Acquiring financial resources to form new ventures: the impact of personal characteristics on organizational emergence

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Abstract

Conventional wisdom says that friends, family, and fools provide startup financing. Beyond this platitude, little evidence is available about who acquires precisely what sources of financing during the earliest stages of starting a venture. This study argues for a more nuanced view of the financing of emerging firms that extends prior research on large businesses and small and medium-sized enterprises. Drawing on human capital and pecking order theory, this study finds that nascent entrepreneurs in the process of creating an organization follow paths of least resistance when acquiring financial resources, which differ according to the entrepreneur's race, as well as firm and industry characteristics.

Résumé

Le sens commun enjoint à penser que ce sont souvent les amis, la famille et les sots, qui sont à l'origine du financement au démarrage d'une nouvelle entreprise. Au-delà de ce constat, peu de preuves existent sur les origines des financements engagés lors des premières étapes de l'amorce d'une activité. Cette étude plaide en faveur d'une vision plus nuancée du financement des entreprises émergentes, visant à étendre la recherche préalable des grandes, mais aussi de petites et moyennes entreprises (PME). Basée sur la notion de capital humain et la théorie de la hiérarchie, cette étude montre que les nouveaux entrepreneurs engagés dans un processus de création d'une organisation suivent des chemins de moindre résistance pour l'acquisition de ressources financières. Ces dernières diffèrent en fonction de l'origine ethnique de

l'entrepreneur, mais aussi en fonction des caractéristiques des entreprises et du secteur d'activité.

Introduction

Research and conventional wisdom often cite "friends, family, and fools" as the principal sources of startup financing (Kotha and George 2012, Austin, Stevenson, and Wei-Skillern 2006). Empirical evidence on the financing of emerging organizations supports a different narrative, however. From 2006 to 2009, only six percent of U.S. nascent entrepreneurs received money from friends, comprising 3.5% of all startup financing in the economy[1] (Gartner, Frid, and Alexander 2012). The dominant source of financing came from personal savings and credit cards. Over 80% of U.S. nascent entrepreneurs utilized personal sources of funding, accounting for 57% of all startup financing acquired during this period.

While the founder's use of personal resources to start new ventures is pervasive, scholars have reached differing conclusions as to whether a founder's experience and personal characteristics affect a startup's capital structure (Åstebro and Bernhardt 2003, Nofsinger and Wang 2011, Romano, Tanewski, and Smyrnios 2001, Lappalainen and Niskanen 2013). Prior experience, race, sex, and formal education have been found to affect (or not) the amount and type of financing that entrepreneurs acquire. But why this happens is not clear. A framework to aid in understanding this may be the Pecking Order Theory, which states that personal funds are used before external debt and equity (Myers and Majluf 1984). To the extent that

[1] These numbers reflect the financing of emerging firms in the months and years immediately following conception of the business idea. They are attempts by individuals to start a new business before the venture is fully operational.

various measures of human capital affect entrepreneurial financing, scholars should consider individual characteristics and experiences when investigating phenomena related to organizational emergence, especially when borrowing from finance theory.

This study investigates the interplay between characteristics of nascent entrepreneurs and the types of financing acquired during the earliest stages of the venture creation process – the period between conception of the business idea, and the creation of a new firm. It also examines the timing of when these funds are received. This study makes four main contributions. First, integrating human capital theory with pecking order theory allows us to investigate the intersection of two categories within the domain of entrepreneurship research – the individual, and resource acquisition as a mode of organizing (Busenitz et al. 2003). Second, it extends both entrepreneurship and finance theory through a unique study setting that tracks nascent entrepreneurs over time as they act to create new ventures, but the ventures are not yet operational new firms. This eliminates survivor bias inherent to prior studies using samples containing only successful entrepreneurs. Third, the data disaggregates startup funds into either debt or equity within each financing source. This is important because money family and friends, for example, may provide capital expecting to be repaid with interest (debt) or expecting partial ownership in the venture (equity). Prior studies have assumed this money is either a personal source, or debt. Finally, this study contributes to the literatures on minority entrepreneurship by showing how the acquisition of financial resources differs among these groups.

