RESEARCH REPORT

Does Increasing Reliance on Student Debt Explain Declines in Entrepreneurial Activity?

Posing the Question, Gathering Evidence, Considering Policy Options

Sandy Baum

January 2015

URBAN INSTITUTE · ELEVATE · THE · DEBATE

ABOUT THE URBAN INSTITUTE

The nonprofit Urban Institute is dedicated to elevating the debate on social and economic policy. For nearly five decades, Urban scholars have conducted research and offered evidence-based solutions that improve lives and strengthen communities across a rapidly urbanizing world. Their objective research helps expand opportunities for all, reduce hardship among the most vulnerable, and strengthen the effectiveness of the public sector.

Contents

Acknowledgments

The Urban Institute strives for the highest standards of integrity and quality in its research, analyses, and policy recommendations. Urban scholars believe that independence, rigor, and transparency are essential to upholding those values. Funders do not determine research findings or influence scholars' conclusions. As an organization, the Urban Institute does not take positions on issues. Urban scholars and experts are independent and empowered to share their evidence-based views and recommendations shaped by research.

This report benefited from the comments of several Urban Institute colleagues, including Greg Acs, Donald Marron, Stephanie Owens, and Kim Rueben, as well as Arnobio Morelix and E.J. Reedy of the Ewing Marion Kauffman Foundation. The views expressed are those of the author and should not be attributed to the Urban Institute, its trustees, or its funders.

Executive Summary

Concerns about declining entrepreneurial activity, rising student debt, and the possible relationship between the two deserve attention. New business enterprises can support innovation and increase employment, so any trend that might be interfering with individuals' opportunities to take risks, finance start-ups, and build enterprises is worth exploring.

Unfortunately, the relationship between student debt and entrepreneurship is neither straightforward nor easy to test. Defining and measuring entrepreneurial activity is not simple, either conceptually or in terms of available data. And, comparisons between people with education debt and people in similar circumstances without debt are problematic if we do not control for other characteristics while recognizing debt's role in increasing educational attainment. A more constructive comparison is between the alternative paths available to individuals. Do the education, skills, and connections made possible through student loans leave people in better circumstances with greater opportunities—including entrepreneurship—than they would have faced if they had followed different paths? Do certain characteristics affect both the probability that people will incur student debt and the probability that they will become entrepreneurs?

Because student debt is so common and such a small percentage of the population is likely to become successful entrepreneurs, it is more constructive to focus on the barriers—including student debt—that face individuals who seek to start businesses than to tackle the much larger problems associated with student debt in the interest of promoting entrepreneurship. Improving the higher education financing system is a worthy goal, but it is a long-term challenge.

Gathering causal information about the relationship between student debt and entrepreneurship might be feasible, but the nature of that information would be unlikely to significantly change the optimal approaches to encouraging entrepreneurial activity and to limiting the negative effects of student debt. Knowing how student debt affects the willingness of recent job market entrants to take the risks involved in entrepreneurial efforts would be valuable. But that inquiry must incorporate the challenge of comparing the attitudes toward risk of recent graduates with debt not only to the attitudes of recent graduates without debt, but to the attitudes and options of those who instead of borrowing, missed out on a college education.

Does Increasing Reliance on Student Debt Explain Declines in Entrepreneurial Activity?

In recent years, concerns have emerged both about declines in entrepreneurial activity and about increases in the amount students borrow to finance postsecondary education—in the aggregate as well as on average. Because the financial obligations associated with student debt could limit access to credit for individuals seeking to start businesses and reduce the amount of financial risk college graduates are willing to take, the possibility of a causal relationship between student debt and the business start-up rate deserves attention.

To address those concerns, the Ewing Marion Kauffman Foundation funded the Urban Institute to gather experts on entrepreneurship and experts on student debt to discuss the idea that the increasing prevalence of student debt among recent college graduates might be preventing a significant number of people who are interested in starting new businesses from doing so. The September 2014 conference aimed to bring together the knowledge and analytical perspectives of the two groups to consider what we know and what a rigorous research agenda might teach us about a causal relationship between these two phenomena.

Dominant themes of the conversation included questions about the most appropriate definition of entrepreneurship and the availability of data to reliably measure changes over time in the desired activity, particularly in conjunction with demographic characteristics. Participants expressed interest in (a) developing a more formal model of the ways in which borrowing for postsecondary education would be likely to affect the probability of starting a business and (b) understanding more about how people make this decision and, when they do, what factors affect the probability of success. Participants also discussed the appropriate counterfactual. Experts on student debt were particularly concerned about the idea of comparing people with student debt to people with the same educational background but no student debt. Just eliminating debt, with no effect on educational attainment or future tax obligations, would no doubt increase individuals' options. But the best measure of the impact of debt is a comparison of the circumstances of individuals with debt to those of individuals without debt and without the education the debt purchased.

This paper summarizes some of the insights from that discussion and considers constructive directions for future inquiries into the issue. A central consideration is where a research agenda might

lead. If a causal relationship between student debt and entrepreneurial activity were to emerge with evidence that a significant number of potentially successful entrepreneurs were discouraged by their debt obligations, what remedies would be available and desirable? The best strategies for addressing the problem would probably lie in helping individuals with entrepreneurial ambitions deal with their student debt rather than in attempting to solve the larger and less tractable problem of finding the optimal system for financing postsecondary education. The policies likely to emerge are probably constructive components of efforts to encourage entrepreneurship—whether or not student debt is a significant driver of recent trends in this activity.

Entrepreneurship

What Activities Constitute Entrepreneurship, and How Do We Measure Them?

Alternative definitions of entrepreneurship exist, with different implications for public policy and for interpreting trends. Even documenting a clear correlation between increases in student debt and declines in entrepreneurial activity requires a definition and appropriate data to measure the relevant activity.

Measures include self-employment and business ownership as indicated by various employment records and tax returns. Because many people have some income from business or self-employment, making this definition of entrepreneurship functional requires a cut-off point in dollars or percentage of total income. Also, enterprises should be differentiated by characteristics such as the number of employees. Those businesses with the potential for growth and for significant hiring are of the most interest.

