BUSINESS DYNAMICS STATISTICS BRIEFING:

Anemic Job Creation and Growth in the Aftermath of the Great Recession: Are Home Prices to Blame?

Eighth in a series of reports using data from the U.S. Census Bureau's Business Dynamics Statistics

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John Haltiwanger
University of Maryland

Javier Miranda
U.S. Bureau of the Census

Ron Jarmin
U.S. Bureau of the Census

KAUFFMAN
The Foundation of Entrepreneurship

About the Business Dynamics Statistics

The Business Dynamics Statistics (BDS) is a product of the U.S. Census Bureau that measures business openings and closings, startups, job creation, and job destruction by firm size, age, industrial sector, and state. The U.S. economy is comprised of more than six million establishments with paid employees. The population of these businesses is constantly churning—some businesses grow, others decline, and yet others close. New businesses constantly replenish this pool. The BDS monitors this activity to provide a picture of the dynamics underlying aggregate net employment growth. More information about the BDS can be found at http://www.census.gov/ces/dataproducts/bds/index.html.

The Census Bureau's BDS provides data on business dynamics for U.S. firms and establishments with paid employees.[1] This briefing highlights some key features of the most recent BDS update, which now has data through 2011. As the most complete public-use dataset allowing for the analysis of business dynamics in the United States, the BDS is a key source of knowledge about the changing economy at both the national and state levels. The BDS has the longest time series of any data on business dynamics and is the only source that includes both the Great Recession and the early '80s double-dip recession.

1. The BDS does not include non-employer firms and, as such, this brief does not speak to job creation from non-employer businesses.

Anemic Job Creation and Growth in the Aftermath of the Great Recession: Are Home Prices to Blame?*

By John Haltiwanger, Javier Miranda, and Ron Jarmin

* The analysis in this paper uses only public domain data from the Business Dynamics Statistics (BDS). Any opinions and conclusions expressed herein are those of the authors and do not necessarily represent the views of the U.S. Census Bureau. The BDS data have been reviewed to ensure that no confidential information is disclosed.

The Great Recession: Large Downturn and Slow Recovery

The economic downturn of 2007–09 is one of the two largest cyclical downturns experienced in the United States in the post-WWII era—the other being the 1982–83 downturn. This period stands out not just for the magnitude of the downturn but also for the slow pace of the recovery. For example, the 1982–83 downturn was characterized by a rapid recovery. In contrast, the recovery from the 2007–09 downturn has been relatively anemic. Using data from the newest release of the BDS, Figure 1 shows that the 1982–83 downturn saw net job creation fall from 1.3 percent in 1980 (the difference between job creation and job destruction) to -2.4 percent in 1983. This was followed by a rapid recovery from 1983 through 1985, with a net job growth in 1984 of 6.3 percent followed by 5.2 percent in 1985. The job creation rate spiked upward in 1984 and remained high for several years. The 2007–09 downturn saw net job growth decline from 3.5 percent in 2006 to -5.1 percent in 2009. Net job growth increased to -1.7 percent in 2010 and 2.4 percent in 2011. The anemic recovery was not due to job destruction remaining high (the job destruction rate in 2011 was below the 2006 rate), but due to anemic job creation. The job creation rate in 2006 was 16.4 percent. It fell to 11.6 percent in 2009 and had only recovered to 14.1 percent by 2011. This implies that the number of (gross) jobs created annually fell from 19.1 million in 2006 to 13.5 million in 2009 and only recovered to 15.7 million by 2011.