Literature review

Capital structure in differing organizational contexts

Within entrepreneurship research, there is little work distinguishing the financing of emerging organizations from established organizations. This is evidenced by the use of borrowed theory from other disciplines to describe and predict financial decisions made during the startup process. We would expect to see more theory building if scholars believed emergence to be a radically different organizational phenomenon. But with the exception of studies on financial bootstrapping, there is little work incorporating frameworks to explain financing pre-launch (Winborg and Landström 2001, Neeley and Auken 2009). However, the financing of emerging organizations is unique for a number of reasons. First, small and new firms tend to be information opaque. They are not required to share as much information as publically traded companies. These firms signal their quality based on characteristics of the owner or founding team, rather than capital structure (Ang 1991). Second, financing decisions are tied to both the firm and the personal wealth of the founder or founding team. Business risk and personal risk are intertwined if the venture is not incorporated. Indeed, some forms of capital are not available to unincorporated ventures (Gartner, Frid, and Alexander 2012). Third, agency problems may take on an added dimension of complexity as shareholders and partners might include family and friends. Close ties such as these can complicate the traditional rational-actor assumption inherent to the principal-agent model (Ang 1992). An example of how close ties can complicate agency relationships involves family business ownership. Founders of family businesses are more likely to use trade credits and personal finance companies to finance their ventures as opposed to bank loans (Lappalainen and Niskanen 2013). Furthermore, family member's attitudes may affect whether they agree to

finance family firms. Loans from family are less likely for service industry firms, and for those planning on high growth through new product or process innovations (Romano, Tanewski, and Smyrnios, 2001). This may be due to the high risks involved, and a desire to avoid complications between the venture and the family itself. In fact, family firms tend to have conservative financial structures that limit growth rates (Molly, Laveren, and Deloof, 2010).

Emerging organizations are also availed fewer financing options because: they are unlikely to have access to capital markets; risk increases as the owner's personal wealth is more likely to be tied to the business, and consequently undiversified; and the owner or team may lack key skills and experiences necessary to the business. The pecking order model of firm financing is a framework particularly suited to address the agency problems associated with emerging ventures. According to this theory, firms do not aim for a target debt ratio. Instead, firms select from funding sources that minimize the cost of capital (Myers 1984, Myers and Majluf 1984). In the case of the small firm or nascent entrepreneur, personal sources are used first, external debt next, followed by outside equity. Equity is acquired last because the entrepreneur presumably has more information than the investor. The presence of significant information asymmetries causes the investor to charge a higher rate of return on equity than on debt. Indeed, information asymmetry costs may be much higher for small firms than for large, and the pecking order framework may therefore explain a great deal of financing behavior by nascent entrepreneurs (Scherr, Sugrue, and Ward 1993, Hall, Hutchinson, and Michaelas 2000).

To the extent that information asymmetries increase the cost of capital for smaller and younger startups, we would expect to see entrepreneurs engage in a pecking order financing

strategy. But, at the nascent stage of the venture creation process, it is unclear whether founders are driven to use more personal sources of funding early as a result of financiers raising the cost of equity. If so, then it represents a significant resource barrier for the nascent entrepreneur to overcome. Based on the temporal sequence of financial categories in pecking order theory (personal funds, external debt, and outside equity), we expect nascent entrepreneurs will use personal funds first. As time goes on they should use more and more debt and equity sources of financing.

Hypothesis 1: Nascent entrepreneurs are more likely to use personal funds early in the venture creation process, followed by external debt and external equity.

Founder human capital and startup financing

We have linked organizational emergence to a theory of firm financing that views acquisition of funds as an emerging process as a first step toward investigating what types of funds entrepreneurs acquire at the earliest stages of the venture creation process. But, because characteristics of the entrepreneur and the business may be inseparable at such an early stage, we need to understand precisely who is acquiring what types of funding. Here, we draw on human capital theory.

Unlike investments in businesses with a proven track record, investments in emerging organizations are likely to place equal weight, if not more weight, on the founder of the business itself. One criterion is the entrepreneur's human capital, which can be divided into various domains. Explicit knowledge, or general human capital, may include the number of years of formal education and work experience. Specific knowledge includes managerial experience, startup experience, or classes that develop business skills (Dimov and Shepherd 2005, Schenkel, Hechavarria, and Matthews 2009). Prior studies have investigated the role of

human capital on organizational emergence and have found that general human capital (education and work experience) aid opportunity identification, but is less important in bringing the opportunity to fruition (Davidsson and Honig 2003). Similarly, studies on specific human capital (startup experience, completion of business classes, managerial experience) find that the majority of nascent entrepreneurs had not taken classes or started other businesses (Diochon, Menzies, and Gasse 2005).

