

# **BUSINESS STARTUPS HAVE DECLINED IN LINE WITH THEIR PRIMARY SOURCE OF FINANCING:**

THE BUSINESS STARTUP RATE AND THE U.S. PERSONAL SAVINGS RATE: 1977-2011



*Benjamin Ryan*



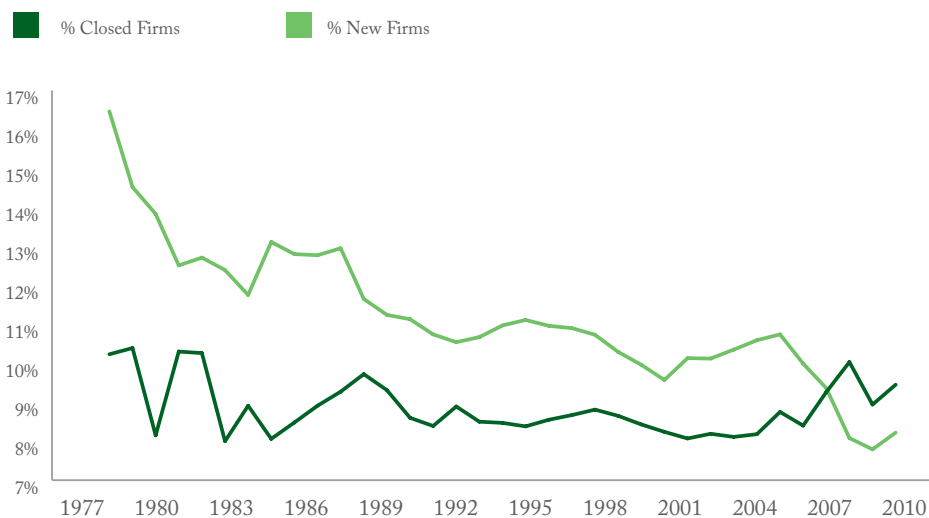
# BUSINESS STARTUPS HAVE DECLINED IN LINE WITH THEIR PRIMARY SOURCE OF FINANCING:

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Much has been made in recent months about the apparent decline in new business startups in the United States. In short, in 1977 the percent of businesses in America that were less than one year old was 16.5%, but by 2011 that figure had dropped by half to only 8.2%. At the same time, the percent of businesses that close down each year has stayed relatively constant, hovering around 9%. From 2008 to 2011, the percentage of businesses that were new that year was smaller than the percentage of businesses that closed down, marking the first time the total number of businesses in the U.S. had declined year-on-year since these metrics were first recorded.

## *Startup Rate and Closing Rate for Businesses in the U.S. 1977-2011*



U.S. Census Bureau, Business Dynamics Statistics

This pattern of decline has been documented and remarked upon in various papers over the past few years, but recently achieved national media attention with the publication of a summary paper by Dr. Robert Litan and Mr. Ian Hathaway at the Brookings Institution. Gallup had also begun reporting on this phenomenon in [January 2014](#) after researchers were drawn to the problem while investigating the overall business and entrepreneurship climate.

Despite all of this research, there has as yet been no satisfying answer as to why the rate of U.S. startups has been on the decline. The authors of the Brookings Institution paper conclude, "Our findings stop short of demonstrating why these trends are occurring and perhaps more

importantly, what can be done about it. Doing so requires a more complete knowledge about what drives dynamism, and especially entrepreneurship, than currently exists.”