Disproportionate Impact on Young Firms

Previous research using the BDS has highlighted the critical role played by startups and young firms in job creation and growth (see Haltiwanger, Jarmin, and Miranda, 2013). These firms account for a relatively small share of employment but a large fraction of job creation. They also are particularly volatile relative to their older counterparts. As such, their performance

Figure 1
Annual Job Creation and Destruction Rates

Figure 2

Share of Decline in Great Recession vs. Early 2000s Recession by Young Firms

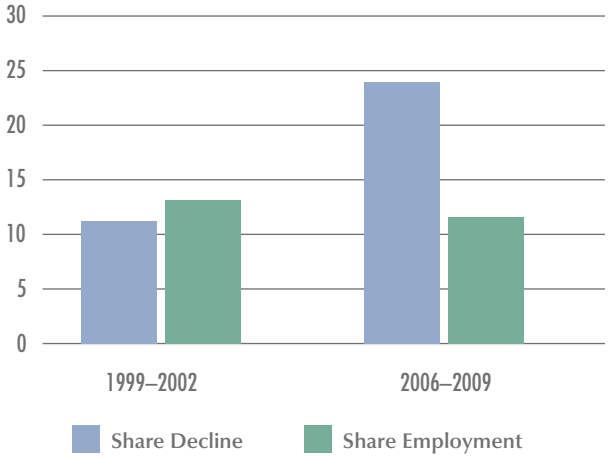
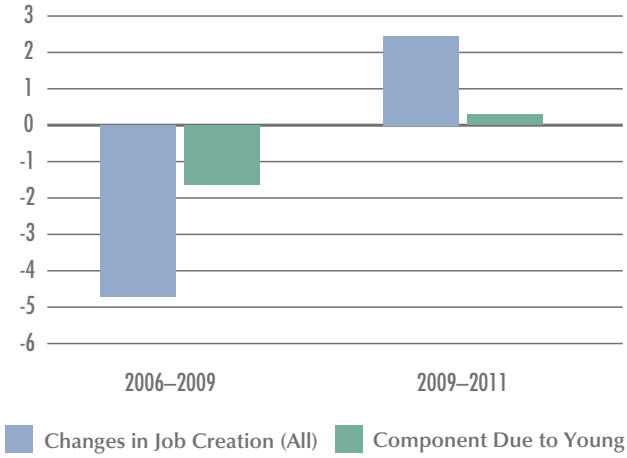


Figure 3

Changes in Job Creation in Great Recession and Recovery



during periods of expansion and contraction is critical for overall rates of job creation and destruction. Young firms (firms younger than five years old) were hit especially hard in the Great Recession. Figure 2 illustrates this by comparing the early 2000s recession to the Great Recession.[2] In the early 2000s recession, net employment growth fell from a high of 2.3 percent in 1999 to -1.6 percent in 2002. Of this decline in net growth of 3.9 percent, the decline in the net growth rates of young firms accounted for 11.2 percent of the decline (and young firms accounted for about 13 percent of employment). In the Great Recession, net employment growth fell by 8.6 percent from 2006 to 2009. Young firms accounted for 23.8 percent of this enormous decline while accounting for only 11.5 percent of employment. Young firms also have been slow to recover after the Great Recession. Figure 3 shows that job creation fell by 4.7 percentage points from 2006 to 2009 and has only recovered by 2.4 percentage points from 2009 to 2011. This anemic recovery of job creation contrasts (as seen in Figure 1) with job destruction returning to 2006 levels by 2011. Figure 3 shows that a substantial fraction (about one-third) of the decline in job creation in the 2006–09 period was due to young firms.[3] Figure 3 also shows that the relatively weak recovery of job creation overall is associated with a very weak recovery in job creation for young firms.

The Different Nature of the Great Recession

What explains the different response of young firms in the current recession? One aspect that has received considerable attention from analysts and commentators is the difference in the nature of the recessions, especially focusing on the financial crisis in the most recent downturn. In this regard, one aspect

2. The evidence shows that young firms were hit harder in 2006–09 compared to all recessions since 1980. See Fort et al. (2013) for more analysis.

