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Will the COVID-19 pandemic reduce potential output?

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The coronavirus disease 2019 (COVID-19) pandemic derailed investment, employment, and productivity, thus decreasing output in the United States. As the U.S. economy recovers, economists are asking whether potential output will catch up to the previous output level. In a recent working paper titled "The impact of COVID on potential output" (Federal Reserve Bank of San Francisco, Working Paper 2021-09, March 2021), economists John Fernald and Huiyu Li analyze changes to capital, labor, and the allocation of those two inputs to research how COVID-19 has affected output. They also consider risks that could reduce output.

To measure potential output, the authors study how capital and labor inputs were being used before and how they are used after the COVID-19 recession. Labor inputs include both hours and labor quality because various labor variables affect output.

To compare a prepandemic to a COVID-19 trajectory of potential output, the authors use a benchmark average growth rate of 1.55 percent from 2004 to 2018. The authors calculate that in the short term, output will be reduced by about a percentage point before returning to a postpandemic normal. The pandemic slowed growth by reducing business investments. The authors argue that the decline in capital was disguised because businesses needed to repurchase existing equipment so that their employees could telework.

The labor supply suffered shocks in both the short and long term. In the short term, school and daycare closures forced parents, mainly mothers, to opt out of the labor force. Potential output is reduced if the parent does not return to the labor force. Students suffer from school closures because their educational attainments are reduced. The authors cite work from Fernald, Li and Ochse, who found that labor inputs would be reduced by 0.5 percent in the long run, which would reduce potential output until the affected cohort retires. Business closures and early retirements also affect labor supply. The authors calculate the reduction of labor input by retirees to be 0.2 percent or less in 2021 and 0.1 percent in 2025–26.

A risk to potential output that the authors considered was how business cut research and development spending. Certain businesses had to shift to researching about COVID, and if the pandemic never occurred, they could have spent time researching ways to find new markets and customers instead. The authors also extended this logic to the business executives who spent time thinking of the pandemic rather than growing their businesses.

After considering everything, the authors conclude that potential output will be reduced in the short term. However, the pandemic will likely not affect output like the Great Recession did, and the U.S. economy will continue its slow-growth trajectory in the long run.