With regards to financing, however, it is likely that nascent entrepreneurs would benefit from both general and specific human capital. Educational background has been found to be a major determinant of the capital structure of small firms, and it is positively related to acquiring external loans (Bates 1990, Coleman and Cohn 2000). Entrepreneurs with a college education are also more likely to self-finance their ventures, while less-educated entrepreneurs bootstrap their ventures (Neeley and Auken 2009). Regarding specific human capital, startup experience and industry experience enhance survival and early sales, as well as positively affect resource acquisition (Delmar and Shane 2006, Kotha and George 2012).

Hypothesis 2a: Nascent entrepreneurs with higher levels of education will more likely acquire external debt and equity compared to those with low levels of education.

Hypothesis 2b: Nascent entrepreneurs with more startup experience will more likely acquire external debt and equity compared to nascent entrepreneurs with little industry experience.

Life context and personal characteristics are also likely to reflect the amount and type of capital an individual acquires, as well as how it is used (Schenkel, Hechavarria, and Matthews 2009, Davidsson and Honig 2003). Findings on the role that gender plays in entrepreneurial financing have been mixed. Females have been found to use less institutional

finance (Carter and Rosa 1998), whereas other studies have found gender to have no influence on the likelihood of getting a loan (Haynes and Haynes 1999, Verheul and Thurik 2001). However, when linking gender to the acquisition of human and financial capital, women face more constraints and limitations than men. For example, women are less likely to have professional management experience, which affects the interest of formal investors (Marlow and Patton 2005).

While minorities in the United States, African-Americans in particular, have been found to be more optimistic of the business environment and more likely to attempt to start a business, they are underrepresented among established entrepreneurs – and regarding financing, African-Americans are less likely to apply for credit and are more likely to be denied external sources of financing (Köllinger and Minniti 2006, Cavalluzzo and Wolken 2005). Evidence of discrimination in the small business credit market has been found as well, with minority-owned firms being much more likely to be denied a loan (Blanchflower 2009).

Hypothesis 2c: Male nascent entrepreneurs will more likely acquire external debt and equity financing compared to females.

Hypothesis 2d: Non-minority nascent entrepreneurs will more likely acquire external debt and equity financing compares to minorities.

Investigating firm financing during organizational emergence is important because characteristics of the individual entrepreneur and the nascent venture are intertwined, and early choices made by founders are likely to leave an imprint on future structures and firm practices (Davidsson and Klofsten 2003). Further, the consequences of the founder's risk-taking activities cannot be completely understood without studying them in the months immediately following the decision to start a business (Yang and Aldrich 2012). While prior

studies on startup financing have used representative samples of entrepreneurs operating at or near the earliest stages of a firm's inception (Cassar 2004, Kotha and George 2012), this study draws on data from a representative sample of nascent entrepreneurs who are truly acting to create a new firm, but the firm is not yet fully realized.

Method

Research setting and sample

Nascent entrepreneurship is the stage of the startup process where a business does not yet exist, but an individual or team is actively engaged in its creation. Nascent entrepreneurs differ from entrepreneurs in that the latter have successfully started an up-and-running firm, while nascent entrepreneurs have neither succeeded nor disengaged from the process. Studying startup financing in this setting is important for two reasons. First, it allows us to examine capital structure formation at the earliest stages of the venture creation process, before the individual(s) has succeeded or disengaged. This eliminates survivor bias that results from studying only those entrepreneurs who have successfully started a new firm. Second, because the organization itself is still emerging, the effects of a nascent entrepreneur's personal characteristics (for example, education, gender, race, and so on) are more likely to be observed than if the firm were up-and-running. A successful entrepreneur may attract financial resources based on the performance of the business alone while a nascent entrepreneur working to launch a venture is more likely to rely on personal merits and characteristics to acquire financing, in addition to the strength of the opportunity (Aldrich 1999).

