The Effects of Wealth on Entry into Entrepreneurship

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ABSTRACT

Drawing on theory stating that entrepreneurial selection is limited for low-wealth individuals, we explore the rate of entrepreneurial entry and the initial performance of successful new firms in the U.S. economy for different wealth percentiles. We find that poorer nascent entrepreneurs are more likely to abandon their startup efforts before a new firm is created compared to the wealthiest 20 percent of the population. However, for those who remain engaged in the startup process, new firm creation is virtually the same across all wealth percentiles. First-year revenues for successful entrepreneurs at the top of the wealth distribution are greater, while the number of employees hired does not differ as significantly across the wealth distribution. Integrating these findings, and controlling for industry complexity and multiple measures of human capital, we see that while entrepreneurial entry is concentrated at the top, the types of ventures started by nascent entrepreneurs and their impact on the economy vary across the wealth distribution. This suggests that entrepreneurship may act as an amplifier, rather than modifier, of inequality in the U.S.

1. INTRODUCTION

Does a lack of wealth constrain individuals from starting their own businesses? An extensive body of theoretical and empirical research examines the conditions of entrepreneurial entry, with particular focus on human capital attributes and financial capital constraints (Parker, 2009). For many, starting a business requires access to external finance to supplement the owner's investment of startup capital. Theoretically, a wealthy individual can use accrued savings or assign their wealth as collateral to access credit markets, whereas less wealthy individuals may be constrained in their attempts to raise supplementary credit from banks and other lending institutions (Acs, 2008). The possibility of wealth constraining entrepreneurial entry is an important issue as it suggests that less wealthy nascent entrepreneurs may employ suboptimal levels of capital (Evans and Jovanovic, 1989). These individuals may be more likely to abandon their startup efforts.

Empirically, research on wealth and entrepreneurial entry has provided mixed results. Many studies find that selection into entrepreneurship is a function of wealth, suggesting that credit constraints deter entrepreneurial entry for individuals with lower household wealth (Evans and Jovanovic, 1989; Fairlie, 1999; Gentry and Hubbard, 2004; Zissimopoulos et al., 2009). Other studies, however, find a relationship only for households in the top 5 percent of the wealth distribution (Hurst and Lusardi, 2004). In either case, these results may be influenced by aggregation bias or unobserved variables. Using the same data as Hurst and Lusardi (2004), Fairlie and Krashinsky (2012)

disaggregate the data into sub-samples of job losers and non-job losers, and find at each wealth level that job losers have higher rates of entrepreneurial entry. Other studies take a more fine-tuned approach to account for unobserved variables that wealth can represent. For example, the capital requirements for starting a business vary from one industry to the next. Entrepreneurs near the top of the wealth distribution appear to have an easier time acquiring valuable resources for entry into high barrier industries, while low barrier industries have entrepreneurs entering from all levels of wealth (Lofstrom et al., 2014).

One element that previous studies on this issue share is the use large-scale datasets such as the Census Bureau's Survey of Income and Program Participation (SIPP), the Survey of Consumer Finances (SCF), or the Panel Study of Income Dynamics (PSID). While each allows testing of formal models with thousands of cases, their use of self-employment as an indicator of firm creation is problematic. Entrepreneurs in these datasets who are working part-time may identify themselves as either an employee or as self-employed, resulting in an overrepresentation of entrepreneurs who are only working on their business (Reynolds and White, 1997). Indeed, up to 80 percent of nascent entrepreneurs are employed at least part time (Petrova, 2012). This suggests that the transition into entrepreneurship is a complex and sometimes-lengthy process that may defy simple occupational choice categorization utilized in studies deploying large datasets. Prior studies on wealth and entrepreneurial entry may also suffer from hindsight bias as they observe individuals that have already made the transition into entrepreneurship. The data does not capture individuals in the process of attempting to startup a business when failure is prevalent (Kim et al., 2006).

In this study, we examine the impact of wealth on entrepreneurial entry using a sample of nascent entrepreneurs to capture an earlier stage of selection into entrepreneurship than previous studies. To guide our inquiry, we employ the Panel Studies of Entrepreneurial Dynamics II (PSED II) dataset of 1,214 nascent entrepreneurs. This dataset circumvents issues such as "survival" and "hindsight" biases (Parker, 2009). However, we caution that this does not eliminate endogeneity biases, complex feedback effects or identify the root causes of entrepreneurial accumulation of wealth. Two previous studies have utilized the PSED I database (Kim et al., 2006; Petrova, 2012) to examine the impact of wealth on nascent entrepreneurship. We complement and extend these studies by following the prevailing household wealth literature and disaggregating wealth into quintiles before performing regressions. Disaggregation allows us to examine research into liquidity constraints at different quintiles of the wealth distribution using post-2000 data from the PSED II. It also allows us to identify whether liquidity constraints apply at specific levels of wealth. Recognizing that wealth is only one feature that guides selection into entrepreneurship, we construct a parsimonious model that also evaluates several dimensions of human capital and industry complexity.

We also extend prior research by measuring first-year revenues earned and employees hired by successful nascent entrepreneurs across the wealth distribution. We hypothesize that wealthier entrepreneurs can invest larger amounts of capital in growing their early stage businesses leading to higher first-year performance. Given that new firms create from 20-50 percent of net new jobs and almost all net jobs (Acs and

Armington, 2004; Kauffman, 2014), this research provides us insight into job creation by nascent entrepreneurs from different wealth quintiles.

The relationship between wealth and entrepreneurial entry is complex and the current study should help to resolve some discrepancies in prior work, and make important contributions toward our understanding of inequality and entrepreneurship. Overwhelming evidence indicates that most of the wealthiest households are entrepreneurs (Cagetti and De Nardi, 2006; Gentry and Hubbard, 2004; Parker, 2009; Quadrini, 2000). In 1989, 8.6 percent of U.S. households were entrepreneurs and held 39 percent of the country's net worth (Gentry and Hubbard, 2004). Entrepreneurs also dominate the top echelons of aggregate wealth distribution; 81 percent of the individuals in the top 1 percent of the wealth distribution self-identify as being a business owner or self-employed, and between 60-80 percent of the *Forbes* magazine list of the wealthiest 400 Americans are classified as "self-made" (Cagetti and De Nardi, 2006). These statistics suggest that entrepreneurship may act as a positive facilitator for upward mobility, yet recent popular works find societal trends of limited upward mobility and increasing concentration of wealth in the U.S. (Piketty, 2014). Measuring the impact of wealth on entrepreneurial entry and performance is therefore a very important area of research.

2. WEALTH AND ENTREPRENEURSHIP – THEORETICAL AND EMPIRCAL DISCUSSIONS

The contrasting perspectives of Knight (1921) and Schumpeter (1934) provide the backdrop to discussions of wealth and entrepreneurship. On the one hand, we could say that it is the entrepreneur, not the financier, who bears the risk of investment in his or her own innovation (Knight, 1921). Successful entrepreneurship in this case will depend on whether individuals with unique skills and abilities may succeed given probability estimates that are clearer to themselves than to others (Miller, 2007). Asymmetric information may limit the bank's ability to calculate the entrepreneur's risks involved in starting a new venture and moral hazard may inform lenders to deny loans to less wealthy individuals. Consequently, the financier may demand personal collateral or financial contributions to signal that the nascent entrepreneur has "skin in the game" and is willing to lose something as well. The inability to offer sufficient collateral may restrict access to loans for entrepreneurs with lower household wealth (Aghion and Bolton, 1997; Banerjee and Newman, 1993; Gentry and Hubbard, 2004).

On the other hand, Schumpeter (1934) views the role of the financier and the entrepreneur as completely distinct. The entrepreneur is solely responsible for innovation and technological changes; earning profits by introducing into the economy new combinations of products, means of production, or new markets (Hébert and Link, 2009; Schumpeter, 1934). Schumpeter (1934) states: "The entrepreneur is never the risk bearer." Instead, the financier bears the risk since he or she stands to lose the financial resource should the entrepreneur fail. Even if an entrepreneur self-finances and subsequently fails to create a new firm, the entrepreneur fails as a capitalist, not as an innovator (Schumpeter, 1954). Thus, one can model a theoretical world of perfect

information where nascent entrepreneurs will be able to fund all positive net present value projects as long as entrepreneurs do not engage in opportunistic defaults (Parker, 2003). In such an environment, entrepreneurs of higher net worth have no comparative advantage in acquiring the varied resources requisite to transform an initial idea into an entrepreneurial organization.

The ongoing research on wealth and entrepreneurship reflects these opposing views. If some minimum threshold of capital is required to start a business, and informational asymmetries or moral hazard act to restrict access to external financial resources, then personal wealth would be an important determinant into entrepreneurial entry, ceteris paribus. However, given the heterogeneous nature of entrepreneurship and the low financial threshold for starting many businesses, the impact of liquidity constraints is not a settled debate, as we will see in the next section.