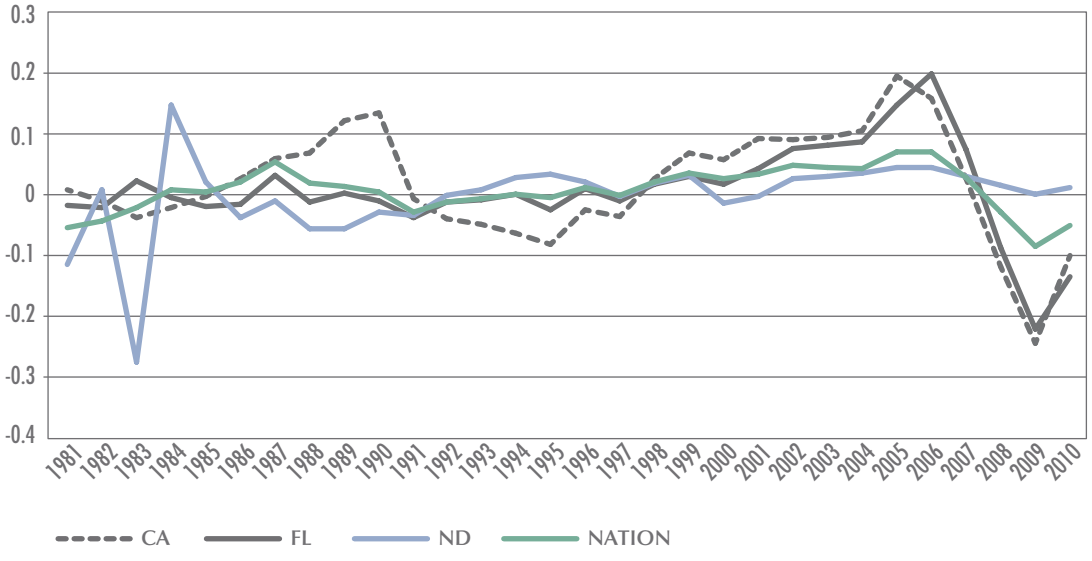
3. The statistic for young firms reported in Figure 3 is the component of job creation accounted for by young (less than five years old) firms.

that merits particular attention is recent fluctuations in housing prices. Housing prices potentially influence local economies through many channels. A sharp decline in housing prices impacts the net worth and spending of households, as well as financial institutions that are closely tied to the local area. The decline in households' net worth will impact local aggregate demand, but also might impact the collateral available for startups and young firms, as entrepreneurs often rely on such sources of financing.[4] In a related fashion, an adverse impact on the local financial institutions will, in turn, affect the financing available for local businesses and perhaps especially young businesses.

Figure 4 shows housing price fluctuations over the last thirty years in the nation as well as selected states using the Federal Housing Finance Agency Price Index. The Great Recession marked a steep decline in average housing prices of 15 points across the nation, following a steady, 10-point rise from the late '80s. By contrast, earlier recessions experienced more modest fluctuations.

Different areas of the country experienced these price fluctuations to different degrees. For example, California and Florida experienced sharp growth of more than 20 points in the run-up of the 1990s and early 2000s, followed by declines of more than 40 points in the recession. By contrast, other states such as North Dakota experienced very modest fluctuations during this whole period (although North Dakota had a sharp housing price decline that reversed itself in the early 1980s). We exploit this variation across states to identify the impact housing price fluctuations have on the business activity of young firms.[5] If housing price fluctuations are a significant driver of economic activity for young businesses, then we should see their activity decline in states with large fluctuations relative to states that did not experience such fluctuations. But other factors might explain differences between this and prior

Figure 4
Growth in Real Housing Prices



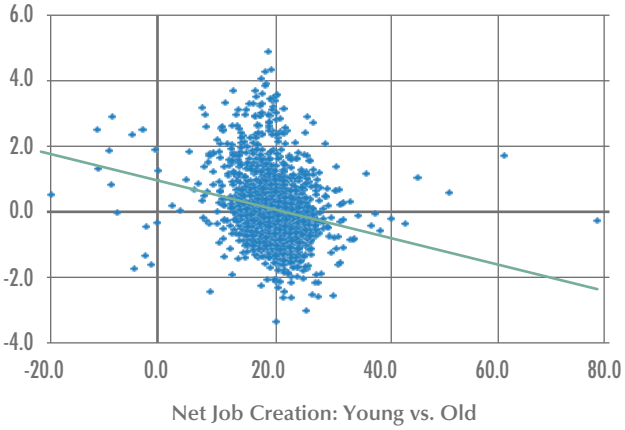
4. Recent work has emphasized that startups and young firms use different forms of credit than more mature businesses do. For example, Mishkin (2008) and Robb and Robinson (2011) emphasize the role of home equity financing for startups and young businesses. Clementi and Hopenhayn (2006) provide a theoretical framework that leads to financing constraints for young firms.