This study uses data from the Panel Study of Entrepreneurial Dynamics I (PSED). The PSED research program captures the earliest stages of the startup process, and conclusions drawn from analysis of this sample can be generalized to the entire U.S. economy. It was specifically designed to provide systematic and reliable data on the personal background, experience, and characteristics of nascent entrepreneurs attempting to start new businesses, as well as track their activities throughout the process (Reynolds 2000). The PSED is comprised of working-age adults in the United States that were in the process of creating a new venture between 1999 and 2003. The first stage of the sampling procedure took place between July 1998 and November 1999, and involved a nationwide telephone screening of 64,622 households (Gartner et al., 2004). Two samples were created from the telephone screener: one made up of 830 nascent entrepreneurs; and a comparison group of 431 respondents not involved in starting a business. Respondents in the nascent entrepreneur group met each of the following criteria: they expected to be owners or part owners of a new firm; they had been active in trying to start a new firm in the previous 12 months; and the new venture had not had positive monthly cash flow covering expenses for more than 3 months. Follow-up interviews were conducted at 12, 24, and 36 months after the initial interview.

The PSED data used in this study was collected over 10 years ago. If recent developments in internet crowdfunding or changes in bank lending practices after the 2008 financial crisis have affected how nascent entrepreneurs acquire funds, then the relevance of the present study may be limited. First, the effects of crowdfunding are unlikely to have had a significant impact on the present study because individuals that successfully acquire such financing are likely to be further along in the process than nascent entrepreneurs. Entrepreneurs that acquire crowdfunding tend to have completed a marketing plan, and have

already engaged in preselling to early customers (Tice, 2014). Yet, very few nascent entrepreneurs have undertaken these activities. Once they do complete these activities they are likely to have met the criteria for having successfully started a new firm (that is, profitability), and would therefore no longer be a part of the PSED (Reynolds, 2000). Second, while it is true that after 2008, small business loans from banks went from 50% of all bank loans to under 30% (Mills and McCarthy, 2014), it is likely that the data underlying these statistics is made up of ventures that have already been officially registered, or are otherwise up-and-running firms. Nascent ventures, such as those in the PSED, would be underrepresented in these statistics. It is therefore unclear whether the financial crisis impacted nascent ventures. To test this, I compared the rate of bank financing by nascent entrepreneurs both before, and after 2008 using the PSED I (1999-2003), and the PSED II (2005-2012). There was in fact a two percent *increase* in bank financing to nascent entrepreneurs from 1999-2012. In the PSED I, 12.9% of respondents acquired bank loans. In the PSED II, 14.8% received bank loans.

This study makes a number of corrections to the original data file. First, note that 384 of the 830 nascent entrepreneurs in the PSED are from two oversamples (female and minority). The first follow-up interview for the minority oversample actually took place at the time of the second follow-up interview for the rest of the PSED sample. Therefore, the variable names for the oversample respondents are recoded to match the item numbers in the rest of the sample. Second, a "cleaning" file written by Kelly Shaver in July 2006 is used to eliminate a number of problem cases. A total of 76 cases are excluded from the analysis. These include: startups that are actually infant businesses with positive monthly cash flow; efforts with less than 3 startup activities or a delay of more than 12 months between activities; startups that show expected non-person ownership of greater than 50%; and startups where the

first activity was more than 10 years prior to data collection. An additional 116 cases are missing because there were no follow-up interviews after the first wave—a response rate of over 85% (Reynolds and Curtin, 2012). Finally, 29 cases are missing due to nonresponse to the financing items in the questionnaire. The final sample for analysis consists of 605 nascent entrepreneurs.

Statistical procedure

The categorical dependent variable representing the three categories of financing (personal funds only, external debt, and external equity) is tested using multinomial logistic regression. The model estimates the odds of a respondent acquiring either debt or equity versus the use of only personal funds, given a set of predictor variables (that is, time, firm characteristics, and individual characteristics). All analyses are weighted so that the sample better matches the general population. Of the 817 cases in the sample, 605 are used, since cases with missing values were dropped from the analysis.

Dependent variable

Table 1 lists the different sources of financing from the PSED questionnaire, and illustrates how the different items were combined to construct the dependent variable.