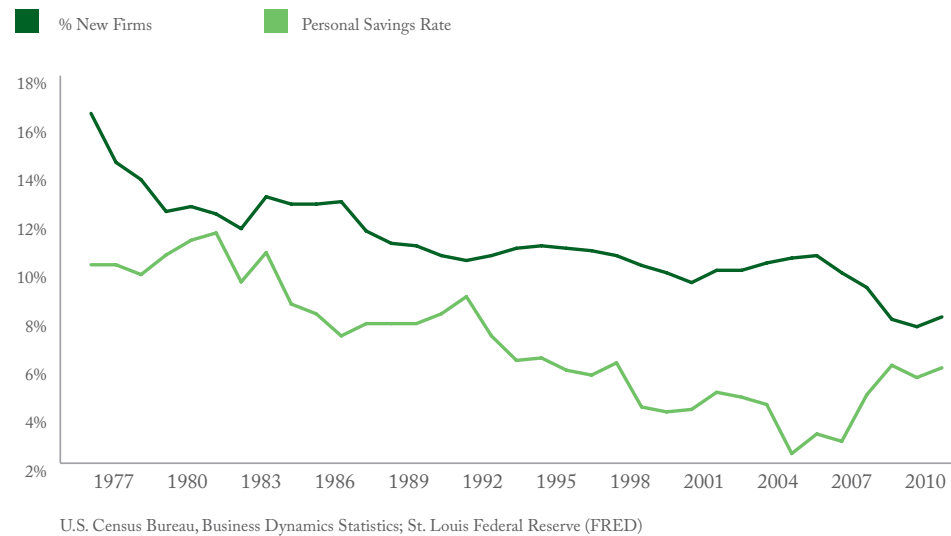
In fact, in recent years Gallup has dedicated significant time and effort to researching and understanding the drivers of entrepreneurship, both at the individual, micro-level as well as at the national, macro-level. In that context, we propose a potential explanation to the mystery of the declining rate of U.S. startups tied to the Personal Savings Rate.

## **BUSINESS STARTUPS AND FINANCING**

Gallup’s studies of business owners and entrepreneurs have found that one of the most consistent key issues for business startups is adequate financing, and that this financing predominantly comes from personal savings. In particular, the [Wells Fargo Small Business Survey](#) has consistently found that small business owners depended most on personal savings for startup funding; since they began asking the question in 2006, 77% of small business owners said that this was a source of their startup funding (the next most common source was loans at only 41%). Similarly, the [Sam’s Club/Gallup Microbusiness Tracker](#) has found that, in their first year in business, 75% of owners of microbusinesses — those businesses with five or fewer employees including the owner — depended on personal savings, credit cards, or money from family and friends (presumably from their own personal savings) for financing to the exclusion of loans, grants, or other external investors. These findings track closely with other research on business owners and startups at the Kaufmann Institute.

The U.S. Personal Savings Rate is the national percentage of disposable personal income (income after taxes) that is not taken up with personal consumption expenditures or interest payments. This rate encompasses exactly these economic resources which prospective entrepreneurs depend so heavily on to finance new businesses. In addition, this rate directly impacts business owners’ ability to secure and sustain loans and lines of credit, the next most common source of financing. Owners with low or no personal savings have greatly reduced ability to convince banks that they can take on extra loan payments. And like the business startup rate, the U.S. Personal Savings Rate has been steadily declining since the late 1970s/early 1980s.

*Business Startup Rate and the Personal Savings Rate in the U.S. 1977-2011*



Looking more closely at this relationship, we map annual startup rates (percentage of all existing businesses in a particular year that were started that year) to the annualized Personal Savings Rate for each year from 1977 to 2011. We find a positive correlation of  $r = .70$ .

*U.S. Personal Savings Rate vs. % New Firms, 1977-2011*



Of course, money saved this year is, by definition, not spent this year. If the relationship identified above has a causative aspect, the savings rates for the current year should then have the most reliable effect in future years, when the accumulated savings is eventually spent. To explore the effects of changes to the Personal Savings Rate on future years' startup rates, we examined the relationship between these sets of figures by successively offsetting the Personal Savings Rate by one year to find the best fit with the business startup rate. And in fact, we see that the Personal Savings Rate in any given year is most closely correlated ( $r = .92$ ) with the rate of business startups four years later.

*U.S. Personal Savings Rate 1973-2007 vs. % New Firms 1977-2011*



We compared the business startup rate with the Personal Savings Rate “lagged” by one, two, three, etc. up to 10 years in either direction (either preceding or following the business startup rate for the corresponding year). The correlation was significant at each lag, but the highest degree of correlation was at the point where the Personal Savings Rate preceded the business startup rate by four years.