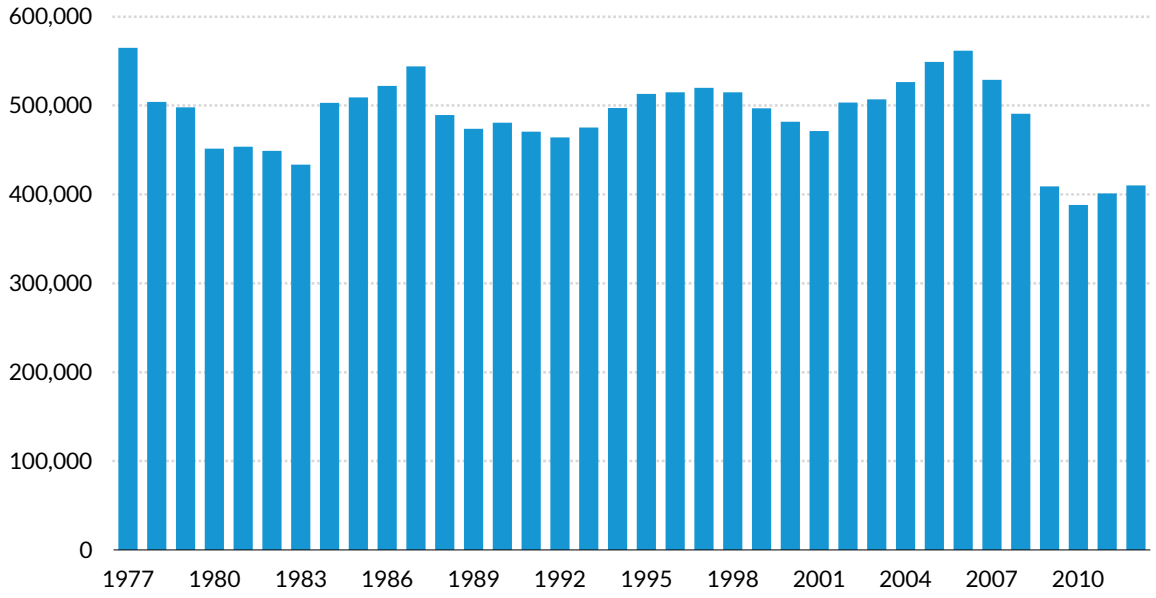
Discussions among experts attending the conference at the Urban Institute indicated a dearth of information about the demographic characteristics of potential successful entrepreneurs and about the factors influencing the probability that these individuals would, in fact, pursue entrepreneurship. Such information would provide a foundation for ensuring that student debt does not unduly interfere with that productive activity.

Trends in Entrepreneurship

Data from the US Census Bureau's Business Dynamics Statistics indicate that the number of firms less than one year old was lower in 2010 than in any other year since 1977, having fallen for four consecutive years from almost 562,000 in 2006 to 388,0000 in 2010 (figure 1). However, as the economic recovery took hold the number of new firms grew in 2011 and 2012.[1] As figure 2 indicates, the percentage of all firms less than one year old, a percentage on a downward trend at least since the late 1970s, increased from a low of 7.8 percent in 2010 to 8.1 percent in 2012.[2]

FIGURE 1

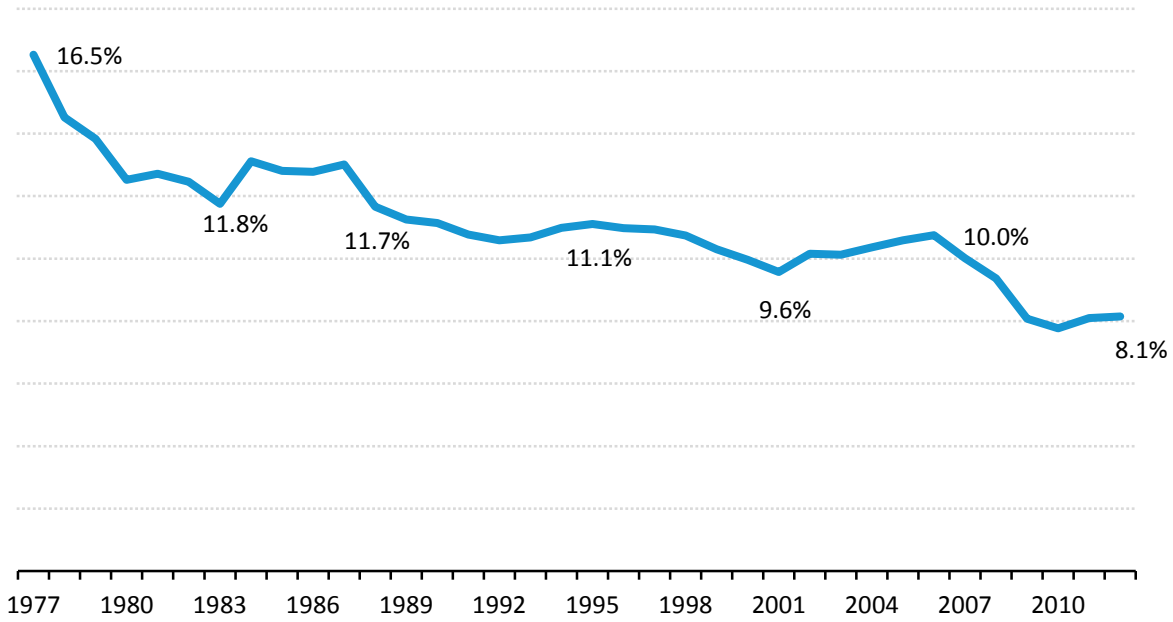
Number of Firms Less than One Year Old, 1977–2012



Source: US Census Bureau, Business Dynamics Statistics, http://www.census.gov/ces/dataproducts/bds/data_firm.html.

FIGURE 2

Firms Less than One Year Old, as Percentage of All Firms



Source: US Census Bureau, Business Dynamics Statistics http://www.census.gov/ces/dataproducts/bds/data_firm.htm.

The Kauffman Index of Entrepreneurial Activity relies on the US Census Bureau's Current Population Survey data to report the percentage of adults who start new businesses each month. This index, available from 1996 to 2012 and reported in table 1, does not show a long-term downward trend but indicates that after peaking at 0.34 percent (340 start-ups per 100,000 adults) in 2009 and 2010, the index declined to 0.30 percent in 2012 (Fairlie 2014).

