Current Policy Perspectives

FEDERAL RESERVE BANK OF BOSTON™

No. 14-8

The Great Recession, Entrepreneurship, and Productivity Performance

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Abstract

I study the recent evolution of entrepreneurship in the United States. I find that there was a significant decline in entrepreneurship around the time of the Great Recession. However, I also find a recovery in recent years. I then link the evolution of entrepreneurship to productivity performance and find evidence of a positive association between the two variables.

JEL codes: D24, L26, O47

Keywords: entrepreneurship, firm creation, productivity, TFP

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This paper, which may be revised, is available on the web site of the Federal Reserve Bank of Boston at http://www.bostonfed.org/economic/current-policy-perspectives/index.htm.

This version: November 2014

1 Overview

In recent years, it is argued, the level of entrepreneurial activity in the United States has declined. This decline causes concern because of its potential macroeconomic implications. In particular, it is feared that a lower rate of firm creation can be associated with lower productivity growth and, hence, lower economic growth in the upcoming years.

In this paper, I study this issue, focusing on the dynamics of entrepreneurship and productivity around the time of the Great Recession. I look first at the recent evolution of alternative measures of entrepreneurship and of productivity, and then I analyze the relationship between the two concepts. The main findings can be summarized as follows.

First, firm and establishment creation declined sharply with the Great Recession. Indeed, the number of firms created in 2009 was the lowest since 1977. However, the most recent data points available (2012–2013) suggest a (modest) improvement from the 2009 trough.

Moreover, alternative entrepreneurship measures also indicate that entrepreneurship is back to pre-crisis levels. Specifically, when I look at venture capital investments or entrepreneurship measures that track the number of individuals starting up businesses, I find that the values for 2013 are in the same range as those observed for 2005–2006.

Finally, I find a positive association between entrepreneurship and productivity. This implies, other things being equal, a positive outlook for productivity given the recovery in entrepreneurship. Of course, there are several other variables that affect productivity besides entrepreneurship and the reallocation of resources generated by the "creative destructive" process. For instance, the industrial orga-

nization literature highlights the importance of market structure, competition, and technological spillovers, and the labor literature stresses the importance of human capital.[1]

I should also emphasize that this paper focuses on the period around the Great Recession, so the aforementioned recovery in entrepreneurship is relative to the 2009–2010 period. Thus, my analysis remains (mostly) silent about the declining long-term trend in entrepreneurship.[2]

The rest of the paper is organized as follows. Section 2 presents the data sources of each of the variables I use in my analysis. Section 3 describes the evolution of entrepreneurship according to several alternative measures. Section 4 presents the dynamics of productivity growth. Section 5 analyses the relationship between entrepreneurship and productivity. Finally, Section 6 concludes.

2 Data

I begin by describing the various data sources I use throughout the memo. Because both entrepreneurship and productivity are concepts that are difficult to measure accurately, I use several measures for each of them.

In order to measure entrepreneurship, I first use the number of private-sector new establishments, a variable obtained from the Business Employment Dynamics (BED) program from the Bureau of Labor Statistics (BLS); these data are at an annual frequency from 1994 to 2013 (data collected in March of each year). Additionally, from the Business Dynamics Statistics of the U.S. Census Bureau, I

[1] See Syverson (2011) and Haltiwanger (2012) for excellent reviews of the literature.

[2] There are several papers that study the long-term decline and even mention an acceleration by the time of the crisis. See, for instance, Haltiwanger, Jarmin, and Miranda (2011), Reedy and Litan (2011), Hathaway and Litan (2014), and Decker et al. (2014).

use the number of new firms and the number of establishments for the aggregate economy and by broad economic sector; these data are available annually from 1978 to 2012. Further, I use data on venture capital activity from the National Venture Capital Association (NVCA), available from 1995 to the first half of 2014. Finally, I use two measures from private foundations focused on entrepreneurship. From the Kauffman Foundation, I obtain the entrepreneurial index (annual data from 1996 to 2013), while the Global Entrepreneurship Monitor (GEM) provides me with the rate of early-stage entrepreneurial activity (available annually from 2001 to 2013).

In order to measure productivity, I use total factor productivity (TFP) estimates from the San Francisco Fed, available from 1948 to 2013. Additionally, I also use multifactor productivity (MFP) measures from the BLS, available from 1977 to 2013.

3 Evolution of Entrepreneurship

3.1 New Establishments

The first measure I consider comes from the BED data series on the age of establishments. The series tracks cohorts of new business establishments born in the same year. An establishment is considered new if it is less than one year old.

Figure 1 shows the evolution of the number of new establishments since 1994 (blue line). From the figure it is apparent that the creation of establishments was severely affected by the Great Recession. Indeed, the 505,000 new establishments from 2010 are the lowest figure in the sample. However, since then the number of new establishments has consistently increased year after year, and it is almost at

the pre-crisis levels.[3]

Figure 1 also shows another variable, the survival rate of those establishments that were one year old any given year (red line). This is an important variable to examine because new establishments are known to have a high exit rate, but, conditional on survival, they grow at a faster pace than their older counterparts, labeled as an *up-or-not* behavior (Haltiwanger, Jarmin, and Miranda 2013). Furthermore, this behavior has also been linked to productivity growth (Foster, Haltiwanger, and Krizan 2001, 2006). If we look at the red line in Figure 1, it is evident that the survival rate of new establishments was (as expected) severely hit by the crisis. However, the survival rate returned fairly quickly to the pre-crisis levels.[4] In light of the stylized facts just mentioned, the high survival rate for 2013 is really good news since these new (surviving) establishments are now expected to show strong growth in the ensuing years.