2.1 Liquidity Constraints and Entrepreneurial Entry

The theory of liquidity constraints predicts that individuals with inadequate personal financial resources must turn to imperfect credit markets for funding, and that the absence of wealth impedes the ability of the entrepreneur to raise capital (Evans and Jovanovic, 1989). In essence, Schumpeter's view of separate roles for the entrepreneur and financier is rejected. An empirical study of 1,443 white men aged 24-34 from the National Longitudinal Survey of Young Men (NLS) estimates that entrepreneurs are

limited to raising financial capital stock of up to 150 percent of their wealth (Evans and Jovanovic, 1989).

A number of other studies find a positive relationship between wealth and entrepreneurial entry or survival (Blanchflower and Oswald, 1990; Fairlie, 1999; Gentry and Hubbard, 2004; Holtz-Eakin et al., 1994; Quadrini, 1999). However, reverse causation may be an issue in cases where wealthy individuals may simply prefer entering entrepreneurship as a career choice (Parker, 2009). To account for this endogeneity, some have tested whether windfalls such as inheritances or lottery winnings would increase the rate of entry. For example, a $150,000 inheritance was found to produce a 20 percent increase in a new venture's receipts, leading to a higher probability of survival (Holtz-Eakin et al., 1994). This suggests that wealth is indeed a factor in occupational choice. An analogous study in Great Britain found a comparatively small inheritance of 5,000 pounds in 1981 was associated with a doubling in the rate of self-employment compared to individuals who received nothing (Blanchflower and Oswald, 1990).

Endogeneity bias also arises when the "wealth" variable captures unobserved attributes, such as higher levels of human capital that correlate to both entrepreneurship and wealth (Parker, 2009). For example, inheritances are not a truly exogenous event as individuals receiving inheritances may be more likely to come from wealthy families that possess strong social networks (Lofstrom et al., 2014). Lottery winnings, however, are a purer windfall and have been found to increase the propensity for entrepreneurial entry by 54 percent in Sweden (Lindh and Ohlsson, 1996).

In an attempt to control for these endogeneity biases, housing price appreciation from the Panel Study of Income Dynamics (PSID) has been used as an instrumental variable (Hurst and Lusardi, 2004). Results from the study challenged the assertion that liquidity constrains households entering entrepreneurship. Entry rates into entrepreneurship appear virtually flat for all individuals between the 1st and 95th percentiles in wealth distribution, with a discernible and steep relationship only above the 95th percentile of wealth ($200,000 in household wealth). Liquidity constraints, when accounting for housing prices, may not deter small business formation – which is not surprising as micro data surveys indicate that the initial costs of starting a business are modest. Other studies using inheritances and household price shocks as instrumental variables found similarly weak evidence of liquidity constraints in the United Kingdom (Disney and Gathergood, 2009).

However, Fairlie and Krashinsky (2012) argue that results from the PSID study suffers from aggregation bias. When the sample is disaggregated into sub-samples of job losers and non-job losers, they find a greater proportion of job losers exist at the lower end of the wealth distribution, while non-job losers predominate at the upper end of the wealth distribution. Overall, job losers have higher rates of entrepreneurial entry at each level of wealth as the economic shock of job displacement presumably positively influenced the selection into entrepreneurship by job losers. They conclude that after controlling for job loss, liquidity constraints affect the rate of entrepreneurial entry.

A problem with the above studies is that they tend to focus on entrepreneurs who have already established new firms – an inherent survivor bias where conclusions are limited to successful entrepreneurs and no conclusions can be drawn on those who abandon the process (Parker, 2009). Indeed, some studies of nascent entrepreneurs have found no observable link between wealth and entrepreneurial entry. Data from the PSED I reveals that significant entrepreneurial advantages accrued to nascent entrepreneurs possessing high levels of human capital, but no relationship between entrepreneurial entry and financial or cultural capital (Kim et al., 2006). The initial funding requirement for nascent entrepreneurs in the sample is modest, with 75 percent starting with less than $10,000, which may explain this finding on wealth. Additionally, the preponderance of home-based startups may reduce the level of initial financial capital required to start the venture (Kim et al., 2006). In fact, a modest financial threshold of entrepreneurial entry is implied by the latest statistics of the fastest growing firms as documented by Inc. Magazine – 64 percent of CEOs of the fastest 500 growing firms in the U.S. started their first companies with $10,000 or less (Foster, 2014).

Another study of nascent entrepreneurs using the PSED finds no statistical relationship between wealth and engaging in part-time entrepreneurship (Petrova, 2012). Congruent with Kim et al. (2006), these results imply an absence of liquidity constraints. However, neither study disaggregates the wealth data into quintiles, which is important given prior research findings that wealth begins to have an effect on entrepreneurial outcomes at higher levels in the distribution. In the current study, we build upon the studies of nascent entrepreneurs by Kim et al. (2006) and Petrova (2012) by controlling

for a number of human capital, social capital, and industry variables. Following Fairlie and Krashinsky (2012), we disaggregate the levels of wealth into five quintiles and posit that earlier PSED results may suffer from aggregation bias. We theorize that higher levels of wealth provides start-ups with internal funding, acts as collateral to help raise external funds, and offers a potential liquidity cushion against unforeseen turn of events. We directly test the relationship between organizational emergence and wealth by examining two neighboring hypotheses:

Hypothesis 1a: As the household net worth of a nascent entrepreneur increases, the likelihood of remaining engaged in the startup process or starting a new firm increases, as opposed to quitting.

Hypothesis 1b: Given engagement in the process, as the household net worth of a nascent entrepreneur increases, the likelihood of starting a new firm increases.

Outcomes of early stage startups have been measured in a variety of ways. One can record when the venture passes identifiable milestones in the start-up process, for example. Writing a business plan has been identified as an action that promotes the success of a new venture (Delmar and Shane, 2004; Liao and Gartner, 2006). However, not every venture goes through the same process or same sequence of actions. Another method is to categorize whether a nascent entrepreneur has started an operational new firm, is still trying, or has abandoned the venture process. Given estimates of 20-50 percent failure rate of nascent entrepreneurs (Aldrich, 1999; Parker and Belghitar, 2006), a measure of success is simply the transition from nascent entrepreneurship to becoming

an operational start-up. Hypothesis 1 uses this metric, but with a caveat. Organizational emergence may not mean that the entrepreneur is financially successful or even that he or she is objectively on the best path forward (Parker and Belghitar, 2006). Additionally, studies indicate that organizational emergence is a function of a multitude of variables including higher levels of social capital (Davidsson and Honig, 2003), legal registration (Delmar and Shane, 2003), and expenditure of financial resources (Parker and Belghitar, 2006). The impact of wealth on organizational emergence is mostly speculative. For example, African-Americans are twice as likely to be nascent entrepreneurs as Whites, but have longer transition times and much lower rates of emergence. This longer waiting period for minorities suggests evidence of borrowing constraints (Parker and Belghitar, 2006). We therefore employ a variety of human capital and demographic control variables when testing this hypothesis.

2.2 Success Metrics, Wealth, and Entrepreneurial Entry

If wealth is to have an impact on the successful creation of a new firm, it may also impact the early performance of those firms. We propose using two performance variables as proxies for the level of success, once a new firm is created – the amount of revenue earned in the first-year of operations, and the number of employees hired. Neither of these variables may capture an entrepreneur's personal drive and values, but entrepreneurial entry and its generation of employment and sales revenue has played a central role as a source of dynamic economic growth and rising standards of living

(Landes et al., 2012). A number of studies have examined the role of new venture creation in driving job growth and innovation in the U.S. economy (Acs, 2008; Acs and Audretsch, 1988; Birch, 1979). There are approximately 10 million nascent entrepreneurs in the US at any given time with estimates that NEs range from 6.2 percent to 8.1 percent of U.S. adults (Reynolds, 2004; Wagner, 2006). Corroborating prior research by Acs and Armington (2004), a recent Kauffman Foundation study (2014) finds that new ventures account for almost all net job creation.

Little is known about whether wealthy entrepreneurs have higher performance outcomes, although there are hints that a positive relationship exists. For example, "job-creating" entrepreneurs in Great Britain possess 80 percent more housing wealth than sole traders (Henley, 2005). Presumably, housing wealth may provide collateral for loans that allow venture growth and directly influence the level of job creation. The relationship between wealth and employment is potentially endogenous, however, so it is important to treat this relationship with caution. Additionally, prior research suggests that the entrepreneur plays a pivotal role in creating employment growth, spurring innovations in the economy and generating informational spillovers (Van Praag and Versloot, 2007). We therefore take the additional step, in the current study, of estimating the impact of wealth on the performance of successful new firms and posit the following hypotheses:

Hypothesis 2a: Nascent entrepreneurs who successfully start new firms and have a higher household net worth will earn greater sales revenue in their first-year of operation than nascent entrepreneurs with a lower household net worth.

