

How COVID has changed the way Americans work, and how much money they have

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According to a [new paper](#) in the *Review of Economic Studies*, the widespread adoption of work-from-home technology has had dramatic consequences for American life.

Using an equilibrium model where people choose where to live and how to allocate their time between working at home and at the office, the researchers here find that the pandemic induced a substantial increase in the relative [productivity](#) of those working from home. This change has increased housing prices, reduced office rent costs, and will permanently increase income inequality and change where people live within a metro area.

The COVID-19 pandemic accelerated the widespread adoption of technologies that enabled households to work from home. Observers expect the amount of this work to be several times higher post-pandemic than pre-pandemic. The researchers here postulate that the mass adoption of remote-work technology has raised the productivity of those working from home permanently relative to working at the office.

This improved productivity is not true across all aspects of work. Most workers can easily accomplish routine work tasks from home. Collaborative work, on the other hand, is likely to be easier in the office, given the difficulty of scheduling every single interaction with a colleague while at home. While it is often easier to complete a well-defined task at home, it may be easier to start a collaborative one at the office.

The researchers document that working from home is not a new phenomenon. Rather, starting in at least the early 2000s, some workers spent a small fraction of workdays working entirely from home, and this fraction of workers increased over time until the COVID-19 pandemic. In 2019, about 5% of full days worked by all workers were worked from home, with steep differences across education groups: 9% of days for workers with a bachelor's degree or higher, 10% for workers with an advanced degree, and only 2% for workers with a high school degree or less.

In contrast to the slow trend in full days of work from until 2019, other research has estimated that full days of work from home quadrupled from the pre-pandemic (2019) period to today (2022 and beyond). The research of this paper estimates that the improvement in total factor productivity of a day of WFH relative to a day at the office required to generate a fourfold increase in the number of days worked from home is large: 48% for low-skill workers and 82% for high-skill workers.

The paper finds that this change in relative productivity causes a major, permanent shift towards working from home and away from work at the office. This change has reduced the demand for office space and leads to an approximately 7% decline in office rents in central business districts. At the same time, residential rents increase, especially in the outer suburbs, due to increased demand for home [office](#) space. This translates into a rise in housing costs of 14% in areas near downtowns and 24% in the [outer suburbs](#).

Overall, the model suggests that the pandemic will lead to higher lifetime income for the working population because it forced many households to work at home, which in turn improved the productivity of those working from home and thus income for those workers. While the authors speculate that these productivity gains would have happened eventually, the pandemic accelerated the process.

The researchers involved in this study predict that the improvement in remote work productivity will lead to a further widening of income inequality because the relevant remote work technology is more widely available to (and applicable for) high-skill workers. This is consistent with evidence that rising income inequality since the 1970s is largely due to technological innovation that benefits high-skill workers.

"The COVID-19 [pandemic](#) prompted a radical shift in how much people worked from home, which in turn boosted the productivity of working

from home due to mass adoption of remote-work technologies," said Morris Davis, the paper's lead author.

"The increase in productivity is predicted to lead to higher lifetime incomes for those workers in occupations with tasks that are most easily accomplished at home—predominantly high-skill [workers](#)—and thus a side consequence of the increase in productivity of working at home is a widening of [income inequality](#). The change in work-from-home productivity also increased the demand for housing, consistent with the increase in house prices we observed between 2020 and 2022."

More information: Morris A. Davis et al, The Work-from-Home Technology Boon and its Consequences, *The Review of Economic Studies* (2023). [DOI: 10.1093/restud/rdad114](https://doi.org/10.1093/restud/rdad114) , academic.oup.com/restud/article/.../1093/restud/rdad114

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