INSERT TABLE 1 HERE

Personal sources reflect financing that comes directly from the entrepreneur, other members of the startup team, spouses or household partners, 2nd mortgages, and credit cards. Respondents are classified as "personal only" if they acquired no external financing and used only personal sources. Funding sources are classified as "debt" if the questionnaire asked, "…how much money has/have [source] loaned the business – money they expect to get back,

with or without interest?" Debt financing includes money from a current employer; suppliers or subcontractors; personal finance companies; the Small Business Administration and other government agencies; family; friends; banks; and private investors. A funding source is classified as "equity" if respondents indicated a dollar amount to the question "…how much money has/have [source] put into the business, expecting to share ownership and profits?" Equity sources of funds include funds from family and relatives; friends and business associates; federal, state, or local government agencies; banks; venture capitalists; and private investors.

A minor correction to the PSED I data set is necessary before analyzing the sources and amounts of financing. Regarding sources of financing, there is some inconsistency across waves. Initial waves, for example, ask respondents about bank and venture capital financing separately. In later waves these two sources are combined into the same item. This does not impact the present study because I measure the more general categories of debt and equity, rather than each specific source. Every wave asks respondents about the amounts of debt and equity. Regarding the amounts of financing, Wave 1 asks respondents about what was expected, rather than what was actually acquired. To fix this, two additional questionnaire items for each source of financing are considered. The first asks whether the respondent has asked, for example, a bank, for money. The second asks whether the bank agreed to provide the funds. If the response to both questions is "yes," then the dollar amount for that source was included in the analysis.

For this study the dependent variable is coded "1" if the respondent used some external equity financing; "2" if some external debt, but no equity; and "3" if the respondent used only personal sources of financing. "Personal only" serves as the reference category for

the multinomial logistic regression model because nascent entrepreneurs overwhelmingly use personal financing (upwards of 90%). For respondents in the PSED sample, personal funds are the first funds used in the first months after conception.

Independent variables

Time in the venture creation process (by wave)

The passage of time during which financial resources were acquired is calculated by observing the number of interview waves the respondent participated in. Data was collected across four waves. Individuals who either started a new firm or abandoned the process after Waves 1 or 2 were coded "1." Waves 1 and 2 are combined because only one respondent acquired equity financing in the first wave (recall that the Wave 1 financing questions ask about external financing expectations, not what was actually acquired). Individuals who exited the process after Wave 3 are coded "2," and those who remained through all four waves are coded "3." Wave 4 is the baseline.

Individual-level variables

Gender is a dichotomous variable coded "1" for female and "2" for male. Race is a categorical variable broken up into dummies and coded "1" for Other races, "2" for Hispanic, "3" for Black, and "4" for White. Education is categorical and coded "1" for individuals with a high school diploma, "2" for post-high school, "3" for college, and "4" for post-college. Finally, entrepreneurial experience is measured as the number of prior startups the respondent was involved in, and coded as "1" for none, "2" for one previous startup, and "3" for two or more.

Controls

This study controls for five factors that have been found to affect both the amount and the type of financing acquired by startups. These are firm size; industry effects; the legal form of the business; the nascent entrepreneur's growth intentions; and whether financial projections were made.

Firm size is the log of the expected revenue in the fifth year of operations. The legal form of the business is a dichotomous variable coded "1" for non- incorporated startups and "2" for incorporated. The entrepreneur's expectations of the future size of the business will significantly influence whether personal and external sources of outside funds are acquired during the startup process. Smaller companies likely require less capital, and the cost to access certain kinds of funding may decline the larger the firm. Ang (1992) finds that the high transaction costs faced by small businesses in securing outside financing may preclude some sources of funding. Cosh and Hughes (1994) Cassar (2004) find that smaller firms use relatively less outside financing.

Industry is a categorical variable, broken up into dummies for the analysis. The variable coding is based on the industry SIC codes: "1" for asset-intensive industries (agriculture, construction, mining, transportation, utilities, manufacturing); "2" for wholesale distribution and retail; and "3" for service-oriented industries (business, consumer, health and education, social). Startups in asset intensive industries such as mining and manufacturing would be expected to require larger capital outlays early on, compared to startups in service industries such as consulting, financial services, and consumer services (Kotha and George 2012, Lofstrom, Bates, and Parker 2014).