Hypothesis 2b: Nascent entrepreneurs who successfully start new firms and have a higher household net worth will hire more employees than nascent entrepreneurs with a lower household net worth.

The goal of investigating these hypotheses is to provide greater insight into the wealth, industry and human capital dimensions that affect new venture performance. To the extent that nascent entrepreneurs with a higher net worth tend to start higher performing firms, then entrepreneurship may act as an amplifier of inequality in the U.S.

3. METHODOLOGY

3.1 Research Setting

Nascent entrepreneurship is an ideal setting for examining the effects of wealth on entrepreneurial entry. It is the stage of the start-up process where individuals are transitioning from attempting to start a business, to either a successful launch or disengagement from the process. In this setting, researchers can compare entrepreneurs who start new firms to those who disengage. The Panel Study of Entrepreneurial Dynamics (PSED) research program was designed to fill a specific gap – no other program captures the earliest stages of the startup process on a scale that is generalizable to the entire economy, and none provides comparisons between nascent entrepreneurs who succeed and those who abandon (Reynolds, 2000). Other datasets that examine how context influences entrepreneurship (e.g., personal wealth or industry) provide little to no

information on the people and processes that lead to new firms. Large scale datasets such as the Panel Study of Income Dynamics measure labor force participation and self-employment, but this is problematic because many who are starting businesses are currently employed by existing firms, and are therefore not identified in surveys of labor force participation (Reynolds and Curtin, 2008; Reynolds and White, 1997).

In this study, we use the PSED II to examine the startup efforts of nascent entrepreneurs in the United States. The PSED II is a representative sample of 1,214 U.S. working-age adults who were actively engaged in creating new ventures between 2005 and 2012. The first step toward identifying nascent entrepreneurs for this sample was a nationwide screening process. Between October 2005 and January 2006, a commercial survey firm used random digit dialing to screen 31,845 individuals. Those meeting the following four criteria were considered nascent entrepreneurs, and included in the final sample: (1) they considered themselves as involved in creating a firm, (2) they had taken some startup activity in the past 12 months, (3) they expected to own all or part of the new firm, and (4) their efforts had not resulted in an operating business (see next section for the definition of an operation business). In the second step, the 1,214 nascent entrepreneurs completed 60-minute phone interviews administered by the University of Michigan Institute for Social Research. The third step involved follow-up interviews conducted in one-year intervals (Reynolds and Curtin, 2007).

The data is well suited to our investigation into personal wealth and entrepreneurial entry. There are two main reasons for this. First, the primary objective of

the PSED research program is to provide systematic and reliable data on nascent entrepreneurs attempting to start new firms, their activities, and the survival and growth trajectories of their firms. This allows us to accurately measure the rate of transition from not having a business, to operating a business (or disengaging), in the U.S. economy. Second, the PSED was designed to include variables that explain and predict variation in this transition. As it relates to our study, these variables include measures of personal wealth, human capital (personal background, experience, educational and managerial experience, and prior start-up experience), demographic information, and activities that make up the firm creation process (Reynolds, 2000).

3.2 Dependent Variables

3.2.1 Startup Engagement

Appendix A describes the measures used in this study, and their corresponding items from the PSED II questionnaire. *ENGAGEMENT* reflects the outcome of a nascent entrepreneur's efforts and is coded as "1" if a new firm was created, or if still trying to start the business, and "0" for disengagement, or quitting the process. The PSED II defines startup outcomes in the following manner (Reynolds and Curtin, 2008): New Firm = income was received in 6 of the past 12 months, covering all expenses, including owners' wages and salaries; Still Trying = the nascent entrepreneur devoted more than 160 hours in the past 12 months to the startup, and he or she expected to spend 80 or

more hours in the next 6 months on the startup; Quit = answering "Yes" to the question, "Would you consider yourself disengaged from the business effort discussed a year ago?"

ENGAGEMENT_SUCCESS measures the likelihood of a new firm, given sustained engagement in the entrepreneurial process. It is coded as 1=New firm, and 0=Still Trying.

3.2.2 Revenue and Number of Employees of New Firms

The PSED II also tracks the first year of operations of successful new firms. *REVENUE* measures the total revenue earned by successful new firms in their first year of operation. Respondents were asked to report total revenue from the sale of goods, services, or intellectual property in the past twelve months. *EMPLOYEES* measures the number of employees hired by successful new firms in their first year. Respondents were asked, "Right now, how many people, not counting the owners but including exclusive subcontractors, are working either full or part-time for this new business?"

3.3 Independent Variables

3.3.1 Wealth

WEALTH is a multi-item measure that calculates the respondent's household net worth. Respondents were asked about the market value of their primary residence, how

much was still owed on the mortgage (if applicable), an estimate of all household savings and investments (e.g., value of stocks, bonds, mutual funds, savings accounts, checking accounts, retirement accounts, non-incorporated business assets, etc.), the value of miscellaneous assets (e.g., other real estate, cars, boats, home furnishings, jewelry, etc.), the amount of all outstanding loans that use the primary residence as collateral, and an estimate of all other debts of all members of the household (e.g., loans, land contracts on other property, home equity loans, automobile loans, credit card balances, education loans, etc.).

Respondents were then asked, "Based on what you just said, your total household net worth would be approximately [difference between assets and liabilities reported] dollars. Is this correct?" If the answer was yes, the amount was recorded. If the answer was no, survey administrators repeated the above sequence of questions until the respondent agreed with the final total.

Of the 1,214 respondents, 41 respondents (3.3 percent) did not report their net worth, and 167 (13.8 percent) opted to report a bracketed rather than an exact dollar amount for their net worth. We imputed the midpoint dollar amount in these cases. For example, respondents reporting a net worth of $100,000 - $249,999 were recorded as $175,000.

We then divided the *WEALTH* variable into quintile dummies – five variables taking on a value of 0 (not in this group) or 1 (belongs to this group), representing the following quintles in the wealth distribution: Bottom Quintle (20^{th} percentile); Next to

Bottom (40th percentile); Middle (60th percentile); Next to Top (80th percentile); and Top Quintile (100th percentile).

3.4 Additional Control Variables

"Wealth" contains a number of unobservable attributes that must be controlled for to reduce endogeneity bias. *INDUSTRY* measures the asset complexity of the business opportunity. Industries that require greater investment in assets prior to launch likely have different rates of entry. Manufacturing startups require greater capital investment and organizational expertise than more routine startups that operate from the founder's primary residence, such as consulting businesses or daycares. Controlling for industry effects, personal wealth may not predict entry into routine startups, but it may account for the acquisition of resources and assets needed to start complex businesses (Lofstrom et al., 2014).

Industry is frequently operationalized by NAICS codes, but the level of coding used in many studies is quite general, and can lead to muddled results. For example, there are a number of nascent manufacturing ventures in the PSED, and many fall under subcategories such as sign manufacturing, costume jewelry, and iron and steel mills. Startup complexity clearly varies within the manufacturing category, but it likely varies within each subcategory as well.

INDUSTRY was coded as "0" for non asset-intensive and "1" for asset intensive using four variables from the PSED. In addition to the industry category and subcategory, we also considered the venture's locational needs and whether significant investment in equipment or facilities are necessary. Respondents were asked: (1) "What kind of business are you starting?" These responses were coded and categorized according to the North American Industry Classification System (NAICS); (2) to describe the location where the business is being developed. Responses included a residence or personal property and the site of an existing business; (3) whether the business would have one physical location, several physical locations, or no specific location; and (4) whether any major items like equipment, facilities, or property have been purchased. An example of an asset intensive venture is respondent 50020, who is attempting to start a commercial printing business at a specific, non-residential location. An example of a non-asset intensive venture is respondent 50025, who is making children's clothing from a residential location.

Human Capital. An individual's age, education, and prior experience as an entrepreneur or manager affects the likelihood of successfully starting a business (Bates, 1990; Davidsson and Honig, 2003). We measure *AGE* as the respondent's age in years; *EDU* measures the level of education completed and is broken into four categories (1=below High School; 2=High School; 3=Some College; 4=Bachelors; 5=Graduate School); *STARTUP_EXP* is coded 0=No prior startups, and 1=One or more prior startups; *MGMT_EXP* is a continuous variable measuring the number of years of managerial or supervisory experience.