3.2 New Firms and New Establishments

Next, I use data from the U.S. Census to measure entrepreneurship. Specifically, from the Business Dynamics Statistics program, I have data on new firms and new establishments for a given year.[5]

Figure 2 plots the evolution of new firms (solid blue line) and new establishments (solid red line) for the 1977–2012 period. Note first, that the dynamics of the

[3]The number of new establishments surpassed the threshold of 600,000 in 2013. However, the figure for 2013 is not really comparable to previous years because an administrative change to the count of establishments in the education and health services industry artificially inflates the data.

[4]The survival rate for 2013 stands out as the highest value for all the series. This data point, however, cannot be compared with the previous data points because of the changes described in the previous footnote.

[5]In the dataset, the age of an establishment is given by the age of the firm to which it belongs. Thus, new establishments are really associated with new firms and, it can be argued, tightly linked to entrepreneurship.

two objects are practically identical. Second, note that business creation peaked in 2006, declined steadily until 2010, and grew in the last two years of data available (somewhat in line with the BLS data). The figure also plots the share of new firms (dashed purple line), that is, the fraction of these firms that are less than one year old. As can be seen, Figure 2 shows very similar dynamics for the new firms and establishments, although in this case the long-term decline becomes more evident. Indeed, this variable, often used to argue about the long-term decline in U.S. entrepreneurship, experienced a sharp drop of almost 3 percentage points between 2006 and 2010, and has recovered 0.38 percentage point since then.[6] Finally, note that the establishment exit rate (dashed green line), which peaked in 2009, is back at pre-crisis levels.

So far, I have looked at entrepreneurship as the number of firms or establishments being created in a given year. However, there are alternative measures that focus either on the venture capital invested on entrepreneurial projects or on the number of individuals working precisely as entrepreneurs—I look at these measures next.

3.3 Venture Capital

Venture capital (VC) investment is another measure tightly linked to entrepreneurial activity. VC funds new ideas that usually could not be financed with traditional financing methods. As such, VC plays a very distinctive role in the early stage of the entrepreneurial process by investing in "a company whose stock is essentially

[6]Note, however, that the decline in the share of new firms around the time of the Great Recession was smaller than the decline of over 4 percentage points between 1977 and 1982. Thus, the overall decline during the 36-year period under consideration (1977–2012) can be almost entirely accounted for by the two large declines that took place during 1977–1982 and 2006–2010.

illiquid and worthless until a company matures five to eight years down the road."

Figure 3 plots the number of VC deals and the total VC investments since 1995, up to the first half of 2014. There are several points worth mentioning. First, it is clear that VC activity peaked in 2000 during the dot-com boom; after the 2001 recession, the VC industry stabilized with average annual investments of almost $30 billion. Second, the Great Recession hit VC investment strongly, with a reduction of almost a third between 2008 and 2009. Third, since 2011, investment levels have recovered to pre-crisis levels. Finally, the most recent data point available suggests that 2014 may be a very good year since in the first half of the year VC investments already amounted to over $22 billion. Similar behavior is observed for the number of deals.

Figure 4 provides the breakdown of investments by sector for the first half of 2014. As the figure shows, almost half of the VC investments were directed to the software sector. Other sectors that also received significant VC funding were biotechnology, media and entertainment, and IT services. Additionally, a similar pattern emerges if we focus instead on the number of deals. This suggests that the large share for software is not attributable to one large project but, rather, seems to result from a large number of deals.

3.4 Kauffman Entrepreneurial Activity Index

Next, I look at an alternative measure of entrepreneurship, namely, the *Kauffman Index of Entrepreneurial Activity.* Based on data from the Current Population Survey (CPS), the index measures the fraction of the adult, non-business-owner population that starts a business each month.

Figure 5 presents the evolution of the index for the period 1996–2013. From

the figure it is clear that the index peaked during the Great Recession and fell back to pre-crisis levels in 2013. In particular, the index took a value of 0.28 by 2013, a decline of 0.02 percentage point from the previous year, and a cumulative decline of 0.06 percentage point since 2010.

The recent decline in the entrepreneurial index may be partly attributed to the economic recovery, as a stronger economy provides better salary jobs and increases the opportunity cost of entrepreneurship. At the same time, a growing economy also provides greater potential business income.[7] Based on the Kauffman index, it would seem that the former argument dominates the latter one.

3.5 Early-Stage Entrepreneurial Activity

The final measure of entrepreneurship I consider is the rate of *Total Early-Stage Entrepreneurial Activity* (TEA) from the GEM. The GEM project measures entrepreneurial activity, aspirations, and attitudes from over 100 countries.[8]

Interestingly, the data from GEM not only measure the share of the population undertaking entrepreneurial activities, but also provide information on those individuals who are starting a project and whether they are driven by opportunity or necessity. Specifically, total early-stage entrepreneurial activity, defined as the percentage of the population who are 18–64 years old and are either a nascent entrepreneur or the owner-manager of a new business. A nascent entrepreneur is defined as someone who is actively involved in setting up a business (s)he will own or co-own but whose prospective business has not made any payments to

[7]These two opposing arguments translate into the so-called *push* and *pull* forces into entrepreneurship. That is, whether an individual becomes an entrepreneur out of necessity or because he sees an actual business opportunity.