5. Using this geographic variation gives us over 1,500 state-year observations to provide identification. Using the thirty years of national variation doesn't provide enough identification.

Figure 5

A. Change in Unemployment Rate

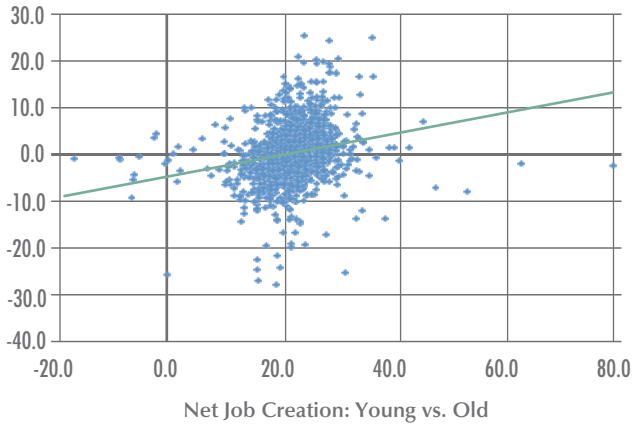
Change in Unemployment Rate vs. Net Job Creation Young–Old. U.S. States 1981–2011



Source: BLS and U.S. Census Bureau

B. Change in Home Prices

Change in Home Prices vs. Net Job Creation Young–Old. U.S. States 1981–2011



Source: U.S. Census Bureau and FHFA

recessions (e.g., differences in demand, supply, or financial shocks). These issues are examined in detail in Fort et al. (2013). In this brief, we conduct simple descriptive exercises that shed light on these issues and yield insights similar to the more thorough and sophisticated econometric analysis in Fort et al. (2013).

Impact of Home Prices

To examine how young firms respond to both business cycle and home price shocks, we first construct a relative measure of net job creation as the difference between the net job creation of young and more mature firms. If young firms are disproportionally affected by business cycle and housing price shocks, then their response relative to mature firms should be greater.

Figure 5 shows scatter plots relating net job creation of young firms (relative to mature firms) to the change in the unemployment rate, panel A, and the change in home prices, panel B. The figures plot the relationship for each U.S. state and for each year between 1981 and 2011.[6] Panel A shows that during expansions, when the unemployment rate goes down, the net job creation of young firms outperforms that of more mature firms considerably (by up to 30 points in some states). In contrast, during periods of contractions, when the unemployment rate goes up, that difference in performance almost disappears. The green regression line in the chart summarizes the higher sensitivity of young firms to business cycle shocks. Looking at changes in home prices and their impact on the net job creation of young firms, panel B, shows a direct effect of an increase in home

6. Annual changes for job creation are computed from March of the prior year to March of the current year. Changes in the housing price and unemployment rate are computed from annual differences based on properly retimed data. The analysis in this section starts in 1981 given the left censoring of firm age in the Longitudinal Business Dynamics and, thus, BDS beginning in 1976. Starting in 1981, we can consistently measure firms younger than five years old.

Table 1

Average State Level Correlations Between Net Job Creation of Young Firms (Relative to Mature) and Changes in the Unemployment Rate and Housing Price Index (1981–2011)

Dependent Variable: Net Job Creation Young Firms (Relative to Mature) Standard Errors in Parenthesis		
	A) With State Effects	**B) With State and Year Effects**
Change in the State Unemployment Rate	-0.94***	-1.20***
	(0.141)	(0.232)
Change in Housing Prices	0.17***	0.07**
	(0.027)	(0.030)

prices on the performance of young firms relative to more mature firms. When housing prices go up, young firms outperform more mature firms. By contrast, when housing prices collapse, that difference narrows and, in some states, completely disappears. This higher sensitivity of young firms to home prices is summarized by the green regression line in the chart.