Social Capital. An individual's network of relationships, past and present, can assist them in creating and growing a business through access to resources and customers (Florin et al., 2003; Liao and Welsch, 2005). Our measure of social capital includes whether a respondents' parents owned a business and perceived community support (Davidsson and Honig, 2003; Liao and Welsch, 2005). *PARENTS* asked respondents, "Did your parents ever work for themselves or run their own business, alone or together?" and is coded 0=No, and 1=Yes. *COMMUNITY* is a four-item subscale that asks respondents to rate their agreement on a scale of 1-5 (1=Strongly agree; 5=Strongly disagree) with the following: (1) "Young people in your community are encouraged to be independent and start their own businesses." (2) "State and local governments in your community provide good support for those starting new businesses." (3) "Bankers and other investors in your community go out of their way to help new businesses get started." (4) "Community groups provide good support for those starting new businesses." Table 1 shows that Cronbach's alpha for the four perceived community support items was found to be reliable ($\alpha = 0.70$).

INSERT TABLE 1 HERE

Personal Characteristics. An individual's self-efficacy – or belief in one's own ability to achieve set goals – has been shown to increase the likelihood of startup success and growth (Cassar and Friedman, 2009). *Self-Efficacy (SE)* is a three-item subscale that asks respondents to rate their agreement on a scale of 1-5 (1=Strongly agree; 5=Strongly disagree) with the following: (1) "Overall, my skills and abilities will help me start this

new business." (2) "My past experience will be very valuable in starting this new business." (3) "I am confident I can put in the effort needed to start this new business." Table 2 shows that Cronbach's alpha for the three self-efficacy items was found to be reliable ($\alpha = 0.71$).

INSERT TABLE 2 HERE

We also control for the race and sex of the nascent entrepreneurs in our sample. Females tend to have lower risk-profiles than males, and their startups tend to be smaller (Fairlie and Robb, 2009). Initial resource requirements during gestation should, in general, differ as well. Prior studies have also found links between startup capital requirements and race, with Asian-owned firms outperforming white- and black-owned ventures (Fairlie and Robb, 2008; Robb and Watson, 2012). In our study, *SEX* is coded as 0=Female, and 1=Male; and *RACE* is coded as 1=Caucasian; 2=African-American; and 3=Other.

3.5 Left Truncation Control

Our empirical setting begins at the date of conception of the business idea. Startups at this stage are at high risk of being abandoned by the nascent entrepreneur for other opportunities, or outright failure. As of the first interview in the PSED II, each venture had been at risk of termination for a period of time, resulting in left truncation – that is, the sample contains only firms that survived the period between conception and

the first interview, and strong emerging organizations may be overrepresented (Yang and Aldrich, 2012).

We control for left truncation by including a variable measuring the number of months between the first startup activity after conception and the date of the first interview. Nascent ventures in the sample exceeding 120 months (10 years) are not included, as prior studies have found that these ventures affect results (Yang and Aldrich, 2012).

3.6 Estimation Procedure

We test two hypotheses of the effect of wealth on: (1) the likelihood of engaging in entrepreneurship versus abandoning the process; and (2) the level of success of new firms as measured by first year revenues and number of employees hired. We do so via linear, logistic, and Poisson regressions of those outcomes on a continuum of wealth percentiles. To gauge the robustness of our results, we employ an alternative specification of dummy variables indicating net worth quintiles (i.e. from the bottom 20%, to the top 20%) as our regressors of interest. To investigate this relationship using even more flexible functional forms, given that previous studies find nonlinear effects of wealth (Evans and Jovanovic, 1989; Parker, 2009), we generalize the dummy variables into a Bezier basis for a semi-parametric B-spline. We also use a non-parametric loess smoother.

4. RESULTS

4.1 Descriptive Statistics

U.S. nascent entrepreneurs tend to be wealthier than the general population. Table 3 and Figure 1 depict the empirical distributions of net worth among nascent entrepreneurs in the first wave (2005) of the PSED II (in blue with 90% confidence bands), and corresponding percentiles for the general population from the U.S. Census Bureau's 2005 Survey of Income and Program Participation (in red with whiskers indicating a 90% confidence interval that is so small that it is difficult to discern at this scale).

INSERT TABLE 3 AND FIGURE 1 HERE

We see that net worth among nascent entrepreneurs is higher than the general population, providing empirical support that the decision to start a business is generally undertaken by the wealthy. As can be seen in Figure 1, the distributions overlap at the 10^{th} percentile where net worth among both nascent entrepreneurs and the general population is slightly below $0. At the higher percentiles observed in the SIPP, the wealth of nascent entrepreneurs is significantly higher than the general population. Therefore, we are confident that nascent entrepreneurs tend to have a higher net worth than the general population.

We also observe that wealthy nascent entrepreneurs are more likely to succeed. Table 4 shows that the ratio of success to quitting is non-linear, with 1 successful attempt for every 3 until around the 80th percentile of the wealth distribution where quitting becomes less common. Here, we observe 2 successful individuals for every 3 who disengage. At the top decile there are 7 successful individuals for every 8 who disengage. These observations provide additional support for Hypothesis 1 in the next section – that successful nascent entrepreneurs are more likely to be wealthy than poor and middle class.

INSERT TABLE 4 HERE

4.2 Regression Results

Figures 2-5 in this section graphically depict the regression results. The graphs are overlaid by quintile dummies, semi-parametric estimators, and non-parametric loess smoothers. The quintile dummies reflect our independent variable – the wealth of nascent entrepreneurs at the 20th, 40th, 60th, 80th, and 100th percentile (i.e., the poor, middle, and upper-class). The semi-parametric estimators generalize the quintile dummies into a continuous curve. These estimators allow us to test assumptions about the form of the overall model. Finally, the non-parametric loess smoothers relax our regressions' assumption that the dependent variable is a linear function of wealth. The loess method uses weighted least squares to fit the regression for each wealth percentile "section" overlaying the regression, weighting data points with a decreasing function of their distance from the wealth level being plotted (Garson, 2014). This method is appropriate

given our observations of the nonlinear effects of wealth on nascent entrepreneur outcomes, at the individual and firm level. These effects mirror those found in structural inequality at the societal level (Piketty, 2014).

Our regressions on wealth percentile appear in black with a 90% confidence interval around it in grey. The estimates for quintile dummies appear in red with vertical error bars indicating a 90% confidence interval for the width of the quintile. The blue curves generalize the quintile dummies to semi-parametric estimators in the form of quartic splines with knots at the boundaries between quintiles. The green curves represent non-parametric loess smoothers. The horizontal scales on each graph are limited to range from -$100,000 to $1,000,000 so that we can focus on the data's centrality – the top 8% and bottom 2% of nascent entrepreneurs in the wealth distribution extend far beyond those limits and dwarf the remainder of the graph. The actual data points have been suppressed from the plot because they all fall along the horizontal lines at 0 and 1, which are outside each graph window. All analyses are weighted using weighting variables included in the PSED based on population data from the U.S. Census Bureau. These variables are re-centered to ensure generalizability of the findings.

Table 5 shows the correlation matrix for the variables in this study. Correlations greater than 0.1 are shaded. There is one correlation over 0.5 (age and managerial experience are correlated at 0.628), but the VIF for each variable is less than 10 (1.71 and 1.76, respectively). The VIF for all other variables is below 1.71, and the mean VIF

across all variables was 1.17. We are therefore confident that multicollinearity is not affecting our analyses.

INSERT TABLE 5 HERE

4.2.1 Logit Models of Engagement in Nascent Entrepreneurship

Model 1a. Table 6 and Figure 2 depict the results for the binary logistic regression of the probability of engagement in entrepreneurship. In Hypothesis 1a we argued that nascent entrepreneurs with more personal wealth would more likely start new firms or remain in the process, rather than quit. Model 1a tests this hypothesis controlling for human capital, social capital, industry, and personal characteristics. The net worth quintile predictor variable is significant ($p < .05$), indicating at least one level significantly affects engagement in nascent entrepreneurship. Using odds ratios, we may say that for every quintile increase in net worth (e.g., moving from the 20^{th} to the 40^{th} percentile), the odds of engaging in nascent entrepreneurship over quitting is exp(0.4490) = 1.567. In terms of percent change the odds of engagement are 56.7 percent higher for every quintile increase. Therefore, we accept Hypothesis 1a and conclude that engaged nascent entrepreneurs tend to have a higher net worth than those who disengage. Note that the semi/non-parameteric estimates appear overly sensitive to outliers in the tails where their curves bend off in different directions.

INSERT TABLE 6 AND FIGURE 2 HERE

As can be seen in Figure 2, the probability of being engaged is significantly higher for those in the top 20 percent of the wealth distribution (the fifth quintile) than those near the bottom of the wealth distribution. Engagement versus abandonment does not vary much between the first and fourth quintile (between the poor and upper middle-class), and there is significant overlap in confidence intervals. The spike in the probability of engagement can be seen in the uncertainty band being clearly above a probability of 0.45 for net worth greater than $500,000 but clearly below that same probability for net worth less than $0.

