

## **Social Distancing and Supply Disruptions in a Pandemic**

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### **Abstract**

Drastic public health measures such as social distancing or lockdowns can reduce the loss of human life by keeping the number of infected individuals from exceeding the capacity of the health care system but are often criticized because of the social and economic costs they entail. We question this view by combining an epidemiological model, calibrated to capture the spread of the COVID-19 virus, with a multisector model, designed to capture key characteristics of the U.S. Input Output Tables. Our two-sector model features a core sector that produces intermediate inputs not easily replaced by inputs from the other sector, subject to minimum-scale requirements. We show that, by affecting workers in this core sector, the high peak of an infection not mitigated by social distancing may cause very large upfront economic costs in terms of output, consumption and investment. Social distancing measures can reduce these costs, especially if skewed towards non-core industries and occupations with tasks that can be performed from home, helping to smooth the surge in infections among workers in the core sector.