TABLE 1

Percentage of Non–Business Owners Starting Businesses, 1996–2012

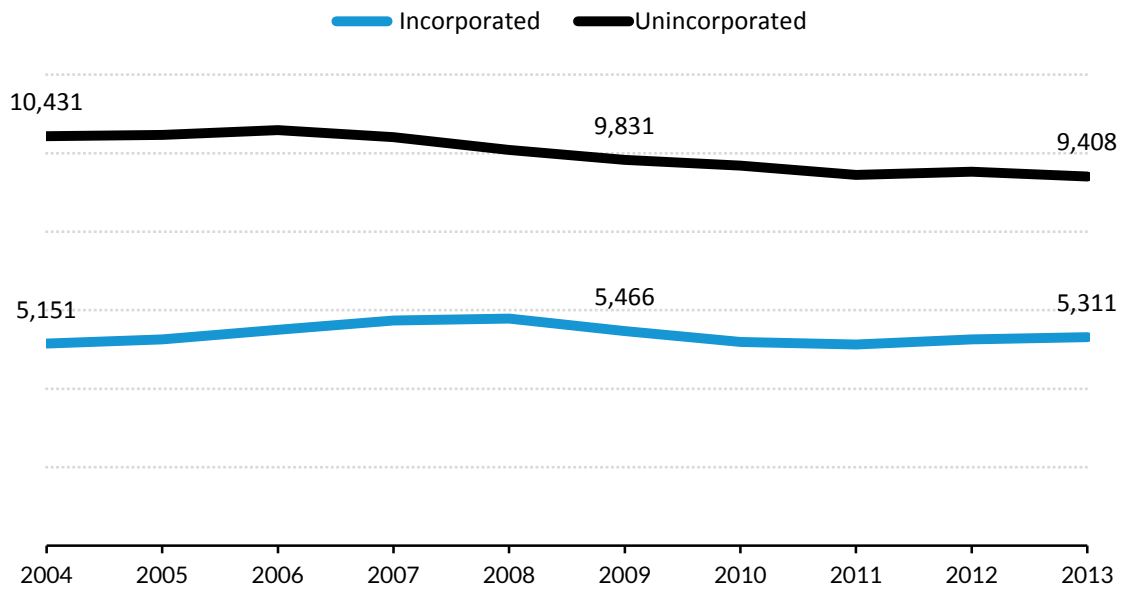
Year	Entrepreneurial Index (percent)
1996	0.31
1997	0.28
1998	0.29
1999	0.27
2000	0.27
2001	0.26
2002	0.29
2003	0.30
2004	0.30
2005	0.29
2006	0.29
2007	0.30
2008	0.32
2009	0.34
2010	0.34
2011	0.32
2012	0.30

Source: Fairlie (2014).

Another perspective comes from data on self-employment (figure 3). According to Bureau of Labor Statistics data, the number of unincorporated self-employed people has been declining since 2007. The number of incorporated self-employed people increased from 2004 to 2008, declined during the recession, and increased again between 2011 and 2013.[3] These alternative measures of entrepreneurial activity provide a window into the difficulty of defining and measuring the specific categories of activity that should be monitored to ensure that innovation is not being shut off by economic circumstances. Focusing on the share of business tax returns that represent sole proprietors or partnerships or on other tax or employment records could reveal different patterns. Several other measures could be used, and they would likely show other trends. Finding a way to narrow the focus to start-ups that are likely to contribute the most to growth and innovation would be an appealing approach.

FIGURE 3

Number of Self-Employed Workers Ages 25 and Older, 2004–13 (thousands)

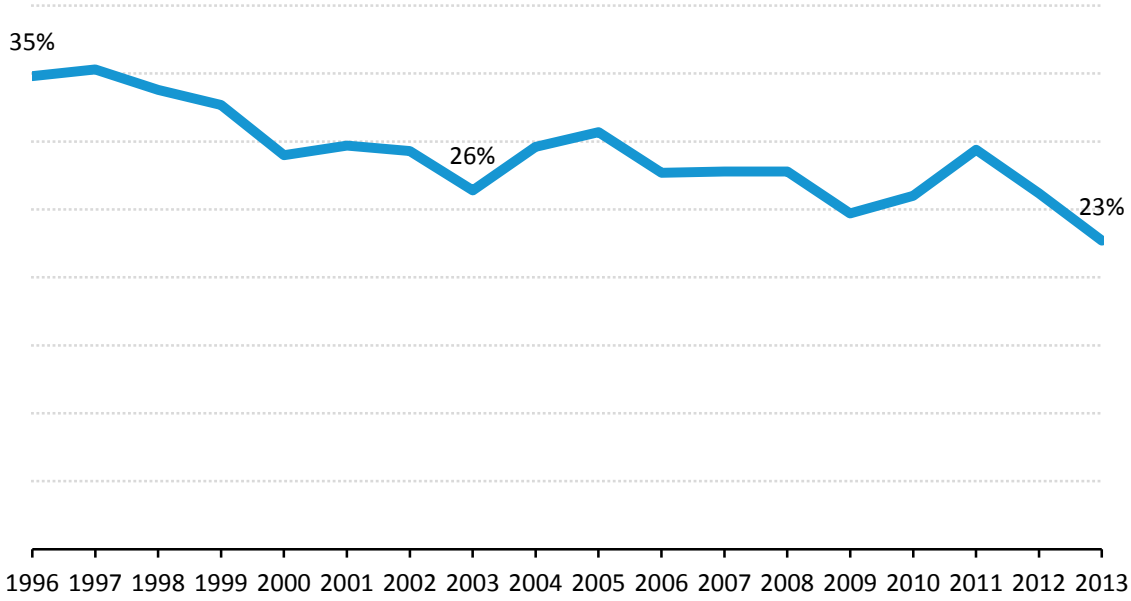


Source: Bureau of Labor Statistics, Labor Force Statistics, http://www.bls.gov/webapps/legacy/cpsatab9.htm.