[8]The GEM started in 1999 as an association between the London Business School and Babson College.

the owner(s) for more than three months. A new business owner is defined as someone owning and managing a running business that has made payments to the owners for more than three months, but not more than 42 months. Finally, the opportunity-driven entrepreneurs are defined as those "those involved in TEA who (i) claim to be driven by opportunity as opposed to finding no other option for work; and (ii) indicate the main driver for being involved in this opportunity is being independent or increasing their income, rather than just maintaining their income," while the necessity-driven entrepreneurs are those who are involved in "entrepreneurship because they had no other option for work."

Figure 6 presents the breakdown of the entrepreneurial activity. The blue line represents the TEA, which declined during the crisis but returned to pre-crisis levels by 2011 and has remained fairly constant since then. However, it is interesting to note the divergent paths of the opportunity- and necessity-driven entrepreneurs. Indeed, the former group (green line) declined sharply with the crisis during the Great Recession but have mostly recovered since 2011. In contrast, the necessity-driven entrepreneurs (red line) increased with the crisis, and their share has remained elevated since then.

4 Productivity Dynamics

Total Factor Productivity

The first measure of productivity that I use is total factor productivity (TFP), estimated by the Federal Reserve Bank of San Francisco. In addition to the standard TFP measure, I also consider TFP adjusted for variations in factor utilization (labor effort and capital's workweek). The utilization adjustment follows Basu,

Fernald, and Kimball (2006).

Figures 7 and 8 plot the growth rates of TFP and adjusted TFP, respectively, for 1977–2013. As the figures show, the Great Recession affected negatively both productivity measures. Additionally, during 2009–2011 there are stark differences between the two measures, reflecting the importance of the slack in the economy. In the years following the 2008–2009 recession, we observe an increase in productivity according to both measures. Relative to the pre-recession growth rates, the current productivity growth rates suggest a rather sluggish return to growth. However, when we benchmark the current growth rates against the average growth for the whole period (denoted by the red line in the figures) we observe that the economy's productivity is performing on par with the average.

4.1 Multifactor Productivity

The BLS provides a measure of productivity called multifactor productivity (MFP) that measures output per unit of combined inputs. I use this variable as an alternative productivity measure.

Figure 9 plots the evolution of MFP. The blue line represents the estimated productivity of the private business sector, while the red line represents the productivity of the manufacturing sector. Both variables are scaled so that their value in 2009 was equal to 100. From the figure it is clear that productivity was severely affected by the Great Recession. However, it is also apparent from the figure that productivity bounced back in 2010. Since then, productivity seems to have grown at a pace in line with the pre-crisis levels—in fact, note that productivity for the private sector was slightly above trend in 2013.

Another way of looking at the data is presented in Figure 10, which plots

the productivity growth rates (blue bars) along with the average growth rate for the period considered. As the figure shows, after the decline of 2009, multifactor productivity has grown for four years in a row, above the historical average for two of them.

5 How Are These Variables Related?

After describing the evolution of entrepreneurship and productivity in the previous sections, I now turn the focus to the way in which these variables are related.

Table 1 presents the simple correlations between the growth rates of the main variables: three productivity measures (TFP, adjusted TFP, and MFP) and six entrepreneurship measures (new establishments from the BLS, new firms and establishments from the Census, venture capital, the Kauffman entrepreneurial index, and the TEA index). In addition, I report the correlations with the lagged entrepreneurship measures from the Census. Based on the concerns cited in the introduction, one would expect the entrepreneurship and productivity measures to be highly and positively correlated. However, as the table shows, this is not always the case. In fact, the correlations involving the Kauffman and TEA indices and those with adjusted TFP are negative most of the time. Still, we also observe that when using as entrepreneurship measures VC investments, new firms, and entry of new establishments from the Census, along with the TFP and MFP productivity measures, the correlations are positive, as expected.

For my econometric work below, I focus on the entrepreneurship measures from the Census, specifically, in the growth rates (log differences) of new firms and of new establishment entry. This is driven by the fact that these measures provide the largest number of observations.

In Table 2, I present the results of regressing productivity as a function of the alternative business creation rates and, as an additional control, the investment in IT (information capital).[9] As the table shows, I find that the growth rate of TFP depends positively on the growth rates of new firms and of establishment entry. In columns 5–8, I repeat the same exercise, but using the MFP growth rates instead. In this case, I find that MFP depends positively on new firms' growth and the establishment entry growth rates, but in the latter case, it is precisely estimated only when controlling for IT investment.[10] In Table 3, I conduct the same exercise as in Table 2, but using contemporaneous and lagged regressors. From the table we observe that all point estimates are positive, but they are are statistically significant only when I exclude IT investment as a control.

