

# Economic damage could be worse without lockdown and social distancing, study finds

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A reporter takes a photo of Donald Trump during a White House coronavirus briefing in April. Credit: White House

The worst thing for the economy would be not acting at all to prevent disease spread, followed by too short a lockdown, according to research based on US data.

There is much debate over the economic costs of our lockdown lives: whether the price of disease mitigation is worth the risk of an enduring

financial crisis.

[New research](#) from the University of Cambridge suggests that there is no absolute trade-off between the economy and [human health](#)—and that the economic price of inaction could be twice as high as that of a "structured lockdown."

A Cambridge economist, together with researchers at the US Federal Reserve Board, has combined macroeconomics with aspects of epidemiology to develop a model for the economic consequences of social distancing.

The study uses US economic and [population data](#), but the researchers say their findings have implications for most developed economies.

It divides the working population into "core workers"—those in healthcare as well as food and transportation, sanitation and energy supply, among others—and then everyone else, and models the spread of the virus if no action is taken.

"Without public health restrictions, the random spread of the disease will inevitably hit sectors and industries that are essential for the economy to run," said co-author Prof Giancarlo Corsetti, from Cambridge's Faculty of Economics.

"Labour shortfalls among core workers in particular strip more value from the economy. As essential team members within this core sector drop out of the workforce, it impairs production far more than losing those in other areas of the economy."

By separating the core and non-core workers, the study suggests that the economy would shrink by 30% or more without lockdown and social distancing. "By ignoring this division in the workforce, we may badly

underestimate the true depth of economic damage," Corsetti said.

Using data from the US Bureau of Labour Statistics, the researchers then quantified the share of workers who could "reasonably keep performing occupational tasks at home": 15% of those in core sectors, and 40% of everyone else currently working—along with 30% of all non-working age people, from children to the retired. This puts a third of the entire population on lockdown.

In this scenario, the infection curve is smoothed out through social distancing, and the rate of loss in economic output is around 15%, just half the level of damage if no action is taken to prevent disease spread.

Sickness rates for core workers would be the same as the rest of the population, the high levels of social distancing elsewhere act as a shield.

"This overarching policy flattens the curve," said Corsetti. "The peak of the infected share of the population drops from 40% to about 15%. However, this is still far too high given the capacities of healthcare systems."

So the researchers also modelled a scenario where infection rates are kept to a manageable level for healthcare services of under 1.5% of the population for 18 months—the length of time many believe it will take for a vaccine to arrive.

This would mean lockdown shares of 25% of core workers, 60% of workers outside of core, and 47% of non-working age people. Under this scenario, the economy contracts by 20%.

The study also looked at a very strict lockdown—40% of core workers and 90% each of non-working age and everyone else—that lasts for just three months. Such a scenario simply delays the infection rates but

prevents "herd immunity," creating an economic drop comparable to that of taking no action in the first place.

"As well as containing the loss of life, committing to long-term social distancing structured to keep core workers active can significantly smooth the economic costs of the disease," said Corsetti.

"The more we can target [lockdown](#) policies toward sections of the [population](#) who are not active in the labour market, or who work outside of the core sector, the greater the benefit to the [economy](#)," he said.

"What seems clear to us is that taking no action is unacceptable from public health perspective, and extremely risky from an economic perspective."

However, Corsetti and colleagues caution that the lingering uncertainties around just how the coronavirus spreads means their scenarios are not forecasts, but should be taken as a "blueprint" for further analysis.

**More information:** Working paper: [www.inet.econ.cam.ac.uk/workin...aper-pdfs/wp2017.pdf](http://www.inet.econ.cam.ac.uk/workin...aper-pdfs/wp2017.pdf)

Provided by University of Cambridge

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