

## **The Endogenation of Immunization**

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Abstract:

Vaccines are one of our finest examples of scientific miracles -- they are cheap, easily administered, and provide life-long protection against dangerous and deadly infectious diseases. However, the long-term sustainability of the current vaccine economics is uncertain. The interaction of economic and biological factors means some important vaccines are not universally available today. And the reliance of vaccines on centralized production introduces hysteresis leaving production can be sensitive to sudden transitions in national economic structure. In this talk, I'll explore some new mathematical models that couple macroeconomic dynamics with epidemiological dynamics, investigating the existence of alternative "solutions" with endogenous immunization systems and possible transition paths to these new systems.