eighteen percent of sexual encounters are casual. A condom is used one quarter of the time. A choice-theoretic general equilibrium search model is constructed to analyze the Malawian epidemic in the developed framework, people select between different sexual practices while knowing the inherent risk. The analysis suggests that the efficacy of public policy depends upon the induced behavioral changes and general equilibrium effects that are typically absent in epidemiological studies and small-scale field experiments. In some interventions (some forms of promoting condoms or marriage), the quantitative exercise suggests that these effects may increase HIV prevalence, while for others (such as male circumcision or increased incomes) they strengthen the effectiveness of the intervention. The underlying channels giving rise to these effects are discussed in detail.

**Keywords**

Bayesian learning, circumcision, condoms, disease transmission, HIV/AIDS, homoeconomicus, Malawi, marriage, policy intervention, sex markets, search, STDs

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