

THE IMPACT OF AIDS ON INCOME AND HUMAN CAPITAL

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This paper studies the impact of HIV/AIDS on per capita income and education. It explores two channels on how HIV/AIDS affects income that have not been sufficiently stressed by previous literature: the reduction of the incentives to stay in school due to shorter expected longevity and the reduction in productivity of experienced workers. In the model, individuals live for three periods, may get infected in the second period, and with some probability die of AIDS before reaching the third period of their lives. Parents care for the welfare of the future generations so that they will maximize lifetime utility of their dynasty. The simulations predict that the most affected countries in Sub-Saharan Africa in the future will be, on average, 30% poorer than they would be without AIDS. Schooling will decline in some cases by 40%. These figures are dramatically reduced with widespread medical treatment, as it increases the survival probability and productivity of infected individuals. (JEL O11, I12, C15, O55)

I. INTRODUCTION

In the time it takes to read this paper, more than 1600 people will become infected by the HIV virus worldwide and 960 will die due to AIDS. Seventy-one percent of the deaths will occur in Africa, by far the worst-affected region. Out of the 39 million persons estimated to be living with HIV/AIDS in the world, almost 65% live in Sub-Saharan Africa.¹ Worse still, of the 5 million adults and children newly infected with HIV, 4 million are Africans, an indication that the epidemic may not yet have reached its peak. In some countries, such as Swaziland, one

out of three adults is infected, and the figures for Lesotho, Botswana, and Zimbabwe are not much different. By the end of 2005, there were ten countries in Africa in which more than 10% of the adult population was infected with HIV, and another five countries with infection rates between 6% and 8%.

It is clear today that AIDS is not only a health disaster, but a major development crisis. There is now a large array of papers, books, and newspaper articles dedicated to the study of the economic consequences of AIDS in Africa (and elsewhere). The majority of them are case studies from household or hospital surveys, from firm or plant level evidence, and from government reports.

The present paper explores two channels on how HIV/AIDS affects long-run income that have not been sufficiently stressed by the literature: the reduction of the incentives to stay in school due to shorter expected lifespan and the reduction in productivity of experienced workers. According to the World Population Prospects (United Nations 2001), life expectancy at birth in the 35 highly affected countries of Africa was estimated to be, in 1995–2000, 6.5 yr less than it would have been without AIDS. In Botswana, life expectancy went from 60 yr in 1985 to less than 40 in 1999 while in countries such as Swaziland, Zimbabwe, Zambia, and South Africa it decreased in the same period by more than 10 yr. When comparing to 2015 projections (U.S. Census Bureau

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1. All the figures in this paragraph are from UNAIDS (2006).