The relationship between age and entrepreneurial activity is relevant for considering a potential relationship with student debt. According to the Kauffman Index (Fairlie 2014), the percentage of new entrepreneurs who are between the ages of 20 and 34 has fallen from 35 percent in 1996 to 23 percent in 2013 (figure 4). Adults between the ages of 20 and 34 are consistently less likely than older individuals to start businesses. The 55-to-64 age group has the highest rate of start-ups over time, although since 2009, rates for 35- to 44-year-olds and 45- to 54-year-olds have been comparable to those for the older age group. The decline from 2010 to 2012 occurred in all age groups, with the exception of 45- to 54-year-olds. Whether that decline is attributable to credit constraints, to individuals following other career paths with the rebound of private-sector jobs, or to other factors is unclear. Whether and to what extent student debt has played a role is also unclear. As discussed below, people in the older age groups hold a small but growing proportion of education debt.

FIGURE 4

Percentage of New Entrepreneurs between the Ages of 20 and 34, 1996–2013



Source: Stangler (2014).

Student Debt

Examination of student debt obligations reveals a skewed distribution, with high levels of debt among a small number of borrowers. The highest debt levels accrue to students who pursue graduate studies, particularly in professional practice fields such as law, medicine, or business. Individuals who have gone to graduate school owe 35 to 40 percent of the outstanding debt, and a third of the annual loan disbursements go to graduate students (College Board 2014).

More than half of all 2011–12 bachelor's degree recipients graduated with no debt or having borrowed less than $20,000 (table 2). At the other end of the spectrum, 18 percent had accumulated $40,000 or more in education debt. In contrast, the data on graduate degree recipients in table 3 show that whereas nearly 40 percent completed graduate studies with less than $20,000 of total education debt, 47 percent had borrowed $40,000 or more, including 16 percent with debt of $100,000 or more.

TABLE 2

Cumulative Debt Levels, 2011–12 Undergraduate Degree Recipients (percent)

	No debt	Less than $10,000	$10,000–19,999	$20,000–29,999	$30,000–39,999	$40,000 or more
Bachelor's	30	10	13	18	12	18
Associate's	50	19	14	9	4	4
Certificate	34	30	25	6	3	2

Source: National Center for Education Statistics, National Postsecondary Student Aid Study 2012, Data Center.
Note: Percentages may not total 100 because of rounding.

TABLE 3

Cumulative Debt Levels, 2011–12 Graduate Degree Recipients (percent)

	No debt	$1–19,999	$20,000–39,999	$40,000–59,999	$60,000–79,999	$80,000–99,999	$100,000 or more
All graduate degrees	27	12	14	12	11	8	16

Source: National Center for Education Statistics, National Postsecondary Student Aid Study 2012, Data Center.

Graduate debt has increased more rapidly than undergraduate debt in recent years. The average debt of 2011–12 bachelor's degree recipients (including both those who borrowed and those who did not) was 32 percent higher than the 2007–08 average—$20,700 versus $15,700. The average amount borrowed for graduate school increased by 47 percent over those four years, from $24,400 to $35,800.[4]

Two factors about student loan repayment are particularly important. Because high debt levels correlate with higher levels of education, they are also correlated with higher earnings. Students who borrow $5,000 and leave school without a credential may find themselves unable to manage repayment if they are in low-wage jobs. On the other hand, many of those who graduate from medical or law school with more than $100,000 in debt will be able to manage repayment without undue difficulty.

Young people are much more likely than older people to hold student debt. In 2010, 40 percent of households whose head was younger than age 35 held student debt, compared to 26 percent between the ages of 35 and 44 and 17 percent between 45 and 54. Although the percentage of the population owing student loans has increased most rapidly for those at younger ages, outstanding debt amounts have risen more rapidly for older age groups; the mean owed was between $25,000 and $30,000 for all groups younger than age 65 in 2010 (Fry 2012).

Individuals younger than age 30 hold one-third of the outstanding education debt, but that represents a decline from 42 percent in 2004 (see table 4). Borrowers in their 30s held about one-third of the outstanding debt from 2004 through 2013, but the share held by each older group has crept up. Some of that debt is recent debt for graduate or undergraduate study, some is long-standing debt, and some is debt taken on to support children's education. One factor contributing to the changing age distribution is the number of adults returning to school for retraining during the recession.

TABLE 4

Percentage Distribution of Outstanding Education Debt, by Age, 2004–13

	Under 30	30–39	40–49	50–59	60 and older
2004	42	33	14	9	2
2007	40	32	15	10	3
2010	37	32	16	11	4
2013	33	33	17	12	5

Source: Federal Reserve Bank of New York, Consumer Credit Panel.

Of particular importance for evaluating the potential impact of student debt on entrepreneurial activity is the understanding that income-based repayment plans are now available to federal student loan borrowers. The Income-Based Repayment (IBR) and Pay As You Earn (PAYE) repayment plans allow federal loan borrowers to limit their monthly payments to either 10 or 15 percent of their discretionary income. Borrowers who are employed or who have sporadic or low income may postpone their repayment obligations. Those plans have only recently become broadly available, so they have not benefited many borrowers to date.[5] In the future, however, this policy change could reduce any effect that student debt may have had in dampening entrepreneurial activity.

The ability of this type of repayment plan to eliminate barriers to accessing credit markets depends on the relative weights of monthly payment obligations and outstanding debt balances in determining eligibility for credit. It also depends on a smoothly operating system that will allow borrowers to quickly update their income status. Moreover, outstanding debt might discourage people from taking the risks involved in entrepreneurial activity even if they have no current monthly payments.

A Causal Relationship?

Investigating the question of a causal relationship between student debt and entrepreneurial activity would involve overcoming both conceptual barriers and data inadequacies. The remainder of this paper

discusses some of the questions that need answers and the difficulties involved in answering those questions.

We begin with a conceptual discussion of how student debt can impede entrepreneurship and the logic behind such a potential relationship. The question can be posed in two distinct ways: Would many individuals likely now be successful entrepreneurs if they had not pursued the educational path for which they borrowed and accumulated debt? If so, would it have been possible to identify these individuals in advance and guide them to make different choices?

