

1073-91-141

Mark Gersovitz* (gerso@att.net), Department of Economics, Johns Hopkins University, Baltimore, MD 21218. *Disinhibition and Immiserization in a Model of Susceptible-Infected-Susceptible (SIS) Diseases.*

Infectious diseases induce externalities in private choices about prevention and therapy. An improvement in either the technology of prevention or therapy may lead private agents to decrease their preventive or therapeutic efforts, a phenomenon termed disinhibition by epidemiologists. If governments cannot or do not adopt interventions to internalize these externalities, a technological improvement may even lead to disinhibition so extreme that the infection rate rises. A rise in the infection rate is a necessary but not sufficient condition for immiserization, the paradoxical fall in welfare consequent on a technological improvement. These issues are investigated in a model in which susceptibles may become infected and infecteds may recover to be again susceptible. Conditions are provided for when the infection rate can rise depending on whether the improvement is to the technology of prevention or therapy and at whom prevention or therapy is targeted, as well as other parameters of the model. Results are provided for a general formulation and for a special functional form. (Received July 31, 2011)