Model 1b: In Hypothesis 1b we argued that, given engagement in the process, nascent entrepreneurs with higher personal wealth would more likely start a new firm rather than remain in process. Model 1b tests this hypothesis and the results are shown in Table 7 and Figure 3. The net worth quintile predictor is not statistically significant. As can be seen in Figure 3, the probability of successfully launching a new firm for an engaged nascent entrepreneur does not appear to be systematically related to their net worth. For the logit on wealth percentile, the uncertainty band clearly contains a horizontal line (e.g. going through a probability of 0.5). The quintile estimates all contain that same central probability of success (around 0.5). Therefore, we reject Hypothesis 1b and conclude that engaged nascent entrepreneurs with higher net worth appear no more likely to succeed in starting a new firm than those who continually remain in the process.

INSERT TABLE 7 AND FIGURE 3 HERE

4.2.2 OLS and Poisson Models of Wealth on Revenues and Employees Hired

Model 2a. Table 8 and Figure 4 show the results for the ordinary least squares regression predicting first-year revenues as a function of the founder's personal wealth. Hypothesis 2a argued that, among nascent entrepreneurs who successfully started new firms, a higher personal net worth would lead to higher first-year revenues for the new firm. The net worth quintile predictor variable is significant ($p < .05$), indicating at least one level significantly affects engagement in nascent entrepreneurship. Using odds ratios, we may say that for every quintile increase in net worth the odds of increasing revenues for the new firm is exp(0.6757) = 1.965. In terms of percent change the odds of revenues increasing is 96.5 percent greater as personal wealth increases. Therefore, we accept Hypothesis 2a and conclude that new firms tend to have higher revenues when the nascent entrepreneur has a higher net worth.

INSERT TABLE 8 AND FIGURE 4 HERE

As can be seen in Figure 4, revenue is significantly higher for those near the top of the wealth distribution than those near the bottom of the wealth distribution. For the regression of log revenue on wealth percentile, this can be seen by the uncertainty band being clearly above a revenue of $50,000 for net worth greater than $500,000 but clearly below that same revenue for net worth less than $0.

Model 2b. The majority of startups in the United States are sole proprietorships, with the founder as the only employee. New ventures that hire employees are relatively rare events compared to the population of all new ventures in the economy. Therefore, a Poisson regression was run to test Hypothesis 2b, which argues that new firms started by

nascent entrepreneurs with more personal wealth will hire more employees compared to new firms started by those with less personal wealth. Table 9 and Figure 5 show the results of the analysis. The number of employees does not appear to be strongly related to the net worth of nascent entrepreneur. For the negative binomial regression on wealth percentile, the central estimate is increasing but the uncertainty band makes it only marginally significant (a horizontal line going through 1 employee barely separates the extremes). The top and bottom quintile confidence intervals also almost overlap. Therefore, we would reject Hypothesis 2b at any higher level of significance and thus would not conclude that the number of employees significantly increases when the nascent entrepreneur has a higher net worth. However, we should note that this ambiguity disappears entirely when we remove one outstanding outlier (with 200 employees); in that case, there is a strongly significant increase in the number of employees when the entrepreneur is wealthier.

INSERT TABLE 9 AND FIGURE 5 HERE

4.2.3 Human and Social Capital, and Industry Controls

Our analyses also find support for the effects of human and social capital, and founder demographics and industry, on entry and new firm performance. Prior managerial experience increases the likelihood of engaging in nascent entrepreneurship over quitting, and nascent entrepreneurs with prior startup experience hire more people upon successfully creating new firms. Nascents holding a Bachelor's degree are more likely to engage than abandon their efforts compared to those with a graduate degree, and

their new firms also earn more revenues. Nascents with lower levels of education remain engaged longer, but are less likely to start. And, when they do start a new firm, they hire fewer employees than those with high levels of education. Older nascent entrepreneurs are more likely to remain in process rather than start a new firm, and they hire fewer employees when they do start. Regarding social capital, entrepreneurs who reported receiving little in the way of community support hired fewer employees compared to those who perceived a lot of community support.

Given engagement in the process, males are two-thirds as likely to start, instead remaining in process, compared to females. Upon successfully creating a new firm, male-founded firms make more revenues and hire more employees compared to female-founded ventures. African-Americans are more likely to engage in nascent entrepreneurship, rather than quit, compared to Whites. Given engagement, however, they are one-third as likely to start, instead remaining in process for long periods, compared to Whites. Given the successful creation of a new firm, African-Americans, Asians, and Hispanics tend to earn lower revenues, but hire more employees, compared to Whites. Finally, nascent entrepreneurs starting asset-intensive ventures earn higher revenues and hire more employees, compared to non asset-intensive ventures.

5. DISCUSSION

We attempt to demonstrate the importance of personal net worth on rates of startup creation in the economy, and on the early performance of new firms. As noted in

the introduction to this study, understanding whether an entrepreneur's level of wealth will have an effect on his or her success, and whether those successes will differ in their impact on society as a whole, is a question that gets at the heart of what entrepreneurship can represent. Namely, it can provide upward mobility to individuals and their families. Yet, entrepreneurship's role as a moderator of economic inequality is unclear. The increasing concentration of wealth at the top may, in fact, be amplified by new venture creation if greater wealth increases the odds of success (Piketty, 2014).

In Hypothesis 1 we find that the wealthiest nascent entrepreneurs, those in the top quintile of the wealth distribution, are more likely to succeed or remain engaged in the startup process compared to the poor and middle-class. This finding suggests that liquidity constraints may impact up to 80 percent of all people attempting to start a business. This mirrors findings in prior studies (Fairlie and Krashinsky, 2012). Yet, when we remove those who abandoned their efforts from the analysis and focus only on nascent entrepreneurs who are engaged, we find that personal net worth does not significantly affect new firm creation. Since we control for the asset-intensity of the industry/opportunity and the founder's human capital (i.e., age, education, and startup/managerial experience), our interpretation of these findings is that the lack of wealth leads to higher dropout rates for the majority of U.S. nascent entrepreneurs. However, for NEs that are able to remain engaged, wealth is no longer a constraint to entrepreneurial entry.

Although it is evident that nascent entrepreneurs are wealthier than the general population, we see a considerable difference in top quintile of wealth where nascents have a significantly higher engagement rate than other quintiles of NEs. Hurst and Lusardi (2004) find a similar, steepening relationship that begins at the 95th percentile, or approximately $200,000 household net worth. In our study we find a steepening at the 80th percentile, or approximately $375,000. So, the conclusions of our study are the similar, if not precisely in the quantitative measures then at least in qualitative spirit – wealth does not affect startup rates any differently for the majority of the population, but the very wealthy are more likely to enter into business. This finding is in contrast to prior research finding that low levels of capital deters the less wealthy from entering into entrepreneurship (Evans and Jovanovic, 1989). The very poor seem no more or less affected by wealth or the lack thereof than the upper middle-class.

In Hypothesis 2 we find revenues earned by new firms started by the top 20 percent of wealth are significantly larger than firm revenues of the lower quintiles of wealth. In contrast, rates of employment by the top 20 percent of wealth do not differ significantly from other quintiles. Moreover, because we control for human capital, asset-intensity of the industry, and the length of time in the process, this finding is not the result of complex ventures taking longer to launch. Instead, the heterogeneity that characterizes so many aspects of entrepreneurship also applies to the types of ventures started across the wealth distribution (Davidsson, 2004). Many different types of ventures are started at all levels of wealth. These mixed findings signify that, to some extent, the firms started by wealthiest U.S. nascent entrepreneurs are not necessarily better

performers than the rest of the population. Likewise, the poor, middle class, and wealthy are largely just as likely to start aggressively growing ventures requiring a larger number of employees.

However, as in Hypothesis 1, it may be misleading to conclude that poor and middle-class "engaged" nascent entrepreneurs are wealth-constrained, since the fourth quintile consists of individuals with household net worth well above the U.S. median. The range of household wealth across quintiles 1-4 is $0 to approximately $375,000. The rate of entrepreneurial entry and new firm performance remains relatively constant across this distribution of individuals in quintiles 1-4.

Although prior studies on firm creation have examined wealth effects, we believe our study makes three key contributions to the literature. First, we use a nationally representative sample of nascent entrepreneurs in order to more closely capture entry of entrepreneurs into the economy. By using datasets of nascent entrepreneurs, as we do in this study, researchers can identify individuals who are involved in the creation stage of startup activity and measure their rate of entrepreneurial entry. This contrasts with government datasets using self-employment or small business owners as a measure of entrepreneurship as these individuals are further along the entrepreneurial success path.