Next, I focus on MFP as the dependent variable. Since the BLS reports the MFP broken down by broad economic sectors, I combine these data with Census data on new firms and establishments that are available at the same level of disaggregation. This allows me to have a panel with eight industries spanning 1987–2012. The sectors included are the following: agriculture, forestry and fishery, construction, mining, manufacturing, retail trade, wholesale trade, finance, insurance, and real estate, and services.[11]

In Table 4, I run fixed effects regressions using the panel just described. The different columns vary in the inclusion (or not) of year dummies and in the regressors being contemporaneous or lagged. Regardless of the specification considered, I

[9] A potentially important issue is reverse causality, that is, the possibility that TFP 'causes' entrepreneurship. This is a valid concern, but it is beyond the scope of this brief paper. Therefore, the results presented here only attempt to measure the degree of association between the two variables.

[10] For papers on the effects of IT capital on productivity, see Jorgenson, Ho, and Stiroh (2005, 2008) and Oliner, Sichel, and Stiroh (2007). These papers find large IT-driven productivity gains for IT-producing industries, and relatively smaller gains for IT-using industries.

[11] The BLS warns, however, that their nonmanufacturing estimates might be biased.

do not find any evidence of (multifactor) productivity being affected by the growth rate of new firms or of establishments entry.[12]

In the last two columns of Table 4, I introduce the lagged MFP value as an additional regressor, thus obtaining a dynamic panel dataset. In this case, I find that the contemporaneous estimate for the growth rate of new firms is, as expected, always positive and statistically significant. Moreover, the remaining entrepreneurial estimates, while not statistically significant, also are always positive. Finally, I also find that the lagged MFP value is estimated to be negative and, in the case of new establishments, statistically significant.

In Table 5, I report the Arellano and Bond (1991) estimates that result from constructing efficient estimates of the dynamic panel data, within a GMM context.[13,14] The coefficient on the contemporaneous entrepreneurial variables are once again found to be positive and statistically significant. Further, I find that the lagged dependent variable has a negative (although not significant) effect, suggesting a certain 'concavity' in the productivity process. Moreover, at the bottom of the table, I report the p-values from testing whether the first-differenced errors have autocorrelation of first or second order. Consistent with the assumptions underlying the Arellano-Bond methodology, I find significant evidence against the null hypothesis of zero autocorrelation of order one, but I cannot reject the null

[12]Further, although not reported in the paper, I redid Table 4 but with a shorter panel that stops in 2007. The idea was to determine whether before the Great Recession there was a clearer link from business creation to productivity that was disturbed by the crisis. However, I found a situation similar to the full panel, with the estimates not statistically different from zero.

[13]The Arellano-Bond estimates handle several potential econometric problems (for instance, they remove a potential source of omitted variable bias). However, they must be taken with caution since there could be some asymptotic issues arising from the fact that the number of panels I use is relatively small relative to the number of periods. Thus, the fixed effects specification from Table 4 might be most appropriate.

[14]The Arellano-Bond methodology treats the model as a system of equations and identifies the number of lags of the dependent and the endogenous variables that are valid instruments for the first differences of these variables, and that are combined with the first differences of the strictly exogenous variables.

hypothesis of zero autocorrelation of second order (which would imply that the Arellano-Bond moment conditions are invalid).

Finally, I look into the relationship between productivity and the number of jobs associated with entrepreneurship. In Figure 11, I plot MFP against the number of jobs per new establishment. There are two points worth mentioning. First, if we look at the whole series, the two variables do not seem to be highly correlated (their correlation is 0.14). Second, and most interestingly, if we focus only on the period starting in the late 1990s, there is a clear negative relationship between the two variables—their correlation is –0.83. While this finding must be taken with caution because of the small number of observations, it is clear that there is shrinkage in the average size of new businesses, and the data suggest that this is associated with the rising level of productivity.

6 Conclusion

In this paper, I look at the recent evolution of entrepreneurship and productivity. In line with earlier findings in the literature, I find that entrepreneurship experienced a sharp decline with the Great Recession. However, the latest data points indicate that the decline has stopped and, in fact, I find moderate growth across the various measures of entrepreneurship. In turn, productivity growth also experienced a large decline at the time of the crisis. This was followed by a significant increase right after the crisis, and an about average performance since then.

In terms of how the two variables are related, the bottom line is that there is (some) evidence of entrepreneurship being positively associated with productivity. Given the recent pick-up in entrepreneurship, this would imply a positive outlook for the evolution of productivity.

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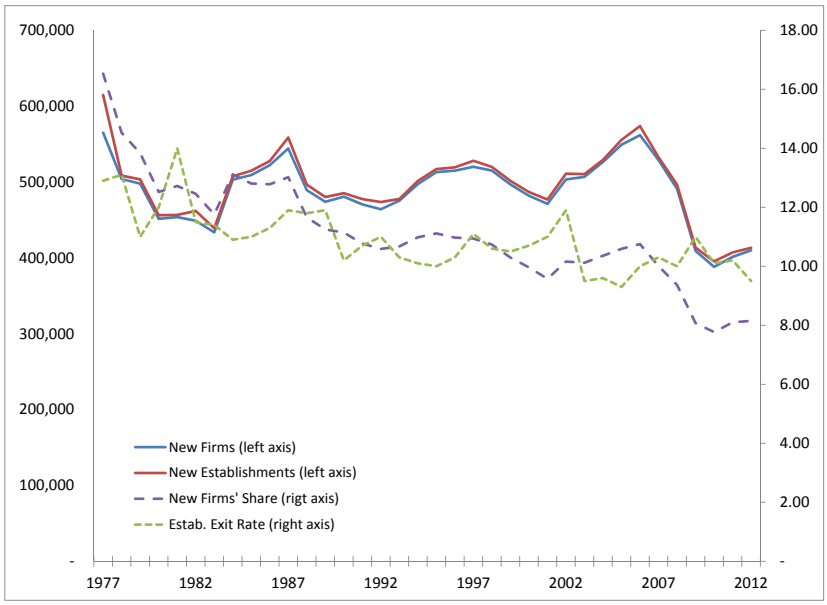
Figure 1: New Establishments and Survival Rates