**Table A:** Correlations of Annual Startup and Personal Savings Rate at different offsets

% New Firms by Personal Savings Rate	Correlation ( r )	% New Firms by Personal Savings Rate	Correlation ( r )
offset +10 years	r(33) = 0.78, p < 0.001	offset -1 year	r(33) = 0.65, p < 0.001
offset +9 years	r(33) = 0.75, p < 0.001	offset -2 years	r(33) = 0.67, p < 0.001
offset +8 years	r(33) = 0.76, p < 0.001	offset -3 years	r(32) = 0.74, p < 0.001
offset +7 years	r(33) = 0.82, p < 0.001	offset -4 years	r(31) = 0.82, p < 0.001
offset +6 years	r(33) = 0.86, p < 0.001	offset -5 years	r(30) = 0.87, p < 0.001
offset +5 years	r(33) = 0.88, p < 0.001	offset -6 years	r(29) = 0.84, p < 0.001
offset +4 years	r(33) = 0.92, p < 0.001	offset -7 years	r(28) = 0.82, p < 0.001
offset +3 years	r(33) = 0.90, p < 0.001	offset -8 years	r(27) = 0.69, p < 0.001
offset +2 years	r(33) = 0.84, p < 0.001	offset -9 years	r(26) = 0.59, p < 0.001
offset +1 year	r(33) = 0.74, p < 0.001	offset -10 years	r(25) = 0.53, p < 0.01
Exact Year	r(33) = 0.70, p < 0.001		

A Granger causality analysis confirms this observed relationship. We find that the Personal Savings Rate Granger causes the business startup rate in lag years two, three, and four at p < .01. Granger causality at this level is unidirectional; the startup rate does not cause the Personal Savings Rate with any lag at p < .01.

Granger Causality Test: PSR = f(Startups)			Granger Causality Test: Startups = f(PSR)		
Diff. DF	F	p-value	Diff. DF	F	p-value
-1	0.309018637916397	0.582273343817298	-1	2.83433597019635	0.102314528031945
-2	2.9251660772678	0.0701990694685116	-2	7.83682591275962	0.0019821628569068
-3	4.46784680970337	0.0120807970361095	-3	6.69993028787489	0.00179473656525277
-4	3.29230611453403	0.0293793745312912	-4	4.39413449595982	0.00921721630594907
-5	2.29926861850287	0.0857230219577535	-5	4.52649591810141	0.00692656218187511
-6	1.24031915561841	0.337601251247899	-6	2.72891066375135	0.0507473622454176
-7	1.9686385116333	0.138350351763687	-7	1.35642408040151	0.301090977357529
-8	1.16179227551122	0.403960114288321	-8	1.69508400208096	0.213778057217903
-9	2.23680228576067	0.150567910654853	-9	1.76282086463633	0.233536510218116
-10	2.18772127667349	0.234311723726579	-10	2.07988978855242	0.250322180691097

**OTHER  
POTENTIAL  
EXPLANATORY  
FACTORS**

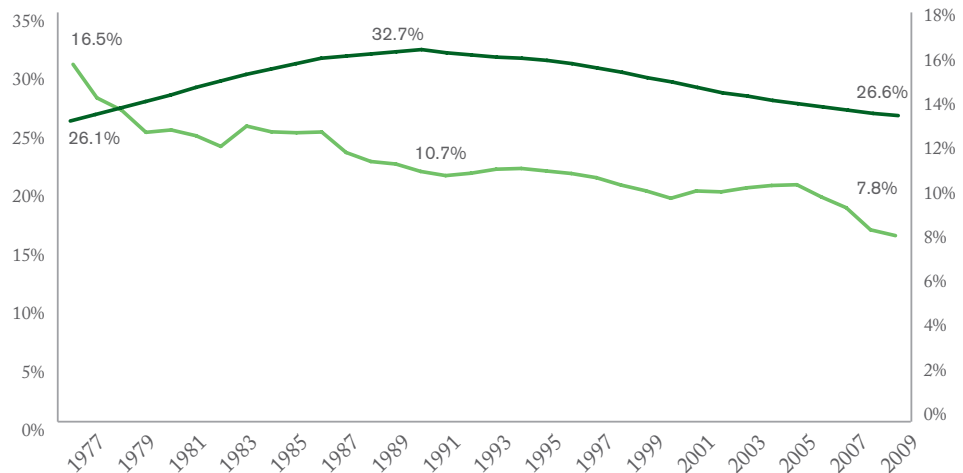
To date, theories around the possible cause or causes of the decline in the rate of U.S. business startups have focused on several other areas. Here we attempt to demonstrate the relative deficiency of several of the most popular theories in the face of the Personal Savings Rate explanation.