Housing price fluctuations are partly a reflection of the state of the local market. For example, when the unemployment rate is high and demand for housing is low, housing prices are likely to decline (Fort et al., 2013, show that this is indeed the case). Thus, the relationship in Figure 5 between housing prices and the relative performance of young firms will partly reflect the effect of local demand, supply, and financial shocks on local markets. A full examination of the relationship between business cycle shocks and housing price shocks is beyond the scope of this brief; however, we can examine their impact on the relative performance of young firms in a simple regression framework.[7]

Table 1 shows the result of estimating simple descriptive regressions at the state-year level between the relative net job creation of young firms to old firms and changes in the business cycle and home price measures. Column A presents results controlling for state-specific time invariant idiosyncrasies in these relationships, while column B also controls for any shocks that are common across states (nationwide shocks).[8] The coefficients reflect differences relative to the more mature group of firms.

What do our simple regressions show? Column A shows that a one-point increase in the state unemployment rate is associated with a .94 percent point reduction in the net job creation rate of young firms relative to more mature firms. Given that the state unemployment rate increased by an average of 2.4 percent during the Great Recession and that the net job creation of young firms relative to large firms declined by an average of 7.2 percent during the same time, a back-of-the-envelope calculation suggests that 31 percent of the decline in the relative performance of young firms was associated with the business cycle. Looking at the additional impact that the collapse in home prices had on the performance of young firms, Table 1 shows that a one-point change in the housing price index is associated with a .17 percent point reduction in the relative performance of young

7. Again, see Fort et al. (2013) for a much more detailed analysis.

8. In principle, column B might be thought about as a lower-bound estimate because this specification controls for year effects. This conjecture holds for housing prices but not for the cyclical shock (although the standard errors in columns A and B are large enough that one cannot reject that the response to the cyclical shock is the same in both columns).

firms. Since housing prices dropped by an average of 18 points during the recession, a back-of-the-envelope calculation suggests that 42 percent of the decline in the relative performance of young firms can be associated with the decline in home prices during this time.

States with higher housing price declines experienced higher declines in performance. For example, California experienced a decline of 57 percentage points in housing prices between 2006 and 2009 and an overall decline in young firms' relative performance of 11 points. A back-of-the-envelope calculation suggests that housing prices alone account for almost 90 percent of the decline in the relative performance of young firms in California.[9]

A full examination of the consequences of the Great Recession on U.S. business activity is beyond the scope of this brief and likely will take years to fully reveal itself. One thing is clear: Young firms are particularly vulnerable to cyclical and financial shocks. Young businesses typically have a limited customer base, lack experience, and are credit constrained. It is not surprising that these firms are particularly vulnerable to business cycle shocks. However, these effects were compounded to a large degree in the current recession by the collapse of housing prices. Young firms experienced large job destruction from contraction and exit. At the same time, some startups that otherwise would have entered were unable to do so. While we do not fully yet understand the particular mechanisms that connect housing prices with the activity of young firms (whether they be a demand channel or a financing mechanism), they clearly are important to understanding the depth of the decline and the anemic recovery after the official end of the recession.

The BDS was developed at the Census Bureau's Center for Economic Studies, with support from the Census Bureau and the Ewing Marion Kauffman Foundation. The current update also received support from the Small Business Administration. Statistics on business dynamics are provided at an economy-wide level and by firm size, firm age, sector, and state. The BDS has been released annually since early 2012. For the first time, business dynamics also are provided by MSA and within states by Metro/non-metro.

9. This is not to suggest that the business cycle did not also contribute to the decline in young firms in California. Instead, we account for more than 100 percent of the decline with these two factors. This simply highlights that using the elasticities from Table 1 yields, in some cases (California), very large predicted changes in the relative performance of young firms.

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KAUFFMAN

The Foundation of Entrepreneurship

4801 ROCKHILL ROAD
KANSAS CITY, MISSOURI 64110
816-932-1000
www.kauffman.org