Countries around the world are facing widespread economic disruption from the COVID-19 pandemic and the social distancing measures taken to curtail the spread of the virus. In the United States, unemployment has soared to historic levels and GDP growth has fallen sharply. Policymakers anticipate that many of these effects will be temporary and that economic activity will return to more normal levels once the threat of the virus has passed. With that in mind, researchers are exploring whether the economic losses associated with this disruption will be short-lived or long-lasting.

While the response to COVID-19 has shuttered entire subsectors of the economy, so far the pandemic has not irreparably damaged capital or labor productivity. On one hand, this fact suggests that losses in employment and output could be temporary as businesses are able to resume operations once the immediate threat has passed. On the other hand, even temporary shocks to the economy can have lasting effects. In remarks about the crisis delivered on May 13, Federal Reserve Chair Jerome Powell noted that “the record shows that deeper and longer recessions can leave behind lasting damage to the productive capacity of the economy.”

The housing market crash of 2006–09 presents an instructive example. Like the novel coronavirus, the housing market boom and bust did not directly damage capital or labor productivity. Despite this fact, the U.S. economy took a long time to recover. As this Economic Brief will explore, local responses to the housing crisis left scars on employment and GDP that lasted years after the initial shock to the economy had subsided. Studying the response to the housing crisis may provide some clues of what to expect in the aftermath of COVID-19.

Scars of the Housing Crisis
In a recent working paper, Saroj Bhattarai, Felipe Schwartzman, and Choongryul Yang examine the local effects of the 2006–09 housing crisis. Following the example of Atif Mian and Amir Sufi, they calculate the change in household net...
worth due to housing for each state and county. Sorting counties into three categories in terms of the change in housing net worth that households experienced in 2006–09, Bhattarai, Schwartzman, and Yang find that counties with the greatest losses in net worth also suffered the greatest losses in employment and output. Those effects persisted long after house prices and household debt-to-income ratios had largely returned to precrisis levels. (See Figure 1).

As can be seen in panels A and B of Figure 1, employment and output in the worst-hit counties remained below precrisis levels in 2018. Bhattarai, Schwartzman, and Yang find that a 10 percent negative housing price shock in 2006–09 resulted in 3.3 percent lower employment and 4.6 percent lower output in 2018 compared with 2006. Panel C of Figure 1 shows how these economic scars persisted despite the fact that labor market slack, as measured by the employment-to-population ratio, returned to normal around 2014. Likewise, measures of household wealth, such as the debt-to-income ratio depicted in panel D, returned to normal a few years after the crisis even in counties that experienced the largest boom and bust in housing.

Why did the housing crisis have such persistent effects on employment and output? Financial or wealth shocks can have lasting demand-side effects associated with household deleveraging. And it is possible that the housing boom and bust permanently depressed productivity, which would hamper long-run growth. Bhattarai, Schwartzman, and Yang ultimately reject these hypotheses, however. After controlling for other shocks during 2006–09, using

![Figure 1: County-Level Changes in Economic Variables by Severity of Declines in Housing Net Worth](image)


**Notes:** The upper panels plot the percent deviation of employment (panel A) and GDP (panel B) from their trends by grouping counties in terms of the severity of housing net worth declines. Employment trend is calculated by taking average growth rates from 1998–2002 for each county and using those to project 2002 employment linearly into the future. The GDP trend is calculated by using average growth rates from 2002–06 for each county. The lower panels plot the percent deviation of the employment-to-population ratio (panel C) and debt-to-income ratio (panel D) from their 2002 levels.
a series of control and instrumental variables, it becomes clear that household deleveraging eventually ended and labor productivity was not significantly affected by the housing market disruption. The long-run effects of the housing crisis must have another explanation.

**Local Adjustments**
Figure 1 points to the role that local population adjustments to the housing crisis may have played in the persistent decline in employment and output.

The employment-to-population ratio and unemployment rate eventually recovered to precrisis levels, but total employment remained depressed in the counties that experienced the largest housing shock. In a seminal 1992 paper, Olivier Blanchard and Lawrence Katz found that regional labor market adjustments to economic shocks can have long-lasting or even permanent effects on employment.7 They documented that after a negative shock, local labor market slack (measured by the employment-to-population ratio or unemployment rate, for ex-

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**Figure 2: Changes in Employment by Sector**

**PANEL A: TRADABLE SECTORS**

**PANEL B: NONTRADABLE SECTORS**

**PANEL C: CONSTRUCTION SECTOR**

**PANEL D: HIGH-SKILL SERVICE SECTOR**


**Notes:** The figure plots the impulse responses of employment to the 2006–09 housing shocks by sectors. Results are from instrumental-variable estimates using quantiles of Saiz (2010) housing supply elasticities as instruments. Dashed lines indicate 95 percent confidence intervals. The 2002 shares of twenty-three industries and prior trends are included. Prior trends for sectoral employment are the growth rates of employment in each sector from 1998–2002. Sample weights (by number of households) are applied to all specifications. Robust standard errors (clustered by state) are used to calculate the confidence intervals.
finding that regions that experienced the largest housing shock also suffered the deepest long-run losses suggests that regions facing larger shocks from the pandemic may also experience larger persistent losses in employment and output if workers migrate from those regions to less-affected areas.

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Endnotes

6 For an example of how temporary shocks can affect long-run growth through this channel, see Diego Anzoategui, Diego Comin, Mark Gertler, and Joseba Martinez, “Endogenous Technology Adoption and R&D as Sources of Business Cycle Persistence,” American Economic Journal: Macroeconomics, July 2019, vol. 11, no. 3, pp. 67–110.
9 If much of the adjustment takes place through population movements, regressions at the county level might not be appropriate because individuals may live in one county but work and shop in another so that loss of employment in a locality...
need not be borne by the local population. To address this concern, Bhattarai, Schwartzman, and Yang conduct the same analysis using core-based statistical areas, which are collections of counties linked by commuting. They find the same general patterns.

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