The legal form of the business is a dichotomous variable coded "1" for non-incorporated startups and "2" for incorporated. Non-incorporated startups include sole-proprietorships, general partnerships, and limited partnerships. Incorporated startups include limited liability corporations, sub-chapter S corporations, and general corporations. Financial institutions and venture capitalists may consider the form of incorporation to be a signal of credibility. Prior evidence by Coleman and Cohn (2000) and Cassar (2004) suggest a positive relationship between incorporation and leverage and/or bank financing. Regulatory legitimacy, which may be achieved through incorporation of the venture, can also attract financial resources (Aldrich and Martinez 2001).

Intent for firm growth is a self-reported measure coded "1" for respondents who "want the business to be as large as possible" and "2" for those who "want a size to manage by self or with key employees." Prior studies have found that entrepreneurs are less likely to engage in the search for external financing when they do not intend to grow the venture beyond a size that is manageable alone or with few employees (Davis and Shaver 2012). And, the inverse is also likely – entrepreneurs desiring growth actively search external financing (Chittenden, Hall, and Hutchinson 1996, Romano, Tanewski, and Smyrnios 2001).

Financial projections identifies whether the nascent entrepreneur has prepared income statements, cash flow projections, or break-even analyses and is coded as "1" if they have; and "2" if they have not been developed. Nascent entrepreneurs that formally prepare these statements would be more likely to engage in a search for external funds.

Results

Descriptive statistics

Table 2 shows a cross tabulation of the use of equity, debt, and personal funds by interview wave. In Waves 1 and 2, of those nascent entrepreneurs that acquired financing, about 5% did so from equity sources compared to almost 70% who used only personal funds. By Wave 4, half of all nascent entrepreneurs that acquired financing of any time acquired equity financing (that is, the personal or institution providing the funds expected to own part of the new firm, or share in the profits). The difference between frequencies is statistically significant at $p < .001$.

INSERT TABLE 2 HERE

Regression results

Hypothesis 1, that nascent entrepreneurs are more likely to use personal funds before external debt and equity, is supported. Table 3 shows the results of the multinomial logistic regression. The amount of time in the venture creation process (wave) is statistically significant across all models. Nascent entrepreneurs in later waves are 3.7 times more likely to acquire equity financing, and almost 1.5 times more likely to acquire debt financing, compared to those in Waves 1 and 2.

INSERT TABLE 3 HERE

Hypotheses 2a and 2b – that nascent entrepreneurs with higher levels of education and more startup experience are more likely to acquire external debt and equity, are not supported. Results were not statistically significant. Hypothesis 2c is also not supported. Results testing

whether males are more likely to acquire external debt and equity financing were not statistically significant.

Hypothesis 2d, that non-minority nascent entrepreneurs will more likely acquire external debt and equity, is partially supported. While the results for Blacks were not statistically significant, Hispanics are half as likely to acquire equity financing compared to Whites. However, respondents of "other" racial makeup are over four times more likely than Whites to acquire debt financing, compared to using personal funds only.

Figures 1-4 depict the predicted probabilities as one independent variable changes from its minimum to maximum value, holding all other variables at their base value. The changes in predicted probabilities for each independent variable can be found on the right side of Table 3. Figure 1 shows how in Waves 1 & 2, entrepreneurs are highly likely to use personal funds as the sole source of funding. In subsequent waves, this probability drops, while the probability of acquiring equity financing rises. In Figures 2 – 4 we see a similar pattern for each of the independent variables: for Waves 1 & 2 (the reference category), the probability of using personal funds decreases if the firm incorporates, is larger in size, and for educated entrepreneurs. The probability of using debt increases throughout the venture creation process.

INSERT FIGURES 1, 2, 3, & 4 HERE

Figure 1: Predicted probabilities of change in financing over time

Figure 2: Predicted probabilities of change in financing by education level

Figure 3: Predicted probabilities of change in financing by legal form

Figure 4: Predicted probability of change in financing by expected year-5 revenue

Each of the control variables is statistically significant, with the exception of intent for growth: nascent entrepreneurs expecting to earn higher revenues are 1.5 times more likely to acquire debt than entrepreneurs expecting a smaller firm size; nascent ventures in asset-intensive industries are 2.5 times more likely to acquire debt financing over use of personal funds; incorporated nascent ventures are twice as likely to acquire debt financing over personal funds; and nascent entrepreneurs who do not complete financial projections are only half as likely to acquire equity financing. So, financial planners were more likely seek out and acquire equity compared to non-planners. Results comparing debt to personal funds were not statistically significant.