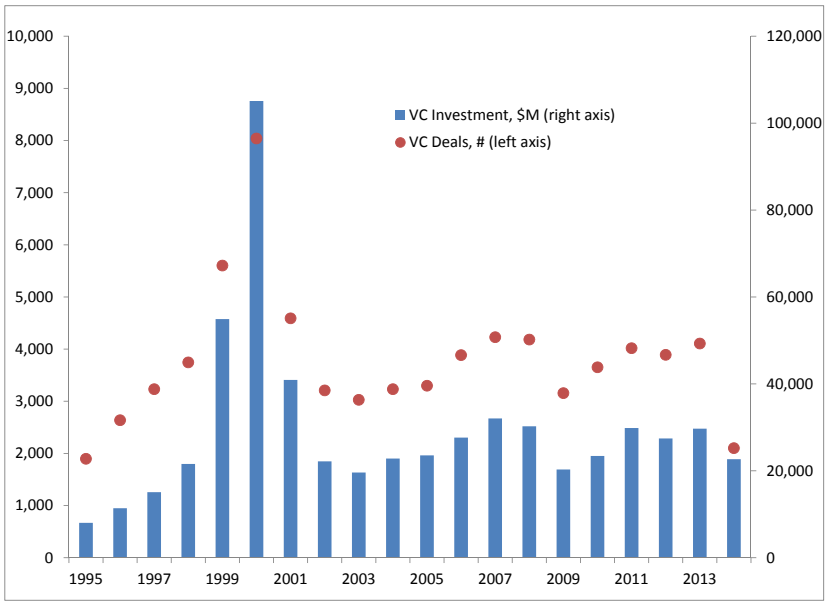
Source: Author's calculations based on data from the BLS.

Figure 2: New Firms, Establishments and Exit Rates



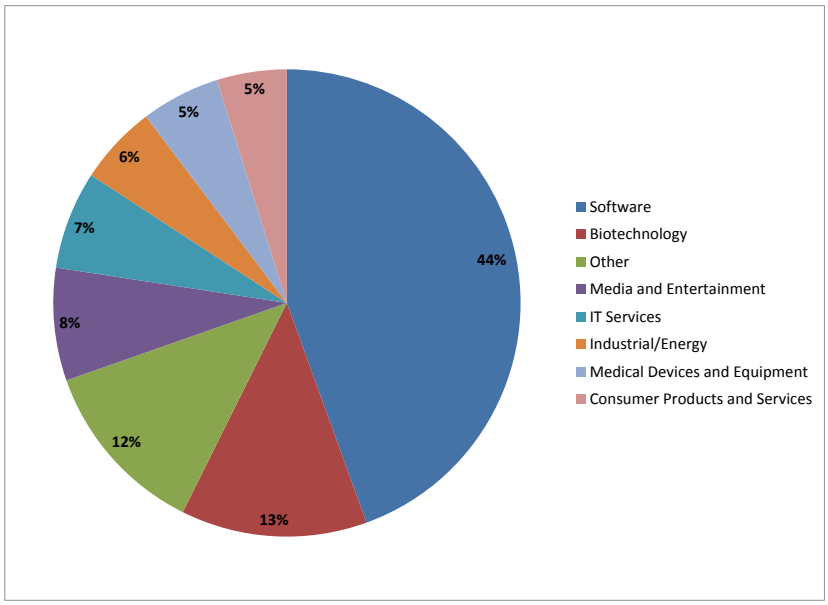
Source: Author's calculations based on data from the U.S. Census.

Figure 3: Venture Capital Deals and Investments



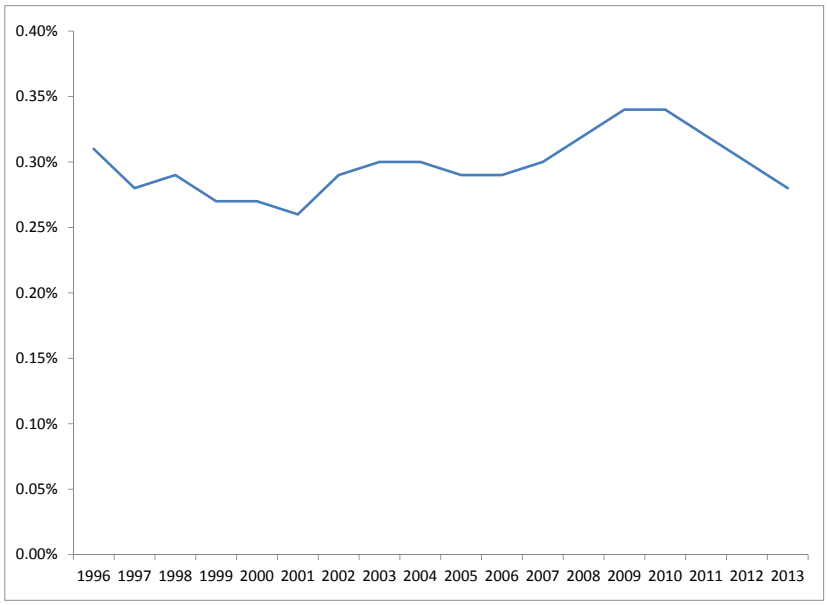
Source: Author's calculations based on data from the NVCA.