Second, we resolve conflicting findings by following nascent entrepreneurs *and* disaggregating personal wealth into quintiles. Some studies have used data on nascent entrepreneurs without disaggregating the wealth variable (Kim et al., 2006). Other studies disaggregated wealth, but do not capture individuals in the creation stage of their startup

(Fairlie and Krashinsky, 2012). In the current study, we capture entrepreneurial entry much earlier in the process while disaggregating personal wealth.

Finally, we take the additional step of examining how wealth affects the early performance of new firms, while controlling for human capital and industry effects. This allows us to see whether nascent entrepreneurs across the wealth distribution are impacting the economy differently, in terms of revenues and employee hires.

5.1 Limitations and Future Research

In this study we accurately measure and disaggregate the household net worth of a representative sample of U.S. nascent entrepreneurs, and then assess how their place in the wealth distribution is linked to startup outcomes. Although this study's data and analyses allow us to explore the effects of wealth on entrepreneurial entry before a firm is created, our sample still contains only those individuals who made the decision to attempt to start a business. To capture true entrepreneurial entry into the economy, one would need to measure the number of people who transition from employment or unemployment, into engagement in the process, and then into an operational new firm. However, the PSED's operational definition of nascent entrepreneur, and what constitutes a new firm, is the most comprehensive we have found in the research literature.

While we control for industry, human, and social capital factors that have been shown to affect success and performance of new ventures, our study does not control for

other external factors that may explain why quitting is more likely for those without a large household net worth. It may be that life events such as a personal or family health issues force nascent entrepreneurs to divert resources away from their ventures and toward the crises. Further research on nascent entrepreneur exit and wealth would help explain the discrepancy between the top quintile and the rest of the population.

An example of an external factor that we do not control for in this study, but which may partially explain the precise mechanism through which 80 percent of entrepreneurs are liquidity constrained, has to do with the housing market. Recent research using the Federal Reserve's Survey of Consumer Finances finds that for the wealthiest 1 percent of Americans, 9 percent of their net worth is in their primary residence compared to 63 percent for the middle class (Wolff, 2014; Zumbrun, 2014). For would-be nascent entrepreneurs whose principal barrier to entry is money, but who have the majority of their net worth tied to their home, the decision to become an entrepreneur will depend on (a) a willingness to assume the risk of taking out a loan on their home, and (b) the ability to do so (a bank must agree to the transaction). Future research could look into the relationship between the proportion of net worth that is tied up in a home, individual risk profiles, and banks' willingness to loan money on a 2nd mortgage.

Another limitation of this study is that understanding the precise type of venture opportunity pursued may explain why more NEs abandon in the lower quintiles. Although we operationalize the industry variable in a unique manner to control for not just industry, but the number of locations needed and whether assets such as plants and

equipment were purchased, we do not have an idea of the demand or market conditions surrounding the product or service offering. Clearly, demand factors will affect whether a new venture is created or abandoned.

Finally, this research takes place during a period of waning entrepreneurial dynamism as recent research by Hathaway and Litan (2014) indicates a trend decline in firm entry rates of almost 50% since 1978. We recommend exploring the role that "quitting" plays in declining entry rates. Table 4, detailed earlier, shows that over 50% of NEs quit the process. A potential avenue of further research would be to examine the extent that finance and liquidity constraints influenced NEs to quit the process.

6. CONCLUSION

The effect of wealth inequality on society has received increasing attention from scholars and policymakers in the 21st century. Our study underscores that the impact of wealth constraints on entrepreneurial entry and performance is a complex issue. We find that nascent entrepreneurs are wealthier than the general population across all income quintiles and those in the wealthiest quintile are more likely to succeed in the startup process compared to poor and middle-class nascent entrepreneurs. Controlling for industry and human capital effects, we find new firms created by the very wealthy tend to earn more revenues, but not create more jobs. This research has implications for wealth inequality in society as it appears that entrepreneurship may act as an amplifier, not a modifier, of the concentration of wealth at the top. Since entrepreneurs dominate the

upper echelons of aggregate wealth distribution (Cagetti and Dinardi, 2006), and wealth is driving success at gestation (as we observe in this study), then the role of entrepreneurship as a means of upward mobility is called into question.

APPENDIX A

PSED II Variables and Item Descriptions

Variable	PSED II Item	Item Wording
Engagement (Model 1a 0=New Firm or Still Trying,1=Quit; Model 1b 0=New Firm, 1=Still Trying).	A35-A50	New Firm = (A) income received in 6 of the past 12 months; (B) income covered all expenses, including owners' wages and salaries. Still Trying= (A) none of the conditions for a new firm have been met; (B) the nascent entrepreneur devoted more than 160 hours in the past 12 months to the startup; (C) he or she expected to spend 80 or more hours in the next 6 months on the startup. Quit = "Yes" to the question, "Would you consider yourself disengaged from the business effort discussed a year ago?"
Revenue (Model 2a)	V2	"Based on the current pattern in the new business, what was the total revenue from the sale of goods, services, or intellectual property in the past twelve months of operation?"
Employees (Model 2b)	U1	"Right now, how many people, not counting the owners but including exclusive subcontractors, are working either full or part-time for this new business?"
Industry (0 "asset-simple" 1 "asset-complex")	A1, B8, B10, D16	"What kind of business are you starting?" "How would you describe the location where this new business is being developed?" "Once established, would you say that the new business will have one, several, or no physical locations?" "Have any major items like equipment, facilities, or property been purchased for this new business?"
Wealth	Z28-Z36	Market value of home; Amount owed after most recent mortgage payment; Amount of all debts by all household members; Amount of all savings and investments of all household members; Amount of miscellaneous assets. Z36: "Based on what you just said, your total household net worth would be approximately [Z29-Z31(-Z31a)-Z32+Z33+Z34] dollars. Is this correct?"
Age	H2_1	
Education (1 "< HS" 2 "HS Degree" 3 "Some College" 4 "Bachelors" 5 "Graduate)	H6_1	"What is the highest level of education you have completed?"
Startup experience	H12_1	"How many other businesses have helped to start as an owner or part-owner?"
Managerial experience	H21_1	"For how many years, if any, have you had managerial, supervisory, or administrative responsibilities?"
Parents owned a business *Community support*	Z8 P6-P9	"Did your parents ever work for themselves or run their own business, alone or together?" "Young people in your community are encouraged to be independent and start their own businesses." "State and local governments in your community provide support for those starting businesses." "Bankers and other investors in your community go out of their way to help businesses get started." "Community groups provide good support for those starting (new) businesses."
Race (1=Caucasian; 2=African-American; 3=Other	QS9_1	
Sex (0=Female; 1=Male)	QSEX	
Self efficacy (1 completely disagree; 5 completely agree)		"If I work hard, I can successfully start a business." "Overall, my skills and abilities will help me start a business." "My past experience will be very valuable in starting a business." "I am confident I can put in the effort needed to start a business."

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Table 1. Cronbach Alpha for 5-item scale: COMMUNITY SUPPORT (0.6955)

Item	No. Observations	Sign	Item-test correlation	Item-test correlation	Avg. inter-item covariance	Alpha
AP6	1194	+	0.6938	0.4024	0.4638	0.6811
AP7	1189	+	0.7596	0.5207	0.3856	0.6033
AP8	1181	+	0.7212	0.4776	0.4264	0.6319
AP9	1190	+	0.7338	0.5235	0.4200	0.6079
Test Scale					**0.4240**	**0.6955**

Table 2. Cronbach Alpha for 3 item scale: SELF EFFICACY (0.7059)

Item	No. Observations	Sign	Item-test correlation	Item-test correlation	Avg. inter-item covariance	Alpha
AY6	1214	+	0.8162	0.5962	0.1840	0.5346
AY7	1214	+	0.8370	0.5213	0.1788	0.6542
AY8	1214	+	0.7394	0.4946	0.2627	0.6587
Test Scale					**0.2085**	**0.7059**

Table 3. Percentiles for Net Worth Distribution of General Population & Nascent Entrepreneurs (Census Survey of Income and Program Participation; PSED II)

Percentile of General Population Distribution	Net Worth of General Population (from SIPP)	Net Worth of Nascent Entrepreneurs	Percentile of Nascent Entrepreneur Distribution (from PSED)
10th	-$800 ±$272	-$800	9th ±4
		$12,000	20th ±4
30th	$14,555 ±$678	$14,555	21st ±4
		$87,000	41st ±4
50th	$93,205 ±$1,676	$93,205	42nd ±4
		$210,000	60th ±4
70th	$245,188 ±$3,573	$245,188	63rd ±4
		$561,000	80th ±4
90th	$678,745 ±$17,374	$678,745	85th ±4
		Sample Size	1,173