Alternatively, would many individuals now be successful entrepreneurs if they had been able to attain the same education without incurring debt? If so, does an alternative educational funding mechanism exist that would mitigate this problem in the future? Can the new income-based loan repayment programs or another strategy for dealing with existing education debt limit debt's impact on potential entrepreneurs?

The Logic of the Relationship

The main routes through which student debt might be likely to discourage entrepreneurship are (a) dependence on current income to make loan payments and (b) limited access to credit markets because of existing debt. People with student debt might also be less willing than others to take risks.

Forces could work in the opposite direction. When student debt is viewed as a route to investing in human capital, the possibility that borrowing actually increases the probability of successful entrepreneurship emerges. Students' academic pursuits could generate both ideas and capacity for business development. College environments might be conducive to connecting with people who encourage entrepreneurial activity or who help spark ideas.

The positive impact of the education could outweigh any negative impact from debt and resulting liquidity constraints. In other words, the positive effects of education might be stronger than the negative effects of debt and liquidity constraints on the probability of engaging in entrepreneurial activity. In the survey titled "Who Started New Businesses in 2013?" the Kauffman Foundation and Legal Zoom found that only 7 percent of newly incorporated business owners had no postsecondary education and that two-thirds had a bachelor's degree.[6] Evidence suggests that the returns to higher education are even higher for entrepreneurs than for employees (Van Praag, van Witteloostuijn, and van der Sluis 2012). This information suggests a positive role for postsecondary education in generating

entrepreneurs, and the reality is that many students do not have access to this education without borrowing.

Credit Constraints

The role of credit constraints in restraining entrepreneurship should be relatively straightforward to investigate. Key topics to address include (a) how heavily potential entrepreneurs rely on credit to fund their endeavors and (b) what factors lead to restricted access to the necessary credit. Information about how lenders view student debt and the relative roles of the outstanding debt amount and required monthly payments in the evaluation of credit applications should not be difficult to find. In some cases, student debt may have a positive effect, creating a good credit history for borrowers.

How Large Is the Intersection between the Population of Student Debtors and the Population of Potential Entrepreneurs?

An important question is timing. Evidence suggests that individuals with higher levels of education, with more experience in the industry, and with managerial background are more likely than others to succeed in starting new businesses (Sorensen and Chang 2006). At what age are people most likely to found successful businesses? How important is previous work experience in the field? Are recent college graduates likely candidates for entrepreneurial undertakings? How long do people with different characteristics take to pay off their student debt? Do most people who are likely to start successful businesses pay off their education debt within 10 years of graduation and find themselves debt free by the time they are ready to become entrepreneurs?[7]

Examining the long-term effect of student debt may be necessary. Many successful entrepreneurs are past the age when most individuals are paying off their student loans. Do lingering effects allow behavior patterns to be linked to debt that has already been retired? Might the responsibility of paying for children's college education be another path through which the potential need for student debt could affect entrepreneurial activity?

Comparing Individuals with and without Student Debt

Comparing individuals with student debt to those without student debt without controlling for other characteristics is problematic. Most obvious, those with student debt have at least some postsecondary education. However, comparing two people with the same level of education, one with student debt and one without, can lead to questionable conclusions. Obviously, earning a college degree without having to rely on debt creates opportunities not open to those who have to borrow. But the differences in background and available resources that lead to the contrasting financing patterns are at least as likely as the differences in debt to generate diverging post-college circumstances. Many people who graduate without debt have parents who subsidized them. The existence of family resources creates options for career paths—including entrepreneurial risk-taking—that are not available to those who must be entirely self-sufficient financially. In other words, looking to student debt as a cause of problems may be too easy when other factors, such as inequality in family resources, actually cause variation both in student debt levels and in the ability to forgo labor market opportunities to engage in entrepreneurial activity.[8]

Another route through which student debt could have an influence is through the ability of young firms to hire employees in a position to take risks. If talented young people feel compelled to accept jobs at established firms to ensure that they will have stable incomes to support their student loan payments, they may hesitate to work at start-ups.

Developing a coherent hypothesis about the potential for student debt to deter individuals from pursuing entrepreneurial activity requires solid information about (a) the demographics and timing of student debt, (b) the characteristics of individuals most likely to become successful entrepreneurs, and (c) the factors affecting those individuals' decision to pursue this route.

Successful Businesses

An important component of the policy issue is whether reliable predictions can be made about which start-ups will succeed and which will not. The characteristics of both the entrepreneurs and the enterprises are at issue. Student debt is more likely to have a measurable impact on entrepreneurial activity if most successful businesses are very likely to be started by young people with at least some college education than if most of the enterprises that contribute to economic growth and innovation are started by individuals who have been working for at least 10 years.

As discussed, high levels of education borrowing are associated with graduate study, particularly in the areas of medicine, law, and other professional practices. If that population has historically contributed significantly to successful and innovative entrepreneurial activity and if that activity has diminished notably as debt levels have increased, working to ameliorate that specific problem could be constructive.

Other Perspectives

Distinguishing between the impact of student debt and the impact of the price of postsecondary education may be useful. Paying for college affects other options, whether or not debt financing is involved. Moreover, paying for one's own college education is not the only debt that may affect life choices; people also have the responsibility for educating their children. Parents might be hesitant to give up a stable income to start a business if they are concerned about being able to support their children through postsecondary education.

Another challenging question is the extent to which the prospect of incurring debt reduces educational attainment, leading to more-limited opportunities for individuals—including entrepreneurial activities.

In exploring all of these questions, understanding how specific groups might be affected is important. Have entrepreneurial patterns changed most among groups with the highest levels of student debt or those with the most difficulty repaying their debt? How do common debt repayment patterns fit with the timing of different types of entrepreneurial activity? Have changes occurred in the employment opportunities or the options for start-ups in particular industries that might be associated with specific educational paths and student debt patterns?

Another development over time is the increase in coursework on entrepreneurship in academic business programs.[9] Some useful information would be the extent to which those programs influence the probability that students will pursue entrepreneurial activities and whether or not the tools those programs provide increase the success rates of individuals who choose that path.

A Research Agenda

Designing a research agenda to develop empirical evidence about the impact of student debt on entrepreneurial activity is challenging both from a conceptual perspective and in terms of the data and methodology required to generate reliable conclusions.