*An Aging Population*

Brookings Institution researchers Dr. Robert Litan and Mr. Ian Hathaway themselves offer the famously aging American population as one possible explanation for the decline in business startups in the U.S. Under this theory, as the “baby boomer” generation (generally understood as those born between 1946 and 1964) moves into retirement, this cohort becomes less entrepreneurial, while at the same time being replaced with numerically smaller working-age cohorts. The end result is fewer working-age adults to start new businesses.

Both Gallup data and external research find that the average age at which business owners founded their business is about 40 years old. And in fact, the percentage of adults in this age cohort has been declining since 1991. However, that same cohort was growing as a percentage of the population from 1977 to 1991, yet the startup rate gradually declined throughout that period as well. While the aging trend may explain part of the decline in startups in the most recent decade or two, it runs counter to the decline seen in the first half of the period in question.

*% 25-44 year-olds vs. % New Businesses*





### *Changing Sector Composition of the Economy*

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Litan and Hathaway, among others, also note that — in addition to an aging population — the U.S. has undergone a major realignment of the different sectors of its economy over the past few decades. Whereas manufacturing was the most common occupation in most U.S. states in 1990, today it is healthcare. Similarly, retail trade and construction businesses have declined significantly while financial services and food and accommodation services businesses have swelled.

This explanation is unsatisfactory for at least two reasons. First, the decline in startup rate is present across industries throughout the 1977-2011 period. Looking at employment share of firms in business for five or fewer years with the key retail, services, and manufacturing sectors since 1977, Decker et al. found that, “The share of employment in young firms has declined in all three sectors, suggesting that factors that are not sector-specific are causing the decline in entrepreneurial activity. Consistent with this view, we find this decline in the share of employment at young firms in every major sector.”

Secondly, the new leading sectors that have grown to take the place of manufacturing and construction have higher startup and growth rates than other sectors, and without their contribution, the decline in the rate of startups would be even more pronounced. As Haltiwanger et al. note, “The shift away from manufacturing to retail, services and the information sector will work in the opposite direction than that of firm age. That is, this structural change should have led to an increase in the pace of business dynamics.”

### *Increased Regulatory or Tax Burdens*

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A paper in the September 2014 Chicago Fed Letter focused on the most recent downturn in business startups (2007-2011) offers several possible mechanisms for declining rates of business startups, one of which is increased regulatory or tax burden. When looking at the U.S. Census’ business statistics data, the same pattern of decline that we see nationally reoccurs at the state and even the Metropolitan Statistical Area (MSA) level for every state and virtually every MSA in the country, with minor variations. This consistency suggests that more locally defined explanations for the decline, such as licensing or regulatory burdens or tax burdens, are unlikely answers given the available data. As Dane Stanger and Jordan Bell-Masterson of the Kaufmann Foundation point out, “The overall trends of falling entrepreneurship ... have been relatively uniform across states, metropolitan areas, and different time periods. There aren’t many federal policies that could account for that uniformity.”

### *Tightening Credit for Small Businesses*

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The Chicago Fed Letter paper offers another possible explanation for the decline in business startups: tightening of credit from lenders. This explanation is an unlikely solution both because formal business loans are not as common a source of financing as personal savings and because credit has not consistently tightened over the 37-year period that business startups have been declining. While credit did tighten over the shorter period on which the Chicago Fed Letter paper focused (2006-2011), this was not generally true over the entire period of observed decline 1977-2011.