Discussion

Consistent with prior research on pecking order theory, this study finds that nascent entrepreneurs operating in the context of organizational emergence do seem to use personal funds as the sole source of financing early in the startup process. As these individuals advance in the process, their likelihood of acquiring external sources of debt and equity increases. Furthermore, characteristics of the entrepreneur do have an effect on the acquisition of financial resources. While this study does not find support for some human capital effects on the types of financing acquired pre-launch, it does extend prior work investigating founders' selection of specific types of financing. Family businesses, for example, have been found to have negative attitudes toward bank loans, and they also appear to follow a finance pecking order when acquiring funds (Lappalainen and Niskanen 2013). The investigation into family firm financing included a comprehensive list of financing sources. The present study extends the list of funding sources through the use of the PSED data set, and because of the method by

which respondents were questioned we are able to see whether each source is providing debt or equity. This is a more fine-grained approach because family and friends may provide money expecting only to be paid back with interest (debt), or they may want partial ownership of the company (equity). Within each source of financing, the PSED disaggregates money into debt and equity. Future research might investigate these initial conditions of family business capital structure in more detail. While nascent ventures are unlikely to have high market share positions, the initial conditions of capital structure may have a lasting imprint on short-term, or even long-term performance. For example, family businesses tend to have low debt-equity ratios, especially when the business has a strong market share position in their industry. These businesses tend to have lower financial performance overall (Gallo and Vilaseca, 1996).

Perhaps of greater interest is the finding that the entrepreneur's race affects the acquisition of financial resources. Most studies on startup financing find that it is only characteristics of the firm and industry that affect the decision (or ability) to finance. Here we see that minority groups in the United States are unlikely to acquire equity financing, but they are four times more likely to use debt than Whites. This may be due to minority and immigrant entrepreneurs eschewing formal bank financing, and instead relying on debt funding from friends and family within the ethnic enclaves in which they reside (Portes and Jensen 1989, Portes and Sensenbrenner 1993).

An implication for policymakers, therefore, is to consider the differences in the types of resources acquired by minority and non-minority entrepreneurs, and how the timing of acquiring specific types of resources may differ. The heavy use of debt by minority entrepreneurs so early in the process may indicate constraints in using personal funds to finance their ventures. It may also indicate the heavy use of collateral to support the loans. If

this is the case then it is a precarious financial position to be in – assuming the risk of starting a venture, but without a financial cushion of either savings or net worth to rely on in the event the venture fails. An implication for all entrepreneurs, especially those embarking on entrepreneurship for the first time, is to not underestimate the importance of using personal funds from savings and credit cards. This study, and others, provide overwhelming evidence that most nascent entrepreneurs are using both to launch their ventures, and they are doing so very early in the process (Gartner, Frid, and Alexander 2012).

The current study focuses on the types of financing, and the timing by which they are acquired. Future research could investigate *how* nascent entrepreneurs seek funds from specific sources. For example, nascent entrepreneurs can increase their chances of acquiring money from friends and family by assessing four key factors: the level of trust between them; affordability (whether the family member can afford the investment); experience (the family member's experience with investing or launching businesses); and whether financing might put emotional strain on the relationship (Advani, 2006).

Money from friends and family has been termed "love money," and the present study contributes to findings from prior research on the topic. Love money is startup financing from friends or relatives who have little concern for the business idea or how it is operated. Research on the topic using the Global Entrepreneurship Monitor (GEM) dataset has shown that love money from close family, friends, and neighbors is the most common source of informal funding. An important implication of this is that entrepreneurs should look to these individuals for initial seed capital before targeting formal sources (Bygrave, Hay, Ng, and Reynolds, 2003). Linking these findings to the present study, we suggest that nascent entrepreneurs tend to follow two financing sequences. One is according to the specific source

(that is, love money followed by more formal sources), and the other according to the pecking order sequence with personal funding occurring prior to debt and equity. Future research could investigate the interplay between these two sequences.

