Worker productivity during COVID-19 and adaptation to working from home

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Background: from crisis to new normal

When COVID-19 hit, millions of workers suddenly switched to working from home. Now, five years on, even as life has returned to normal, around 40% of workers continue to work remotely at least part of the time. Why has this change endured? Answering this requires understanding how different workers and businesses adapted to remote work as the pandemic unfolded.

The research: following workers through the pandemic

Our paper performs this analysis using representative data from the UK Household Longitudinal Survey (UKHLS), which followed the same workers over multiple time periods during the pandemic. This allows us to track how individual workers adapted to remote work over time, rather than just taking snapshots of different workers at different times. Importantly, the

survey captured data during both strict lockdowns and periods of lighter restrictions. This variation helps us understand how workers and employers made choices about work location when they had more or less flexibility to choose.

The survey captured location of work as well as wide-ranging background characteristics. In terms of experiences we focus on responses to detailed and original survey questions which asked individuals about their working productivity levels since before the pandemic started. An important methodological component of our research is to validate these self-reports against external measures, including industry-level output data and established measures of which jobs can be done from home.

Findings

Women and lower-paid workers faced bigger challenges, especially at the beginning

We first document systematic inequalities in productivity changes, with workers in jobs less suitable for working from home (WFH) reporting lower productivity. Additionally, female workers and those with lower earnings experienced worse productivity outcomes.

However, it is noteworthy that the gender gap in productivity narrowed as the pandemic progressed. Productivity for mothers of young children in particular improved noticeably: by over 15 percentage points over the course of the pandemic, compared to 6 percentage points for males without children.

Learning what works: the right people found their right place

Building on this, we next examine the factors influencing workers' choice of location (home or in the office) as the pandemic unfolded. We show that workers arranged their location based on previous productivity outcomes, with the least productive at home returning to the office.

Among other implications, this suggests that factors of production were better allocated as the pandemic progressed, contributing to improved macroeconomic performance in the second major lockdown at the end of 2020 compared to the first in the spring.

Big companies made it work better: size matters for remote success:

Finally, we perform a detailed analysis of worker performance across working locations. We do this rigorously by controlling for workers' and firms' joint choices of worker location.

We find that the productivity advantage experienced by those in 'good jobs' (in large firms, with managerial duties and high earnings) pertained particularly to the home environment. These advantages were not present in the usual place of work.

Surprising results on workers' characteristics: being clever isn't always everything

We also examine how individual characteristics affected work performance. Interestingly, we find that workers who scored higher on intelligence tests actually saw worse productivity outcomes compared to before the pandemic when working from home specifically. This suggests that some of the advantages of being highly skilled – like quick in-person collaboration or learning from colleagues – may be harder to utilise in a home environment.

In contrast, workers who ranked highly for personality traits like being agreeable (getting along well with others) and conscientious (being organised and diligent) performed well regardless of where they worked.

Making remote work work for everyone: main messages and policy lessons

Our research reveals a key insight: over time, workers and employers figured out who performs best at home versus in the office. Those who were productive at home tended to stay there, while others returned to the office. This natural sorting process helped make remote work sustainable beyond the pandemic. Using unique data that followed UK workers throughout the pandemic, we see exactly how this evolution happened and for which types of workers.

Our findings also have important practical implications: large firms were better at making WFH work effectively, and so smaller employers should look for ways to mirror their structures.

This information is also useful for policy makers looking to provide these smaller employers with support. For example, smaller employers might benefit from funding for investments in remote work technology and training programs.

Policy makers could also look for ways to support parents, and mothers in particular, who find it harder to perform their work at home, but may stay at home for other reasons. For example, targeted support for working parents could include subsidies for home office equipment or flexible childcare arrangements that accommodate remote work schedules.