An important focus is the role of formal education in different types of successful entrepreneurship. If the opportunities open to people are greatly expanded by academic credentials, the option of avoiding student debt may not be advantageous. Investment in human capital may actually foster entrepreneurship and open access to useful networks.

A research agenda should be grounded in a behavioral model of how debt could affect a number of decisions, including avoidance of debt, choice of postsecondary institution, choice of college major, choice of occupation, access to capital, and type of financing.

Behavioral economics may provide some useful insights into how people make the decision to start new businesses. Insights into how people respond to complex situations, how and when they choose to deviate from the path of least resistance (the "default option"), and other patterns documented in the behavioral literature could be helpful in understanding what changes are most likely to remove barriers on the path to entrepreneurship. For example, would a lack of job opportunities lead to more graduates starting new businesses? What is needed to be a successful entrepreneur, and if capital constraints are an issue, does that problem result from student loan debt or other attributes?

Experimental Evidence

Designing experiments that would provide insight into the relationship between student debt and entrepreneurial activity might be possible. For example, changing the default option for student loan repayment to ensure that a randomly selected group of borrowers is automatically placed into an income-based repayment plan could provide important insights. Testing alternative modes of obtaining information about education debt and the options for funding start-ups could also be constructive.

Quasi-experimental research on the impact of student debt might also be feasible. Students finance their education in different ways, leading to similar educational outcomes but with different levels of student debt. For example, many community colleges do not allow students to participate in federal student loan programs. Studying differences in entrepreneurial outcomes for students from similar community colleges with contrasting loan policies might be possible. Debt levels also differ considerably

across four-year institutions, which may make feasible gathering data that would provide insight into any relationship between student debt and business start-ups.

Heterogeneity

Considerable heterogeneity exists in the types of entrepreneurial activities in which people engage, in the ways they finance those activities, in the rate at which new businesses succeed, in the extent to which they grow, and in the number of people they employ. Student debt could certainly have differential impacts across this spectrum of activities.

Heterogeneity also exists in borrowing patterns. Most borrowers have relatively low levels of debt, whereas a small number have borrowed more than $40,000. The impact of debt is also related to the level of education attained and the income available to repay the debt. A constructive approach may be to analyze differences in the entrepreneurial activities of individuals based on levels of debt conditional on degree attained or career pursued. This approach may be more informative than posing the broad question of whether debt eliminates the option of starting a business for significant numbers of individuals.

Modeling the Relationship

A constructive approach to identifying a potential causal relationship between student debt and entrepreneurship would be to develop a model of how impacts would occur. At what stage on the path to starting a business would education debt be most likely to create a barrier? If people know before they go to college that they would like to be entrepreneurs, does that knowledge deter them from borrowing for school? Might some students borrow to increase their liquidity so that they can start a firm? Students may borrow to limit the amount of time they have to spend working while in college, which gives them more time to explore business opportunities before they graduate.

One possibility is that entrepreneurship is an alternative to college. If that is the case, then higher tuition could increase start-ups. The prospect of debt may discourage college enrollment and encourage entrepreneurial activity. That relationship would not show up in data comparing the two trends. Assessing that issue in the context of the reality that successful entrepreneurship is positively correlated with educational attainment is challenging.

Separating the impact of multiple correlated factors over time may be difficult. If student debt grows during weak economic times and weak economic times make starting businesses riskier, then both may be caused by the same exogenous factors.

Data

Data availability is a key constraint. An important requirement would be to find a dataset or merged datasets that track individuals over time and to have rich data on all of the relevant decisions, as well as family background. Currently, data that track college students and their debts do not follow them for a long enough time after they enter the labor force to provide the evidence necessary to study the long-term impact of alternative financing paths. Lack of data on entrepreneurs is likely to be an even bigger problem than the lack of information over time about debt levels. Even in states such as Tennessee, which have very good unit record data on students and their post-college experiences, occupational data are usually not adequate for this purpose. Reliance on unemployment insurance records, which do not include the self-employed, is common. Social Security Administration records, on the other hand, do not provide adequate indicators of entrepreneurial activity. Internal Revenue Service data could be helpful in studying the issue.

The Federal Reserve Bank of New York has Equifax panel data about outstanding student debt. Perhaps that dataset could be linked to other data to reveal when and where students borrowed and to ascertain more about their demographic and occupational characteristics. Unfortunately, lack of access to the federal National Student Loan Data System limits the data on borrowing available to researchers.

The Federal Reserve System's Survey of Consumer Finances has been expanding the information related to entrepreneurship, and data on student debt are available, but small sample sizes constitute just one of the limitations to these data.

The State Higher Education Executive Officers organization is about to do a 50-state scan to ascertain what states are including in their longitudinal datasets. That information could be helpful in determining the feasibility of a research agenda.

Other data sources worthy of investigation include surveys of college alumni and the University of California at Los Angeles's Cooperative Institutional Research Program data.

Census data may be the best option. The Census Bureau's Business Dynamics Statistics result from collaboration among the Census Bureau's Center for Economic Studies, the Small Business

Administration, and the Kauffman Foundation. The data include annual statistics on establishments, firms, and job creation and destruction from 1976 to 2012 by firm age and size.

Policy Implications

Before embarking on an ambitious research agenda designed to sort out the extent to which student debt may be deterring potentially successful entrepreneurs from taking the required risks, researchers should consider what policy recommendations might emerge from such a finding.

Three findings of a negative relationship between student debt and entrepreneurship are possible:

1. A significant percentage of the many former college students with outstanding debt would have become entrepreneurs with a high likelihood of success if those students had not borrowed for education or if they had retired the obligation more quickly.

2. A significant percentage of the relatively small number of individuals who are motivated to start new businesses is deterred from doing so because those people have education debt. Either the individuals are concerned about how they will make the required payments without a guaranteed wage income or they are unable to obtain financing because of their existing obligations.

3. A significant number of new businesses are undercapitalized because student debt restricts access to capital among entrepreneurs, thereby diminishing the success rates of those businesses and their contribution to employment and innovation.

