Firm Dynamics, Job Creation and Entrepreneurship in the U.S.

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*Without implication, this presentation draws heavily on joint work with Steven Davis, Jason Faberman, Lucia Foster, Ron Jarmin, C.J. Krizan, Javier Miranda and Chad Syverson*
Overview

• Declining trend in job and worker flows in U.S.
  – Accelerated post-2000
  – Is the U.S. becoming less dynamic and less flexible?

• Business Startups and Young Businesses Disproportionately Create Jobs

• Declining Trend in Business Startups (and accordingly in Young Businesses)
Remarks By Federal Reserve Chairman Ben Bernanke

...One leading explanation for the strong U.S. productivity growth is that labor markets in the United States tend to be more flexible and competitive, market characteristics that have allowed the United States to realize greater economic benefits from new technologies. For example, taking full advantage of new information and communication technologies may require extensive reorganization of work practices, the reassignment and retraining of workers, and ultimately some reallocation of labor among firms and industries...

August 31, 2006
Quarterly Job Creation and Destruction Rates, U.S. Private Sector

Source: BED and Davis, Faberman and Haltiwanger (2012)
Quarterly Job Creation and Hires Rates, U.S. Private Sector

Source: BED, JOLTS and Davis, Faberman and Haltiwanger (2012)
Quarterly Job Destruction, Layoffs and Quit Rates, U.S. Private Sector

Source: BED, JOLTS and Davis, Faberman and Haltiwanger (2012)
Job Destruction, Layoffs and Unemployment Inflows are tightly linked

Source: Davis, Faberman and Haltiwanger (2012)
Excess Worker Reallocation “Churn” and Job Reallocation

Source: BED and JOLTS – Tabulations from Davis, Faberman and Haltiwanger (2012)
Job Creation and Destruction Rates

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

The graph shows the rates of job creation and destruction from 1980 to 2010. The blue line represents the job creation rate, the red line represents the job destruction rate, and the blue dotted line represents the job creation trend using the Hodrick-Prescott (HP) filter. The red dotted line represents the job destruction trend using the HP filter.
Net Job Creation by Firm Size and Firm Age, U.S. Private Sector, 2005

<table>
<thead>
<tr>
<th>Firm Size (Base Year)</th>
<th>a) 0</th>
<th>b) 5 to 9</th>
<th>c) 10 to 49</th>
<th>d) 20 to 499</th>
<th>e) 50 to 2499</th>
<th>f) 100 to 4999</th>
<th>g) 250 to 9999</th>
<th>h) 500 to 24999</th>
<th>i) 1000 to 49999</th>
<th>j) 2500 to 99999</th>
<th>k) 5000 to 10000+</th>
<th>l) 10000+</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 1 to 4</td>
<td>731,515</td>
<td>503,644</td>
<td>498,317</td>
<td>553,181</td>
<td>313,511</td>
<td>292,348</td>
<td>157,120</td>
<td>151,518</td>
<td>186,087</td>
<td>131,178</td>
<td>D</td>
<td>D</td>
<td>3,518,419</td>
</tr>
<tr>
<td>b) 1</td>
<td>79,759</td>
<td>-12,547</td>
<td>-20,836</td>
<td>-47,837</td>
<td>-41,006</td>
<td>-57,188</td>
<td>-48,830</td>
<td>-5,476</td>
<td>-14,532</td>
<td>-20,131</td>
<td>211</td>
<td>-408</td>
<td>-188,821</td>
</tr>
<tr>
<td>c) 2</td>
<td>26,506</td>
<td>-24,840</td>
<td>-31,883</td>
<td>-44,488</td>
<td>-26,738</td>
<td>-18,026</td>
<td>-9,049</td>
<td>-13,579</td>
<td>-23,615</td>
<td>-12,782</td>
<td>D</td>
<td>D</td>
<td>-178,494</td>
</tr>
<tr>
<td>d) 3</td>
<td>7,535</td>
<td>-22,650</td>
<td>-26,855</td>
<td>-37,824</td>
<td>-15,918</td>
<td>-14,813</td>
<td>-8,981</td>
<td>-7,548</td>
<td>-11,581</td>
<td>-12,114</td>
<td>D</td>
<td>D</td>
<td>-150,749</td>
</tr>
<tr>
<td>e) 4</td>
<td>20,456</td>
<td>-18,442</td>
<td>-23,212</td>
<td>-29,616</td>
<td>641</td>
<td>9,216</td>
<td>4,301</td>
<td>5,436</td>
<td>298</td>
<td>4,011</td>
<td>D</td>
<td>D</td>
<td>-74,035</td>
</tr>
<tr>
<td>f) 5</td>
<td>4,808</td>
<td>-19,792</td>
<td>-24,392</td>
<td>-29,425</td>
<td>14,870</td>
<td>-6,122</td>
<td>-2,449</td>
<td>-6,849</td>
<td>293</td>
<td>-3,418</td>
<td>D</td>
<td>D</td>
<td>-102,902</td>
</tr>
<tr>
<td>g) 6 to 10</td>
<td>14,577</td>
<td>-71,332</td>
<td>-99,235</td>
<td>-110,111</td>
<td>-40,652</td>
<td>-1,324</td>
<td>-9,452</td>
<td>5,437</td>
<td>-20,693</td>
<td>-13,945</td>
<td>-9,903</td>
<td>17,928</td>
<td>-338,705</td>
</tr>
<tr>
<td>h) 11 to 15</td>
<td>15,663</td>
<td>-47,730</td>
<td>-87,923</td>
<td>-81,876</td>
<td>-40,432</td>
<td>-27,666</td>
<td>-9,530</td>
<td>2,179</td>
<td>-2,028</td>
<td>22,441</td>
<td>6,140</td>
<td>69,409</td>
<td>-161,353</td>
</tr>
<tr>
<td>i) 16 to 20</td>
<td>5,673</td>
<td>-36,856</td>
<td>-59,836</td>
<td>-71,299</td>
<td>-35,979</td>
<td>9,780</td>
<td>-5,725</td>
<td>10,200</td>
<td>3,204</td>
<td>12,615</td>
<td>10,491</td>
<td>2,158</td>
<td>-153,974</td>
</tr>
<tr>
<td>m) ALL</td>
<td>910,431</td>
<td>182,683</td>
<td>31,901</td>
<td>-58,175</td>
<td>27,438</td>
<td>164,036</td>
<td>82,628</td>
<td>226,188</td>
<td>209,171</td>
<td>253,609</td>
<td>90,973</td>
<td>360,214</td>
<td>2,481,097</td>
</tr>
</tbody>
</table>

