Session Topic: Human Capital in Space and Time

Specific Paper: The Secular Decline in Business Dynamism in the U.S.

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By

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Overview

• Recent studies have documented secular decline in business dynamism in U.S.
  – Historically, U.S. has exhibited robust pace of creative destruction that has been productivity enhancing.

• Is the decline a source of concern?
  – Depends on factors underlying decline.

• We investigate…
  • What underlies decline in Business Dynamism?
  • Does this help explain Anemic Recovery?
  • What is role of human capital?
Job Creation and Destruction Rates

Source: U.S. Census Bureau, Business Dynamics Statistics

Job_Creation_Rate  Job_Destruction_Rate  Job Creation (HP Trend)  Job Destruction (HP Trend)
Quarterly Job Creation Rates by Firm Size for U.S. Private Sector, BED

Source: BLS BED Data

United States Census Bureau
Economic Statistics
Declining Share of Activity from Young Firms (Firm Age 5 or less), U.S. Private Sector, BDS

Source: Census BDS Data
Job Creation and Destruction in the US Economy: Trends and Cycles

Is the US economy becoming less dynamic?

Source: Census BDS Data
DATA

• Longitudinal Business Database
  – Private non-farm economy
  – Tracks both establishments and firms
    • We can identify startups
    • Entry/exit margins
    • Account for M&A activity
  – Establishment: employment, activity, location
  – Firm: firm size and age
  – We use 1982-2009
First Exercise: Changing Composition Effects

• Does Changing Composition of U.S. Businesses Account for Secular Patterns?
  • Industry, Size, Age, State, and MU Status
  • 8 size classes, 7 age classes, 295 NAICS, 50 States + DC, SU/MU (aprox. 261,000 cells per year)

• Method:
  • Employment-Weighted Fixed Effect Regressions
  • Residual Year Effects tell us extent to which patterns reflect composition effects
  • Separately for startups and continuer firms
Controlling for Composition Effects

- Composition effects can’t explain trends
- Where it not for the compositional shifts the decline would have been even bigger!
- We have a bigger puzzle after controlling for observable
Within cell declines are pervasive

<table>
<thead>
<tr>
<th>Category</th>
<th>Fraction of Cells With Declines in JC Flows</th>
<th>Fraction of Cells With Declines in JD Flows</th>
<th>Fraction of Cells With Declines in JC (Startups)</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>98.0%</td>
<td>100.0%</td>
<td>94.1%</td>
</tr>
<tr>
<td>Industry (4-NAICS)</td>
<td>89.9%</td>
<td>99.8%</td>
<td>72.8%</td>
</tr>
<tr>
<td>Size</td>
<td>100.0%</td>
<td>100.0%</td>
<td>NA</td>
</tr>
<tr>
<td>Age</td>
<td>100.0%</td>
<td>83.3%</td>
<td>NA</td>
</tr>
<tr>
<td>MU</td>
<td>100.0%</td>
<td>100.0%</td>
<td>NA</td>
</tr>
</tbody>
</table>

Note: Results for each column show summary statistics for within group changes and dispersion comparing the three years leading up to the peak in the 1980s (1987-89) to the three years leading up to the peak in 2000s (2004-06)
Empirical Strategy

• Overall decline dominated by within cell changes (not composition effects).
• Large differences in within cell declines
  • Including and especially across states
• Can we find observable covariates that account for these declines?
  • Broad categories of covariates from the literature:
    • Demographics, Business Climate, Financial Markets
    • Human Capital (observed and unobserved)?
    • Capital Intangible?
• We use timing differences and cross state variation to achieve identification.
Human Capital

• Changing skill composition can affect job volatility
  • Well documented very large increase in the skill composition of the workforce
    • Mincer (93, 95), Bound & Johnson (92, 95), Katz & Murphy (92), Juhn, Murphy, Pierce (93)…
  • Abowd, Lengermann, McKinney (2002) using LEHD find increase:
    • observable components of skill (education, experience)
    • even larger unobservable components of skill as captured by wage fixed effects (ability, educational quality, social capital, effort)
    • the average firm in virtually every industry upskilled considerably
  • Recent matching models posit Inverse relation between skill and employment volatility: Cairo & Cajner (2011), Lugauer (2012)
    • Investments in firm specific training complementary with skill
    • Upskilling ➔ Higher training ➔ 1. More costly employment adjustment, 2. lower volatility in response to shocks
Source: Cairo-Cajner (2012)
Human Capital

• Implications
  – Less dynamism as captured by JC/JD/Entry?
    • Higher skill composition \(\Rightarrow\) Harder for firms to replace/rebuild high value job matches? \(\Rightarrow\) lowers firm’s options to adjust employment
  – Less dynamism in worker flows?
    • Firms/workers less sensitive to small productivity shocks due to
      – high loss of firm specific hk upon separation for highly skilled-trained/productive workforce?
      – Harder for firms to replace/rebuild high value job matches?
  – High HK losses in response to large shocks? \(\Rightarrow\) Slow recovery?
  – Upskilling and continuous training important for job security?
Summary

• US is very dynamic but on trend decline
• Multiple factors at play
• Composition has effects, particularly the aging of the population of firms, but is compensated by move towards more volatile industries
• Critical to understand factors underlying job creation/destruction in order to inform policy
Next Steps

- Still early in this research
- Further examination of skill composition (observable and unobservable), demographics, finance, business environment measures
- Other within cell trends?
  - Technology
  - Globalization
  - Tastes/Consumption
Extra slides
Focusing on Secular Changes – The Role of Composition Effects
Job Creation for Continuers

Annualized Secular Changes in Job Creation for Continuers With and Without Controls.

<table>
<thead>
<tr>
<th></th>
<th>No Controls</th>
<th>Size</th>
<th>Age</th>
<th>Industry</th>
<th>State</th>
<th>MU</th>
<th>Size, Age, Industry, State, MU (Interacted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Diff</td>
<td>-0.96%</td>
<td>-0.95%</td>
<td>-0.76%</td>
<td>-1.47%</td>
<td>-1.01%</td>
<td>-0.95%</td>
<td>-1.29%</td>
</tr>
<tr>
<td>80s/90s Diff</td>
<td>-0.59%</td>
<td>-0.58%</td>
<td>-0.35%</td>
<td>-1.03%</td>
<td>-0.63%</td>
<td>-0.58%</td>
<td>-0.85%</td>
</tr>
<tr>
<td>90s/00s Diff</td>
<td>-1.48%</td>
<td>-1.48%</td>
<td>-1.34%</td>
<td>-2.08%</td>
<td>-1.55%</td>
<td>-1.49%</td>
<td>-1.93%</td>
</tr>
</tbody>
</table>

Note: Long Difference is log difference between 1987-89 average and 2004-06 average. 80s/90s difference is the log difference using 1987-89 average to 1997-99 average. 90s/00s difference is the log difference using 1997-97 average and 2004-06 average.

• Only Age Effects “Flatten” Downward Trend. Industry effects go the “wrong” way.
• All effects together yield an even larger puzzle
• Observables have less explanatory power during the second half of the period
• A period when the drop in job creation accelerated
• Bottom line: Most of change is within cell.