Table 4. Decile Distribution of the Ratio of New Firm to Quit, on Net Worth

Net Worth Decile	Outcome				
	New Firm	Still Engaged	Quit	Ratio NF:Quit	Total
1	28	18	76	0.37	122
2	17	26	47	0.37	90
3	27	28	73	0.37	128
4	17	23	41	0.41	81
5	19	23	64	0.30	106
6	24	29	54	0.44	107
7	25	20	63	0.40	108
8	32	26	50	0.64	108
9	29	28	57	0.51	114
10	34	35	39	0.87	108
Total	252	256	564		1,072

Table 5. Pairwise Correlations for Models 1 and 2

	ENGAGE	REV.	EMP.	WEALTH	SE	START	PARENT	COMM	MGMT	AGE	EDU	RACE	SEX	INDUST	LEFT
ENGAGED	1.0000														
REVENUE	.	1.0000													
EMPLOYEE	.	0.0764	1.0000												
WEALTH	0.0033	0.0602	-0.0139	1.0000											
SE	0.0770	-0.0256	-0.0638	-0.0411	1.0000										
STARTUPS	-0.0426	-0.0344	-0.0301	0.0662	-0.0794	1.0000									
PARENTS	-0.0133	0.0267	0.0750	-0.0114	-0.0412	0.0780	1.0000								
COMMUNITY	0.0367	0.0329	-0.0411	0.0168	0.0514	0.0726	-0.0161	1.0000							
MGMT	-0.1438	-0.0168	0.0103	0.1160	-0.0901	0.3251	0.0620	-0.0341	1.0000						
AGE	-0.0494	-0.0039	0.0297	0.0760	-0.0232	0.2900	-0.0194	-0.0934	0.6280	1.0000					
EDUCATION	-0.0832	0.0836	-0.0428	0.0997	-0.0613	0.1761	0.0177	0.0013	0.2595	0.2457	1.0000				
RACE	0.0113	-0.0807	0.0202	-0.0318	-0.0173	-0.0632	-0.0698	0.0719	-0.1833	-0.1771	-0.1354	1.0000			
SEX	-0.0664	0.1112	0.0544	0.0284	-0.0467	0.0279	-0.0244	0.0692	0.0617	-0.0151	-0.0533	0.0258	1.0000		
INDUSTRY	0.0214	0.1345	0.1807	-0.0178	-0.0526	0.0143	0.0138	0.0389	-0.0096	-0.0485	-0.0873	0.0815	0.0822	1.0000	
LEFT	0.0519	0.0258	0.0176	0.0086	0.0372	0.0152	-0.0118	-0.0288	-0.0550	-0.1192	0.0111	-0.0138	-0.0368	-0.0186	1.0000

Table 6. Model 1a Probability of Being Engaged in Nascent Entrepreneurship

Logit: Engaged	Wealth Percentile	Wealth Percentile & Covariate Controls	Wealth Quintiles	Wealth Quintiles & Covariate Controls
Intercept	-0.4484*** (0.1213)	1.0558* (0.6169)		
2005 Net Worth Percentile	0.5741*** (0.2134)	0.4490* (0.2495)		
Bottom Quintile			-0.3116** (0.1320)	1.4294** (0.6190)
Next to Bottom Quintile			-0.2057 (0.1401)	1.4865** (0.6080)
Middle Quintile			-0.2619* (0.1410)	1.4496** (0.6211)
Next to Top Quintile			-0.1967** (0.1426)	1.4663** (0.6214)
Top Quintile			0.1427 (0.1391)	1.7791*** (0.6141)
Self-Efficacy		-0.1931 (0.1201)		-0.1827 (0.1204)
Prior Start-ups		0.1125 (0.1451)		0.1178 (0.1451)
Parents owned Biz		0.0957 (0.1328)		0.0995 (0.1330)
Community Support		-0.1432* (0.0862)		-0.1404 (0.0863)
Managerial Experience		0.0311*** (0.0100)		0.0316*** (0.0100)
Age		-0.0090 (0.0069)		-0.0083 (0.0071)
Education (below High School)		-0.0308 (0.3353)		-0.2861 (0.3596)
Education (High School)		0.1354 (0.3199)		-0.3280 (0.2400)
Education (Some College)		-0.2608 (0.3393)		-0.1553 (0.2089)
Education (Bachelors)		0.2874 (0.3588)		-0.5375** (0.2241)
Race (African American)		0.5119*** (0.1721)		0.4988*** (0.1725)
Race (Other)		-0.0427 (0.2094)		-0.0551 (0.2095)
Sex (Male)		0.1705 (0.1373)		0.1698 (0.1374)
Asset Intensive		-0.1918 (0.1519)		-0.1807 (0.1522)
Left Censored		-0.9697*** (0.3349)		-0.9897*** (0.3376)
Sample Size	1072	1041	1072	1041
McFadden pseudo-R^2	0.01	0.04	0.01	0.05

Standard errors reported in parentheses

***, **, * indicate significance at p < .001, .01, and .05 levels, respectively.

Table 7. Model 1b: Logit of Effect of Wealth on Success, Given Engagement

Logit: Success| Engaged	Wealth Percentile	Wealth Percentile & Covariate Controls	Wealth Quintiles	Wealth Quintiles & Covariate Controls
Intercept	0.0549 (0.1813)	-0.0330 (0.9373)		
2005 Net Worth Percentile	-0.1438 (0.3069)	-0.3068 (0.3823)		
Bottom Quintile			0.0539 (0.2007)	1.3626 (0.8743)
Next to Bottom Quintile			-0.1278 (0.2084)	0.9139 (0.8598)
Middle Quintile			-0.0511 (0.2120)	1.2129 (0.8975)
Next to Top Quintile			0.1665 (0.2220)	1.3658 (0.9003)
Top Quintile			-0.1152 (0.1899)	0.9490 (0.8832)
Self-Efficacy		0.0356 (0.1883)		0.0196 (0.1888)
Prior Start-ups		-0.0351 (0.2111)		-0.0331 (0.2124)
Parents owned Biz		-0.0908 (0.2002)		-0.1193 (0.2020)
Community Support		0.0941 (0.1306)		0.0960 (0.1309)
Managerial Experience		0.0121 (0.0142)		0.0124 (0.0142)
Age		-0.0196* (0.0109)		-0.0226** (0.0110)
Education (below High School)		0.7657 (0.5438)		-1.3205** (0.5746)
Education (High School)		0.7832 (0.5180)		-0.3774 (0.3519)
Education (Some College)		0.9179* (0.5495)		-0.3890 (0.2949)
Education (Bachelors)		1.1856** (0.5634)		-0.2597 (0.3192)
Race (African American)		-0.9817*** (0.2532)		-1.0223*** (0.2573)
Race (Other)		0.3820 (0.3313)		0.3710 (0.3323)
Sex (Male)		-0.3771* (0.2072)		-0.3892* (0.2079)
Asset Intensive		0.0224 (0.2308)		-0.0130 (0.2321)
Left Censored		0.2126 (0.3986)		0.1915 (0.4038)
Sample Size	507	491	507	491
McFadden pseudo-R^2	0.01	0.05	0.01	0.05

Standard errors reported in parentheses

***, **, * indicate significance at p < .001, .01, and .05 levels, respectively.

Table 8. Model 2a: Regression of Effect of Wealth on First Year Revenue

Regression: log(Revenue)	Wealth Percentile	Wealth Percentile & Covariate Controls	Wealth Quintiles	Wealth Quintiles & Covariate Controls
Intercept	10.2511*** (0.2081)	10.2693*** (1.2589)		
2005 Net Worth Percentile	1.0260*** (0.3537)	0.6757* (0.3998)		
Bottom Quintile			10.7113*** (0.2342)	10.3776*** (0.9772)
Next to Bottom Quintile			10.2184*** (0.2494)	9.8367*** (0.9673)
Middle Quintile			10.5277*** (0.2477)	10.0722*** (0.9979)
Next to Top Quintile			10.8490*** (0.2362)	10.2872*** (1.0264)
Top Quintile			11.4202*** (0.2298)	10.8433*** (1.0010)
Self-Efficacy		0.1365 (0.2010)		0.1274 (0.2008)
Prior Start-ups		0.2685 (0.2224)		0.3139 (0.2214)
Parents owned Biz		0.1919 (0.2183)		0.2045 (0.2183)
Community Support		-0.0479 (0.1441)		-0.0525 (0.1432)
Managerial Experience		0.0095 (0.0159)		0.0107 (0.0161)
Age		-0.0130 (0.0124)		-0.0144 (0.0125)
Education (below High School)		-0.4341 (0.8150)		0.5802 (0.8204)
Education (High School)		-0.7438 (0.7875)		-0.0005 (0.3654)
Education (Some College)		0.4130 (0.8166)		-0.3394 (0.2986)
Education (Bachelors)		-0.2907 (0.8116)		0.6887** (0.3299)
Race (African American)		-0.5365* (0.3201)		-0.6059* (0.3189)
Race (Other)		-0.9862*** (0.3380)		-0.9976*** (0.3365)
Sex (Male)		0.4755** (0.2231)		0.4475** (0.2237)
Asset Intensive		0.5033** (0.2518)		0.5664** (0.2547)
Left Censored		0.4724 (0.4624)		0.4724 (0.4599)
Sample Size	245	216	245	216
McFadden pseudo-R^2	0.03	0.21	0.98	0.98