Figure 4: Venture Capital by Sector, 2014:H1



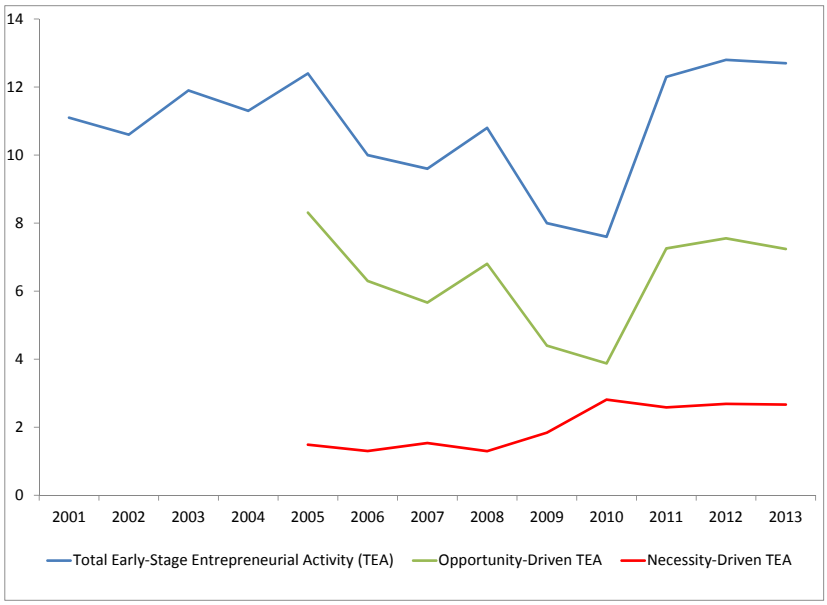
Source: Author's calculations based on data from the NVCA.

Figure 5: Entrepreneurial Index



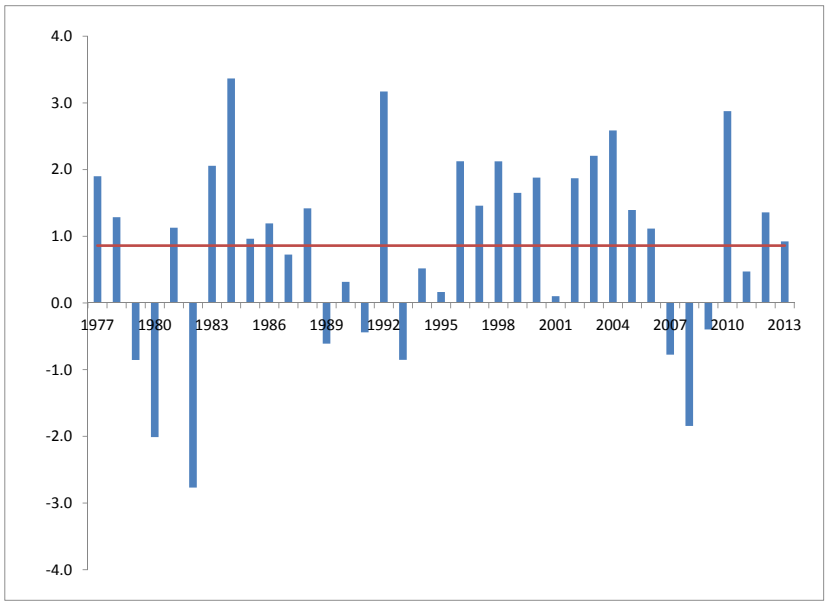
Source: Author's calculations based on data from the Kauffman Foundation.

Figure 6: Early-Stage Entrepreneurial Activity



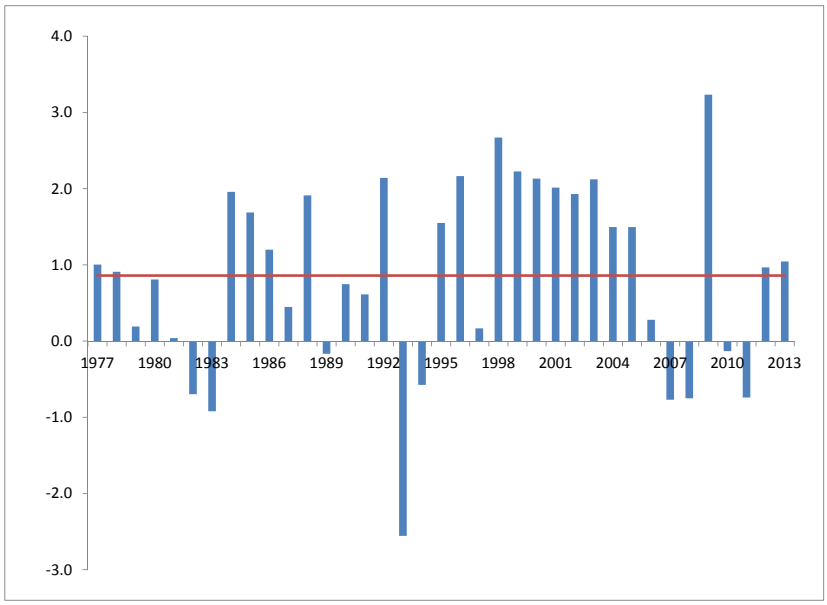
Source: Author's calculations based on data from the GEM.