Average Annual Net Job Creation (March 2003 to March 2007)

Millions of Jobs

All Private Sector

Startups

Source: BDS
Job Creation from New Firms and New Establishments of Existing Firms (1980-2010)

Source: BDS
90th and 10th Percentiles of Net Employment Growth Rates for Surviving U.S. Private Sector Firms by Firm Age

Source: Firm-level data used by Haltiwanger, Jarmin and Miranda (2011)
Industry as Predictor of Size and Growth of Firms?

<table>
<thead>
<tr>
<th>Probability Firm has less than 20 employees</th>
<th>R-squared from 6-digit NAICS effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Firm Growth Rate (All Firms)</td>
<td>0.06</td>
</tr>
<tr>
<td>Net Firm Growth Rate (Small Firms)</td>
<td>0.06</td>
</tr>
<tr>
<td>Probability firm is a high growth firm (defined as Net_Rate&gt;.2)</td>
<td>0.04</td>
</tr>
<tr>
<td>Probability firm is a high growth firm (defined as: Net_Rate &gt; .2 and Net_Level &gt; 10 )</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Sample: All U.S. Private Sector Firms, 2003-05
Net Employment Growth by Base Year Firm Size

- a) 1 to 4
- b) 5 to 9
- c) 10 to 19
- d) 20 to 49
- e) 50 to 99
- f) 100 to 249
- g) 250 to 499
- h) 500 to 999
- i) 1000 to 2499
- j) 2500 to 4999
- k) 5000 to 9999
- l) 10,000 +

- Base Year Size
- Base Year Size with Age Controls
What type of businesses create jobs?

Shares of Employment, Job Creation and Destruction by Firm Size and Age Broad Classes

Source: BDS
Startups and High Growth (Annual Growth>25 percent) Existing Firms Disproportionately Create Jobs, U.S. Private Sector

Source: Tabulations from Firm-Level Data Used in Haltiwanger, Jarmin and Miranda (2011)
Productivity of Young Businesses Relative to Mature Surviving Incumbents, U.S. Retail Trade

- Young Exits: -31.60%
- Mature Exits: -26.20%
- Young Survivors: 2.80%
- Young Survivors Five Years Later: 1.20%
- Mature Survivors Five Years Later: 5%

Single Unit Establishment Firms: -32%
Annual Job Creation from Startups, U.S. Private Sector, BDS

Source: BDS
Job Creation, Job Destruction and Employment (Age<5)

Source: BDS
"Peak to Peak" Decline in Job Creation from Avg 87-89 to Avg 04-06

Source: Haltiwanger, Jarmin and Miranda (2012)
## Peak to Peak Changes Within State (87/89 to 04/06)

<table>
<thead>
<tr>
<th>Metric</th>
<th>Within State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg Change in Job Creation for Continuers (JC)</td>
<td>-17.59%</td>
</tr>
<tr>
<td>Avg Change in Startup Rate</td>
<td>-25.01%</td>
</tr>
<tr>
<td>Avg Change in Job Destruction (JD)</td>
<td>-19.34%</td>
</tr>
<tr>
<td>Std Dev of Change in JC</td>
<td>8.16%</td>
</tr>
<tr>
<td>Std Dev of Change in JD</td>
<td>10.75%</td>
</tr>
<tr>
<td>Std Dev of Change in Startup Rate</td>
<td>13.57%</td>
</tr>
</tbody>
</table>

Source: Haltiwanger, Jarmin and Miranda (2012)
BACKGROUND/EXTRA SLIDES
Gross Job Creation Levels by Employer Size

Source: BLS BED
Job Destruction Levels by Employer Size

Source: BLS BED