Standard errors reported in parentheses

***, **, * indicate significance at p < .001, .01, and .05 levels, respectively.

Table 9. Model 2b: Regression of Effect of Wealth on No. of Employees Hired

Poisson: Count of Employees	Wealth Percentile	Wealth Percentile & Covariate Controls	Wealth Quintiles	Wealth Quintiles & Covariate Controls
Intercept	0.7471*** (0.0844)		1.0505** (0.4541)	
2005 Net Worth Percentile	0.1994 (0.1401)		0.2283 (0.1794)	
Bottom Quintile		0.8745*** (0.0904)		1.4050*** (0.3880)
Next to Bottom Quintile		0.4340*** (0.1224)		1.1103*** (0.4086)
Middle Quintile		0.7880*** (0.1030)		1.2487*** (0.4273)
Next to Top Quintile		1.0605*** (0.0845)		1.4840*** (0.4333)
Top Quintile		0.9333*** (0.0875)		1.5988*** (0.4214)
Self-Efficacy			0.0297 (0.0915)	0.0379 (0.0906)
Prior Start-ups			0.2259** (0.0987)	0.2318** (0.0983)
Parents owned Biz			-0.0229 (0.0990)	0.0008 (0.1000)
Community Support			-0.3339*** (0.0609)	-0.3318*** (0.0615)
Managerial Experience			0.0093 (0.0075)	0.0103 (0.0076)
Age			-0.0162*** (0.0059)	-0.0179*** (0.0059)
Education (below High School)			-0.5079*** (0.3100)	-0.2161 (0.2948)
Education (High School)			-0.0402 (0.2782)	-0.6829*** (0.1442)
Education (Some College)			0.5219* (0.2867)	-0.2230* (0.1300)
Education (Bachelors)			0.2455 (0.2890)	0.2489* (0.1318)
Race (African American)			0.6165*** (0.1409)	0.6304*** (0.1396)
Race (Other)			0.9386*** (0.1159)	0.9121*** (0.1182)
Sex (Male)			0.3988*** (0.1068)	0.4002*** (0.1080)
Asset Intensive			1.0125*** (0.0970)	1.0195*** (0.0993)
Left Censored			0.0188 (0.1871)	0.0320 (0.1871)
Sample Size	250	250	240	228
McFadden pseudo-R^2	0.01	0.20	0.26	0.41

Standard errors reported in parentheses

***, **, * indicate significance at p < .001, .01, and .05 levels, respectively.

Figure 1. Percentile Distribution of Net Worth of General Population & Nascent Entrepreneurs (Census Survey of Income and Program Participation; PSED II)

Figure 2. Probability of Nascent Entrepreneurship as Function of Wealth

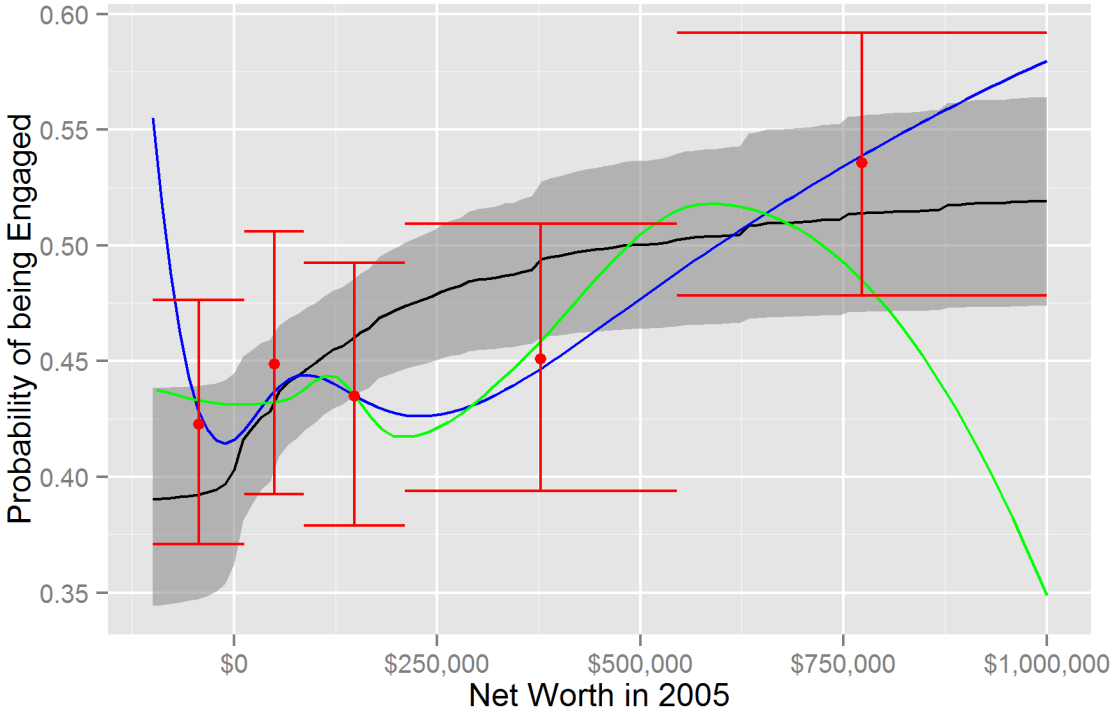

Figure 3. Probability of New Firm vs. Still Trying as Function of Wealth

Figure 4. Year 1 Revenue of New Firms as a Function of Founder's Wealth

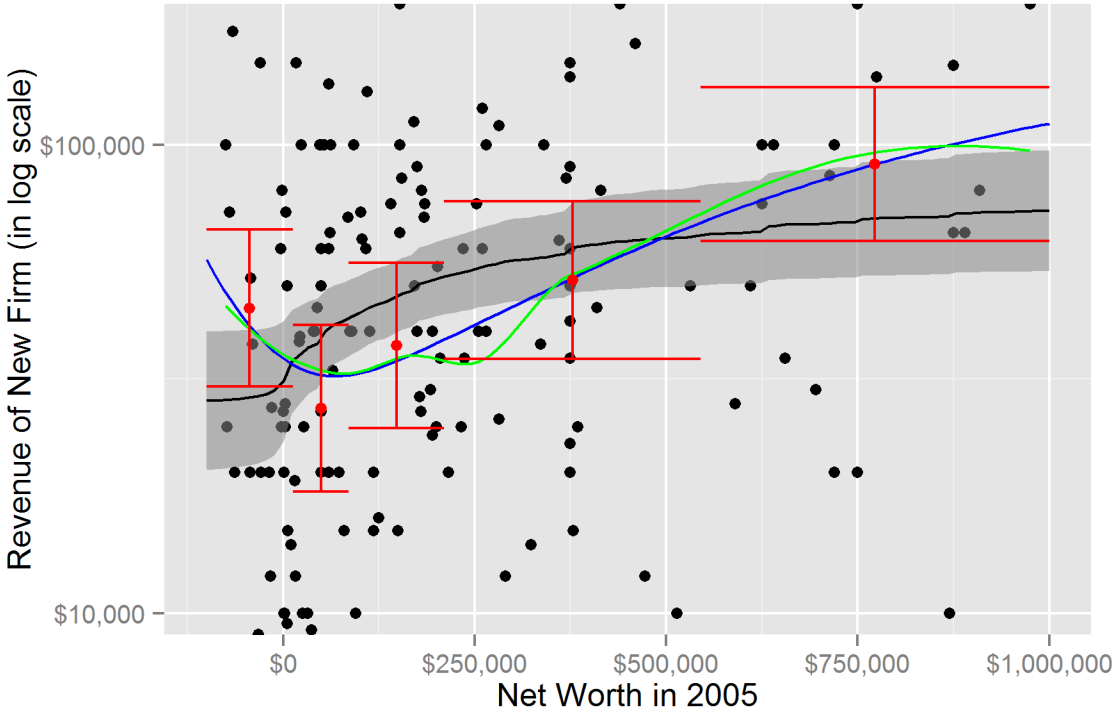

Figure 5. Year 1 Employee Hires by New Firms as a Function of Founder's Wealth