Figure 7: Total Factor Productivity (growth rates)



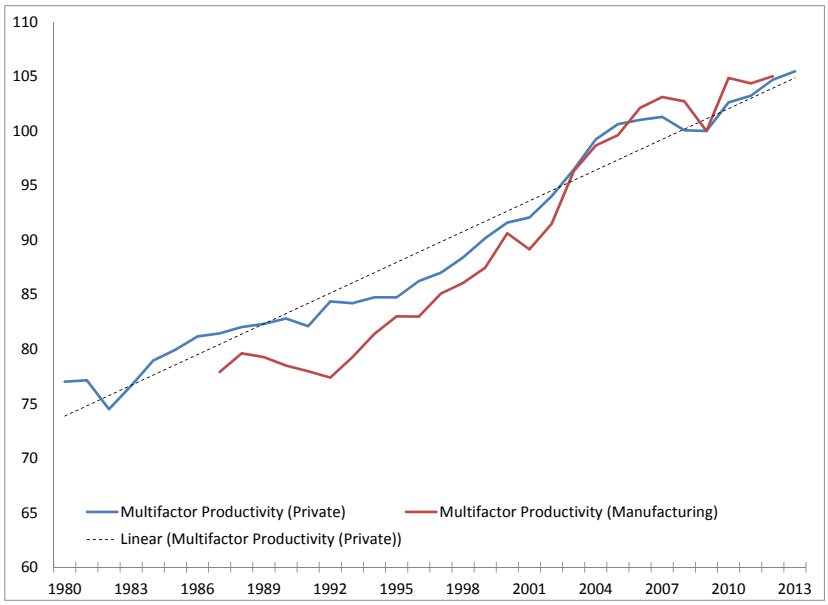
Source: Author's calculations based on data from the Federal Reserve Bank of San Francisco.

Figure 8: Adjusted Total Factor Productivity (growth rates)



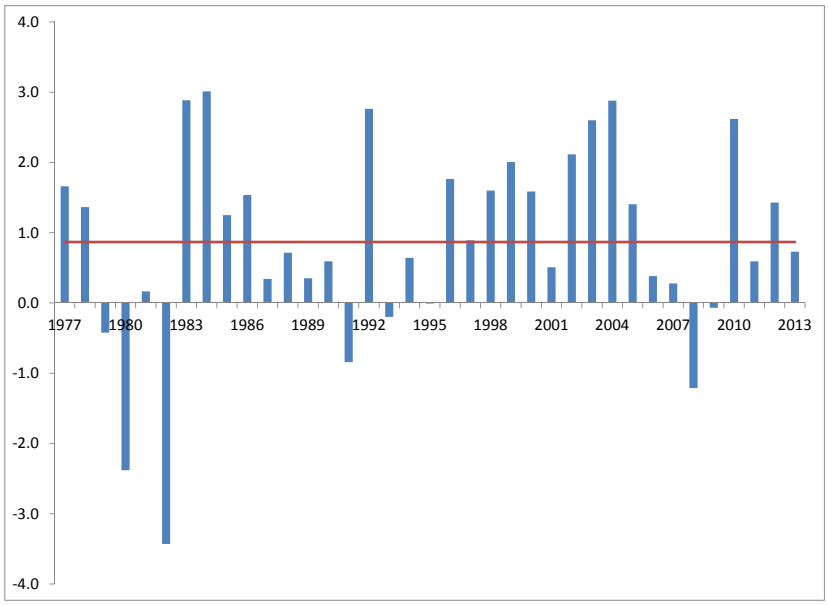
Source: Author's calculations based on data from the Federal Reserve Bank of San Francisco.

Figure 9: Multifactor Productivity



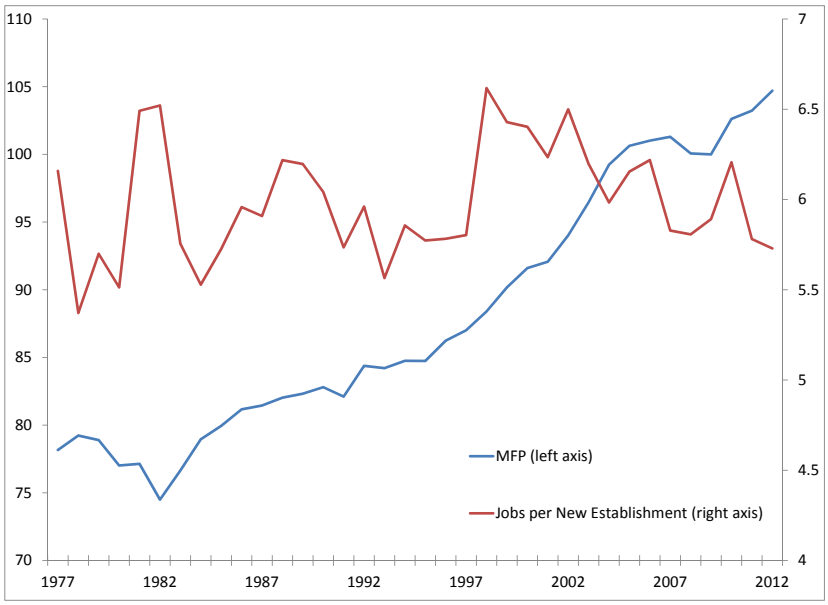
Source: Author's calculations based on data from the BLS.

