This talk draws on joint work with Huiyu Li of the San Francisco Fed. The views expressed here are our own and do not necessarily reflect the views of the Federal Reserve Bank of San Francisco or the Federal Reserve System.
Pre-pandemic productivity growth was slow—but rose sharply in 2020

U.S. business-sector output per hour
Percent change, annual rate

Pandemic Blows Up Old Business Habits, Opening Path to a Boom

By Craig Torres +Sign Up
November 9, 2021, 10:00 AM GMT+1

- Companies find new ways to match staff, tech, customer demands
- U.S. productivity has accelerated and profits hit record highs

Are we on the cusp of the new 'Roaring '20s'?

Why the Productivity Boom Isn’t Over

One disappointing quarterly reading aside, there are reasons to expect productivity, and hence the economy, to keep growing at a fast pace
Pre-pandemic productivity growth was slow—but rose sharply in 2020

U.S. business-sector output per hour
Percent change, annual rate

...but productivity then retreated. Net effect is small

“Teleworkable” industries did somewhat better
Some industries hire in teleworkable occupations

- Example: Data Processing, Hosting, and Related Services

### Top 3 occupations in employment

<table>
<thead>
<tr>
<th>Occupation</th>
<th>% of industry employment</th>
<th>Teleworkability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Developers and Programmers</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>Customer service representatives</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Computer support specialists</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

Fernald and Li (2022) based on Dingel and Neiman (2020) and BLS occupation-by-industry data
Other industries hire mainly non-teleworkable occupations

• Example: Accommodation Services

Top 3 occupations in employment

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<th>Occupation</th>
<th>% of industry employment</th>
<th>Teleworkability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Cleaning Workers</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Hotel, Motel, and Resort Desk Clerks</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Wait staff</td>
<td>8</td>
<td>0</td>
</tr>
</tbody>
</table>

Fernald and LI (2022) based on Dingel and Neiman (2020) and BLS occupation-by-industry data.
Low teleworkability industries typically performed poorly

Industry pandemic productivity growth (relative to pre-pandemic trend) versus teleworkability

Takeaways: Productivity behaved in surprisingly normal ways during the pandemic

• Roller coaster ride up and down

• Productivity growth followed exaggerated/accelerated Great Recession cyclical path of boom and bust
  – Data broadly consistent with pre-pandemic slow underlying trend
  – Industry winners and losers loosely linked to teleworkability, though interpretation remains unclear