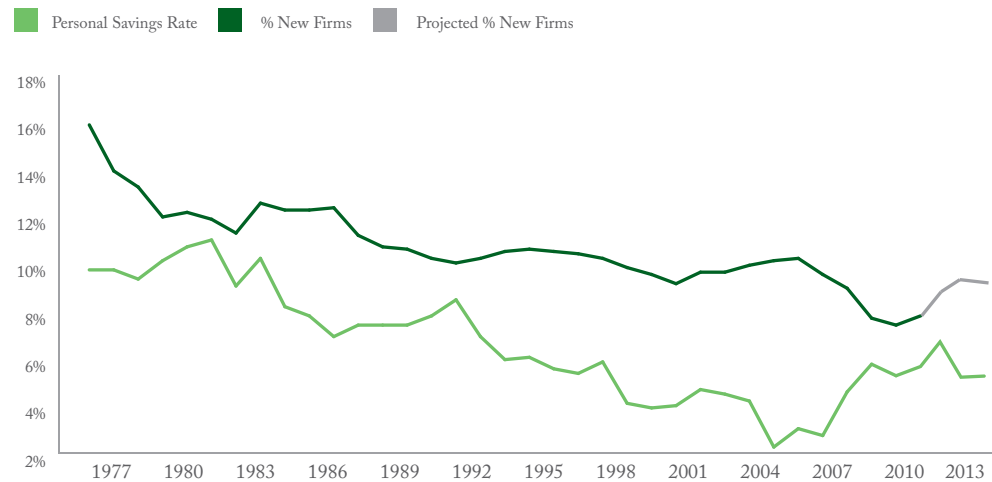
At the same time, both Gallup data and external research have shown that business loans from banks are not nearly as common as personal savings as a source of startup financing. Banks generally avoid lending to businesses that have not been in business at least two years and can show good financial track records. While small business loans at these times can be crucial for helping fledgling businesses survive, they happen well after the business has been started.

The Wells Fargo Small Business survey found that the number of small business owners using a “loan or line of credit” when starting their business was relatively steady at two in five, while those using a credit card increased from 21% in 2006 to 31% in 2014. The Sam’s Club/Gallup Microbusiness Tracker similarly found that only 15% of microbusiness owners in their first year had used personal or small business loans or credit from a supplier to finance their business.

**FUTURE  
TRENDS AND  
CONFIRMATION**

If the observed relationship between the Personal Savings Rate and the business startup rate from 1977 to 2011 has continued in recent years, what can the data we have on hand now tell us about the rate of business startups in recent years and years to come? Because of lags in processing and analysis time, the Census data on U.S. businesses only goes up to 2011. However, assuming that the Personal Savings Rate and the business startup rate continue to move together as they have in the period from 1977 to 2011, we should expect Census to eventually report a business startup rate of between 10.7% and 9.3% for 2012, up from 8.2% observed for 2011.

*Personal Startup Rate and Closing Rate for Businesses in the U.S. 1977-2014*



U.S. Census Bureau, Business Dynamics Statistics; St. Louis Federal Reserve (FRED); personal savings rate data for 2014 represents only the first six months

After a few stronger years in 2009-2012, lagging savings indicators in 2013 and 2014 predict that even if savings, and the rate of business startups, picks up in the next two to three years, we may still see a softening in U.S. entrepreneurship in the years after. The U.S. Personal Savings and the business startup rates remain well below their historic averages, and without better performance here, American entrepreneurship is still at risk.