Figure 10: Multifactor Productivity (growth rates)



Source: Author's calculations based on data from the BLS.

Figure 11: Jobs per New Establishment and Multifactor Productivity



Source: Author's calculations based on data from the U.S. Census and the BLS.

Table 1: Correlations, Entrepreneurship vs. Productivity

	Δ TFP	Δ TFP$_{adj}$	Δ MFP
Δ New Estab (BLS)	0.127	-0.209	-0.021
Δ VC Investments	0.348	-0.176	0.266
Δ Kauffman	-0.172	0.190	-0.664
Δ TEA	-0.049	-0.473	-0.399
Δ New Firms	0.357	-0.078	0.319
Δ Estab Entry (Census)	0.283	-0.038	0.223
Δ New Firms$_{(t-1)}$	0.078	0.230	0.049
Δ New Est$_{(t-1)}$ (Census)	0.148	0.217	0.123

Source: Author's calculations.

Table 2: Regressions on TFP and MFP

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Δ TFP	Δ TFP	Δ TFP	Δ TFP	Δ MFP	Δ MFP	Δ MFP	Δ MFP
Δ New Firm	8.833**	6.449*			7.759**	5.721*		
	(3.456)	(3.679)			(3.252)	(2.981)		
Δ Estab Entry			6.196*	7.036*			4.798	5.725**
			(3.497)	(3.453)			(3.386)	(2.628)
IT Investment		0.002		0.002		0.006		0.006
		(0.009)		(0.009)		(0.007)		(0.007)
Observations	35	26	35	26	35	26	35	26
R^2	0.127	0.072	0.08	0.096	0.102	0.090	0.05	0.099

Source: Author's calculations. *Notes:* Robust standard errors in parenthesis. '***', '**' and '*' refer to statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 3: Regressions on TFP and MFP (Contemporaneous and Lagged)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Δ TFP	Δ TFP	Δ TFP	Δ TFP	Δ MFP	Δ MFP	Δ MFP	Δ MFP
Δ New Firm	10.354***	4.443			9.339***	5.146		
	(3.696)	(5.403)			(3.401)	(4.055)		
Δ New Firm$_{(t-1)}$	-0.549	-0.419			-1.004	-2.303		
	(4.647)	(5.744)			(3.958)	(3.914)		
Δ Estab Entry			7.989**	5.453			6.382*	5.166
			(3.744)	(5.022)			(3.732)	(3.538)
Δ Estab Entry$_{(t-1)}$			2.27	0.767			1.932	-1.069
			(4.024)	(5.519)			(3.410)	(3.889)
IT Investment		0.085		0.084		0.067*		0.068*
		(0.051)		(0.050)		(0.038)		(0.038)
IT Investment$_{(t-1)}$		-0.087*		-0.085*		-0.065		-0.066*
		(0.050)		(0.049)		(0.039)		(0.038)
Observations	34	25	34	25	34	25	34	25
R^2	0.155	0.077	0.128	0.227	0.128	0.096	0.086	0.209

Source: Author's calculations. *Notes:* Robust standard errors in parenthesis. '***', '**' and '*' refer to statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4: Regressions on Multifactor Productivity (Panel, Fixed Effects)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	ΔMFP	ΔMFP	ΔMFP	ΔMFP	ΔMFP	ΔMFP
Δ New Firm	0.092*	0.085*			0.065*	
	(0.045)	(0.040)			(0.033)	
Δ New Firm$_{(t-1)}$		0.052			0.064	
		(0.049)			(0.052)	
Δ Estab Entry			0.085	0.079*		0.059
			(0.047)	(0.041)		(0.034)
Δ Estab Entry$_{(t-1)}$				0.057		0.068
				(0.047)		(0.052)
$\Delta MFP_{(t-1)}$					-0.111	-0.115*
					(0.061)	(0.060)
Year FE	x	x	x	x	x	x
Observations	200	192	200	192	192	192
R^2	0.137	0.155	0.133	0.154	0.165	0.165

Source: Author's calculations. *Notes:* Robust standard errors in parenthesis. '***', '**' and '*' refer to statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5: Regressions on Multifactor Productivity (Arellano-Bond)

	(1)	(2)
VARIABLES	ΔMFP	ΔMFP
Δ New Firm	0.074**	
	(0.037)	
Δ Estab Entry		0.068*
		(0.038)
Δ MFP$_{(t-1)}$	-0.086	-0.091
	(0.069)	(0.067)
Year FE	x	x
Observations	184	184
Autocorrelation 1st-diff err.		
Order: 1	0.0414	0.0411
Order: 2	0.1959	0.1966

Source: Author's calculations. *Notes:* Robust standard errors in parenthesis. '***', '**' and '*' refer to statistical significance at the 1%, 5%, and 10% levels, respectively.