If student debt is interfering with the occupational choices of a significant number of borrowers, leading to a suboptimal distribution of careers, then policies designed to limit student debt would be appropriate. Those policies could focus on reducing the price of college, either by increasing public subsidies to institutions, to students, or to both; or by finding ways to lower the cost of producing quality postsecondary education. That is an important policy direction for a variety of reasons, but it is unlikely to provide near-term relief to potential entrepreneurs.

An alternative would be to focus on altering the choices individuals make about whether, when, and where to pursue postsecondary education. For example, students could be steered away from expensive for-profit institutions, where high levels of debt are common, toward less expensive public institutions. Enrollment in graduate school could be discouraged for students with entrepreneurial

ambitions—or for a broader group of students—because of the large portion of education debt that is attributable to graduate study. Alternatively, the best policy option may be to strengthen the income-based student loan repayment plans now in place, protecting borrowers from unmanageable debt burdens after they have borrowed and completed their education.

Another approach would be to focus on potential entrepreneurs. Given the small percentage of the population that starts businesses, tackling the overall student debt issue would likely be a costly and inefficient path to increasing entrepreneurial activity. Possibly, however, a high percentage of potentially successful entrepreneurs has student debt, and that debt is a deterrent. In that case, the most efficient approach may be to devise strategies to remove the barriers to starting a business, including helping those individuals who show particular promise for starting successful businesses to postpone or retire their debt.

The distinction between these two approaches is important. A variety of problems could motivate tackling the overall student debt issue. If the specific goal is to remove barriers to business start-ups, then focusing on the segment of the population most likely to start businesses is almost certainly more efficient.

Whether or not student debt is a key factor that influences entrepreneurial activity, including strategies for dealing with education debt in the set of policies and programs designed to promote entrepreneurship would seem sensible. Overall reductions in student debt are not a necessary component of such an effort, and—given the challenges involved in developing alternative financing mechanisms for postsecondary education—a more targeted approach seems most constructive.

Programs Supporting Entrepreneurs

A number of practices in place that are designed to facilitate entrepreneurial activity might help overcome the barriers of student debt—some that pay specific attention to this issue and others that have more general approaches. In the first category, the student loan refinance company Social Finance (SoFi) supports the aspiring entrepreneurs among its select clientele of borrowers with high levels of debt and high earning power, providing payment deferral, mentorship, and networking.[10] That type of private-sector effort, focused on the lowest-risk borrowers, is unlikely to have broad impact. But similar efforts—probably from the public or private nonprofit sectors—directed at a wider population could make a difference.

Some efforts that encourage entrepreneurship without focusing directly on student debt may nonetheless ease the path when debt is one of a number of barriers to success. Incubators that provide new entrepreneurs with space and with networks are in this category. Programs designed to facilitate networking, idea sharing, and mentoring may be particularly effective.[11] Kauffman's current efforts could represent exactly the type of policies that would emerge from a more in-depth examination of this issue. The 1 Million Cups program, which allows selected individuals to present their ideas to local audiences, and the FastTrac courses, which expand the knowledge base of entrepreneurs, increase the probability that start-ups will succeed.

Designing programs that address education debt explicitly could encourage productive activity, whether or not a large-scale relationship exists between student debt and start-up activity.

Student Loan Policy

The federal government provides the option for loans to be repaid as a percentage of discretionary income. That policy has the potential to minimize any constraints on entrepreneurial activity imposed by student debt, and strengthening such a program would be an appropriate policy effort. Borrowers who give up stable incomes to start businesses will automatically have their loan payments deferred until their incomes are high enough to support payments. The federal income-based repayment system is the basis for the US Small Business Association's (SBA) promotion of the "Student Start Up Plan." The SBA suggests that borrowers can "defer loans, not entrepreneurship."[12]

That program could be an effective form of insurance, limiting any negative relationship between student debt and entrepreneurship. Income-based repayment may not, however, be an ideal solution because it can lead borrowers to hold debt longer. Whether the amount of debt people hold or the monthly payment required to retire that debt is more likely to limit access to credit is an empirical question.

The restrictions on discharging education debt in bankruptcy may have a chilling effect on entrepreneurial activity. Although the potential channel of this effect is not clear, considerable opposition exists to current provisions limiting bankruptcy relief. Advocating that the provisions be loosened is a reasonable step even without convincing evidence of the relationship between this provision and entrepreneurial activity.

Focusing on the intersection between people with high debt or problem debt and the pool of potential entrepreneurs should lead to constructive pathways for remedying any problems that exist,

whether or not a strong causal relationship exists between entrepreneurship and student debt. Those policies could be effective without an overall change in actual debt patterns, which would be quite difficult to effect.

Conclusion

The general consensus is that the postsecondary education financing system in the United States is in need of repair. The shifting of more of the burden from taxpayers in general to students and families in recent years is not the result of a well-considered policy agenda. Although knowing if a decline in entrepreneurial activity is one of the unintended consequences of this trend would certainly be interesting, that information would not likely shift policy in one direction or another. Rather, the most effective way of diminishing the barriers facing potential entrepreneurs whose student loans are limiting their opportunities is probably to target this group specifically, developing ways to help them restructure or limit their obligations.

Whether knowing a significant causal relationship exists or what percentage of borrowers is affected would make a practical difference is not clear. Even if a high percentage of potential entrepreneurs was affected, those people would likely constitute a low percentage of student borrowers, and the issue would not likely rise to the top of the agenda for those people concerned about the impact of student debt on society.

Because so many people borrow for education, because many other decisions and opportunities could potentially be affected by student debt, and because people with postsecondary education are generally much better off financially than those who have not gone to college (and therefore have not incurred education debt), a policy agenda focused on limiting this debt in general—or on limiting it in particular for people with entrepreneurial aspirations—is an unlikely outcome.

To the extent that individuals are being shut out of entrepreneurial paths because of student debt, focusing on policies that could limit this problem—even in the absence of solid evidence about the magnitude of the problem—seems advisable.

