**The Macroeconomics of Epidemics**

The model extends the canonical SIR model to study the equilibrium interaction between economic decisions and epidemic dynamics. The model features a two-way interaction between the epidemic and the economy. On the one hand, people’s decision to cut back on consumption and work reduce the severity of the epidemic, as measured by total deaths. On the other hand, these same decisions exacerbate the size of the recession caused by the epidemic. In addition to the baseline model, authors study containment policy measures with three additional extensions of the model: Medical preparedness, Treatment, and Vaccination.

SIR model: Modified version of canonical SIR model proposed by Kermack and McKendrick (1927), where transition probabilities depend on people’s economic decisions.

Economic model: Simple three sector economy, featuring households, who do not have access to savings, firms, who produce consumption good according to the production technology which is a function of labor input, and government, which levies Pigouvian tax rate on consumption.