Explaining the Growth Decline in the US

INFER

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Joseph Schumpeter
Schumpeterian growth theory

• Long-run growth driven by innovations
• Innovations result from entrepreneurial activities motivated by prospect of innovation rents
• Creative destruction: new innovations displace old technologies
Source: Bergeaud, Cette and Lecat (2016) Long term productivity project - www.longtermproductivity.com
Robert Gordon proposed that the age of great innovations is past (fruit tree metaphor)
Candidate explanations

• Ideas harder to find
• Measurement
• Reallocation
• Super-star firms
Candidate explanations

• Ideas harder to find
• Measurement
• Reallocation
• Super-star firms
A THEORY OF FALLING GROWTH AND RISING RENTS

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Motivation

The U.S. economy over the past 30+ years is characterized by the following patterns:

1. Falling “long run” growth (after a burst of growth)

2. Falling labor share (due to composition)

3. Rising concentration
Rise and Decline in TFP Growth

<table>
<thead>
<tr>
<th>Period</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949-1995</td>
<td>1.8</td>
</tr>
<tr>
<td>1996-2005</td>
<td>3.0</td>
</tr>
<tr>
<td>2006-2017</td>
<td>0.8</td>
</tr>
</tbody>
</table>
TFP Growth by IT Intensity

![Graph showing TFP growth by IT intensity.](image)
Rise and decline in employment-weighted plant entry rate

Source: U.S. Census Bureau’s *Business Dynamics Statistics*. Job creation by birth over total employment by firm size bins. 5-year centered moving average.
Falling Labor Income Share

Source: BLS
LABOR SHARE BY IT INTENSITY

year

IT producing group
High IT group
Low IT group
## Declining Labor Share

*(mostly due to composition)*

Cumulative change over specified period (ppt)

<table>
<thead>
<tr>
<th></th>
<th>1982–2012</th>
<th></th>
<th></th>
<th>92–12</th>
<th>92–07</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MFG</td>
<td>RET</td>
<td>WHO</td>
<td>SRV</td>
<td>FIN</td>
</tr>
<tr>
<td>$\Delta \frac{\text{Payroll}}{\text{Sales}}$</td>
<td>-7.01</td>
<td>-0.79</td>
<td>0.19</td>
<td>-0.19</td>
<td>3.25</td>
</tr>
<tr>
<td>within</td>
<td>-1.19</td>
<td>3.74</td>
<td>4.01</td>
<td>2.43</td>
<td>6.29</td>
</tr>
<tr>
<td>between</td>
<td>-4.97</td>
<td>-4.03</td>
<td>-4.38</td>
<td>-0.44</td>
<td>-3.62</td>
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</tbody>
</table>
Firm Size and Labor Share

Labor Share versus Log of Firm Sales
Wholesale Trade, Industry*Year FE

Source: Autor et al. (2019), Figure 5.
Within firm markups

RISING CONCENTRATION IN SERVICES

Panel C: Services

- CR4 with Sales
- CR4 with Employment
- CR20 with Sales
- CR20 with Employment
Rising National Concentration

Cumulative change over specified period (ppt)

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<th>92–12</th>
<th>92–07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Δ Top 4 firms sales share</td>
<td>4.2</td>
<td>15.0</td>
<td>2.4</td>
<td>4.2</td>
<td>8.4</td>
<td>5.7</td>
</tr>
<tr>
<td>Δ Top 20 firms sales share</td>
<td>4.8</td>
<td>16.2</td>
<td>6.0</td>
<td>6.0</td>
<td>14.4</td>
<td>3.6</td>
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</tbody>
</table>

Autor et al. 2017 Table 1. Sales-weighted across 4-digit industries.
Rising Establishments per Firm

Source: U.S. Census Bureau’s Business Dynamics Statistics
Our story

• IT revolution induces a downward shift in the convex overhead cost of running n lines
• Super-star firms will expand at the expense of non-super star firms
• R&D investment and entry by non-super-star firms will be partly discouraged
Conclusion

• Super-star story appears to best fit the evidence

• More optimistic story as it suggests a role for policy in stopping the growth decline
  – Rethink M&A policy (Gilbert)
  – Ease data access
  – Break up policy?
Conclusion

• Need to adapt institutions to technological revolutions!