Appendix. Urban Institute Conference Participants

Greg Acs	Urban Institute
Beth Akers	Brookings Institution
Sandy Baum	Urban Institute
Meta Brown	Federal Reserve Bank of New York
Donald Bruce	University of Tennessee
Ben Castleman	University of Virginia
Matthew M. Chingos	Brookings Institution
Rohit Chopra	Consumer Financial Protection Bureau
Larry Cordell	Federal Reserve Bank of Philadelphia
Alejandro Crawford	Acceleration Group
Stephen Crawford	George Washington University
Jason Delisle	New America Foundation
Lauren Eyster	Urban Institute
Richard Fry	Pew Research
Tami Gurley-Calvez	University of Kansas
Brad Hershbein	Upjohn Institute
Nicholas Hillman	University of Wisconsin
Jenny Hunt	US Department of the Treasury
Kevin James	American Enterprise Institute
Rob Lavet	Social Finance Inc.
Donald Marron	Urban Institute
Gareth Olds	Harvard Business School
Ben Pugsley	Federal Reserve Bank of New York
Caroline Ratclffe	Urban Institute
E. J. Reedy	Ewing Marion Kauffman Foundation
Kim Rueben	Urban Institute
Zakiya Smith	Lumina Foundation
Beckie Supiano	*Chronicle of Higher Education*
Lesley Turner	University of Maryland
Mamie Voight	Institute for Higher Education Policy
Jennifer Wang	Young Invincibles
Chuck Wessner	Georgetown University

Notes

1. "Business Dynamics Statistics: Firm Characteristics Data Tables," US Census Bureau, last modified September 25, 2014, http://www.census.gov/ces/dataproducts/bds/data_firm.html.
2. Ibid.
3. "Data Retrieval: Labor Force Statistics (CPS)," US Department of Labor, Bureau of Labor Statistics, last modified February 4, 2011, http://www.bls.gov/webapps/legacy/cpsatab9.htm.
4. "National Postsecondary Student Aid Study, Data Lab," National Center for Education Statistics, http://nces.ed.gov/datalab/.
5. The percentage of borrowers with outstanding federal student debt participating in IBR plans increased from 11 percent in the third quarter of 2013 to 14 percent in the third quarter of 2014 ("Federal Student Aid: Federal Student Loan Portfolio," US Department of Education, https://studentaid.ed.gov/about/data-center/student/portfolio).
6. This survey was not based on a nationally representative sample. To read the survey, see http://www.kauffman.org/~/media/kauffman_org/research%20reports%20and%20covers/2014/01/who_started_new_business_in_2013.pdf.
7. For evidence on the dominance of older entrepreneurs, see Wadhwa, Freeman, and Rissing (2008) and Pryor and Reedy (2009).
8. Levine and Rubenstein (2013), focusing on self-employed individuals who incorporate their businesses, find that in addition to being highly educated, these entrepreneurs tend to come from higher-income families.
9. Ann Prior, "What College Can Teach the Aspiring Entrepreneur," Wall Street Journal, November 3, 2014.
10. See the SoFi website, http://www.sofi.com.
11. See, for example, http://startupweekend.org/ and http://www.pipelineentrepreneurs.com.
12. See http://www.sba.gov/startupamerica/student-startup-plan.

References

College Board. 2014. *Trends in Student Aid 2014.* New York: College Board.

Fairlie, Robert W. 2014. *Kauffman Index of Entrepreneurial Activity: 1996–2012.* Kansas City, MO: Ewing Marion Kauffman Foundation. http://www.kauffman.org/what-we-do/research/kauffman-index-of-entrepreneurial-activity.

Fry, Richard. 2012. *A Record One-in-Five Households Now Owe Student Loan Debt.* Washington, DC: Pew Research Center. http://www.pewsocialtrends.org/2012/09/26/a-record-one-in-five-households-now-owe-student-loan-debt/.

Levine, Ross, and Yona Rubenstein. 2013. "Does Entrepreneurship Pay? The Michael Bloombergs, the Hot Dog Vendors, and the Returns to Self-Employment." Unpublished paper. http://faculty.haas.berkeley.edu/ross_levine/Papers/2012_7SEP_entrepreneurship.pdf.

Pryor, John, and E. J. Reedy. 2009. "Trends in Business Interest Among US College Students: An Early Exploration of Data Available from the Cooperative Institutional Research Program." Available at SSRN: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1971393.

Sorensen, Jesper, and Patricia Chang. 2006. "Determinants of Successful Entrepreneurship: A Review of the Recent Literature." Available at SSRN: http://ssrn.com/abstract=1244663.

Stangler, Dane. 2014. "Student Debt and the Millennial Entrepreneurship Paradox." *Forbes,* September 15. http://www.forbes.com/sites/kauffman/2014/09/15/student-debt-and-the-millennial-entrepreneurship-paradox/.

Van Praag, Mirjam, Arjen van Witteloostuijn, and Justin van der Sluis. 2012. "The Higher Returns to Formal Education for Entrepreneurs Versus Employees." *Small Business Economics* 40 (2): 375–96.

Wadhwa, Vivek, Richard Freeman, and Ben Rissing. 2008. "Education and Tech Entrepreneurship." Kansas City, MO: Ewing Marion Kauffman Foundation, http://www.kauffman.org/~/media/kauffman_org/research%20reports%20and%20covers/2008/06/education_tech_ent_061108.pdf.

About the Author

Sandy Baum is a senior fellow in the Income and Benefits Policy Center at the Urban Institute, a research professor at the George Washington University Graduate School of Education and Human Development, and Professor Emerita of Economics at Skidmore College. She has written and spoken extensively on college access, college pricing, student aid policy, student debt, affordability, and other aspects of higher education finance.

Baum has coauthored the College Board's annual publications *Trends in Student Aid* and *Trends in College Pricing* since 2002. She also coauthors *Education Pays: The Benefits of Higher Education for Individuals and Society.* She chaired the College Board's Rethinking Student Aid study group, which issued comprehensive proposals for reform of the federal student aid system in 2008, and the Rethinking Pell Grants study group, which issued recommendations in April 2013. She chaired a Brookings Institution study group that issued its report, *Beyond Need and Merit: Strengthening State Grant Programs* in May 2012, and is a member of the Board of the National Student Clearinghouse.

Baum earned her BA in sociology at Bryn Mawr College, where she is currently a member of the board of trustees, and her PhD in economics at Columbia University.

2100 M Street NW

Washington, DC 20037

www.urban.org