## REFERENCES

- Decker, R., Haltiwanger, J., Jarmin, R., & Miranda, J. (n.d.). The Secular Decline in Business Dynamism in the U.S. Retrieved September 2, 2014, from [http://econweb.umd.edu/~haltiwan/DHJM\\_JEP\\_5\\_17\\_2013.pdf](http://econweb.umd.edu/~haltiwan/DHJM_JEP_5_17_2013.pdf)
- Decker, R., Haltiwanger, J., Jarmin, R., & Mirana, J. (2014). The Role of Entrepreneurship in US Job Creation and Economic Dynamism. Retrieved September 2, 2014, from <http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.28.3.3>
- Decker, R., Haltiwanger, J., Jarmin, R., & Mirana, J. (2014, June). The Secular Decline in Business Dynamism in the U.S. Retrieved September 2, 2014, from <http://faculty.chicagobooth.edu/workshops/applieecon/pdf/Haltiwangersecular.pdf>
- Gourio, F., Messer, T., & Siemer, M. (2014, September). Chicago Fed Letter, What is the economic impact of the slowdown in new business formation? Retrieved September 2, 2014, from [http://www.chicagofed.org/digital\\_assets/publications/chicago\\_fed\\_letter/2014/cfseptember2014\\_326.pdf](http://www.chicagofed.org/digital_assets/publications/chicago_fed_letter/2014/cfseptember2014_326.pdf)
- Hathaway, I., & Litan, R. (2014, May). Declining Business Dynamism in the United States: A Look at States and Metros. Retrieved September 2, 2014, from [http://www.brookings.edu/~media/research/files/papers/2014/05/declining\\_business\\_dynamism\\_litan/declining\\_business\\_dynamism\\_hathaway\\_litan.pdf](http://www.brookings.edu/~media/research/files/papers/2014/05/declining_business_dynamism_litan/declining_business_dynamism_hathaway_litan.pdf)
- Haltiwanger, J. (2011). Firm dynamics and productivity growth, EIB Papers, ISSN 0257-7755, Vol. 16, Iss. 1, pp. 116-136. Retrieved September 4, 2014, from <http://www.econstor.eu/bitstream/10419/54671/1/680143432.pdf>
- Haltiwanger, J., Jarmin, R., & Miranda, J. (n.d.). BUSINESS DYNAMICS STATISTICS BRIEFING: Where Have All the Young Firms Gone? Retrieved September 2, 2014, from [http://www.census.gov/ces/pdf/BDS\\_StatBrief6\\_Young\\_Firms.pdf](http://www.census.gov/ces/pdf/BDS_StatBrief6_Young_Firms.pdf)
- Klein, K. (2011, August). When Your Bank Won't Make a Business Loan. Retrieved September 2, 2014, from <http://www.businessweek.com/small-business/when-your-bank-wont-make-a-business-loan-08092011.html>
- Population, Employment, Wages, and Productivity, Table B-34: Population by age group, 1939-2011. (n.d.). Retrieved September 2, 2014, from <http://www.gpo.gov/fdsys/granule/ERP-2012/ERP-2012-table34/content-detail.html>
- Robb, A. (2010, May). An Overview of the Kauffman Firm Survey. Retrieved September 4, 2014, from [http://www.kauffman.org/~media/kauffman\\_org/research\\_reports\\_and\\_covers/2010/05/kfs\\_2010\\_report.pdf](http://www.kauffman.org/~media/kauffman_org/research_reports_and_covers/2010/05/kfs_2010_report.pdf)
- Stangler, D., & Bell-Masterson, J. (2014, August). Can Millennials Reverse America's Declining Rates of Entrepreneurship? Retrieved September 2, 2014, from [http://www.washingtonmonthly.com/ten-miles-square/2014/08/can\\_millennials\\_reverse\\_america051694.php](http://www.washingtonmonthly.com/ten-miles-square/2014/08/can_millennials_reverse_america051694.php)
- The Anatomy of an Entrepreneur. (2009, July). Retrieved September 2, 2014, from <http://www.kauffman.org/what-we-do/research/2010/05/the-anatomy-of-an-entrepreneur>
- Wessa, P. (2013). Free Statistics Software, Office for Research Development and Education, version 1.1.23-r7. Retrieved September 2, 2014, from [http://www.wessa.net/rwasp\\_grangercausality.wasp](http://www.wessa.net/rwasp_grangercausality.wasp)

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