Research has also found that minorities, females, and youth are more likely to use love money compared to non-minorities, males, and older entrepreneurs (Canada, 2002). Future research might provide a more nuanced view of love money by incorporating pecking order theory to investigate whether entrepreneurs seek debt or equity financing from friends and family. Finally, future research on social entrepreneurship, pecking order theory, and love money would have important policy implications. Prior studies have proposed a "love money" pool whereby local government and investors support the operating costs of the investment pool, and the money would be made available to small businesses in the region (Potter, 2004). Pecking order theory has traditionally been studied in the context of the entrepreneur-investor relationship, and investigating information asymmetries between local entrepreneurs and their community would be an interesting extension of the theory.

A limitation of this study is that the dependent variable reflects whether a certain type of funding was used. It does not specify how much. If, in later waves, the entrepreneurs in the sample are using more personal money as a proportion of total funds, it may indicate that pecking order does not apply to nascent ventures. It also is not clear whether the apparent confirmation of pecking order theory in emerging firm financing reflects actual strategy on the part of the entrepreneur, attitudes toward financing, or whether entrepreneurs are simply using those resources easy to obtain. It might be that entrepreneurs use their own money first, and as the startup and entrepreneur grow the venture and gain more legitimacy, they are able to attract external funds.

Another limitation of this study is that it doesn't address recent advances in crowdfunding and the use of social media. While the focus of this study is on nascent entrepreneurs who are unlikely to have undertaken activities that lead to successful crowdfunding (Tice, 2014), it is nonetheless important to address other ways that crowdfunding is linked to the current study. For example, some studies find that the timing of investments from geographically distant financiers is responsive to early investment decisions made by others (Agrawal, 2015). The implication here is that, should a nascent entrepreneur decide to use crowdfunding, he or she should solicit funds from locals, friends, and family to attract distant investors. Future research could address how crowdfunding and geography affect pecking order theory. It is possible that nascent entrepreneurs using crowdfunding and acquiring informal financing early in the process are afforded greater strategic flexibility in procuring formal sources once geographically distant investors step in.

Nascent entrepreneurs who do not receive much attention through crowdfunding platforms may exit more quickly (Mollick, 2014), and future research might address this topic as well. A higher incidence of exit events would affect the rate at which nascent entrepreneurs, in general, move beyond personal funds to debt and equity. This is supported by research that finds that early contributions and reaching financing targets leads to venture success (Colombo, Franzoni, and Rossi-Lamastra, 2015). The implication for nascent entrepreneurs is that a strong, online, social media presence may mediate relationships in pecking order theory (Bruton, Khavul, Siegel, and Wright, 2015). If a nascent entrepreneur is able to drum up support for his or her venture through social networking, he or she will reach financing targets more quickly, and therefore attract more external investment.

Conclusion

This study shows that nascent entrepreneurs tend to follow a funding sequence whereby money from personal savings and credit cards are used almost exclusively after conception of the business idea, and that debt and equity are acquired later in the venture creation process. The nascent entrepreneur's race, as well as firm and industry characteristics, affects this sequence. While it may seem intuitive that individuals will first use resources that are the least costly and easiest to obtain, it is important to note that we often make the assumption that entrepreneurs get others to bear the risks of pursuing opportunities. The findings in this study suggest that only after personal financing occurs do external financing partners participate.

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Tables

Table 1
Dependent variable construction from funding sources in the PSED I data set

Source of Financing[a]	Personal Only	External Debt	External Equity
Personal savings	●	-	-
Spouse or household partner	●	-	-
Team member	●	-	-
Spouse of team member	●	-	-
2nd Mortgage	●	-	-
Credit cards	●	-	-
Current employer	-	●	-
Suppliers or subcontractors	-	●	-
Personal finance companies	-	●	-
Small Business Administration	-	●	-
Family and relatives	-	●	●
Friends and business associates	-	●	●
Banks, financial institutions, or venture capital	-	●	●
Private investors	-	●	●
Federal, state, or local government agencies	-	●	●
Other	-	●	●
Banks	-	●	●
Venture capital firms	-	-	●

a Each listing above represents an item from the PSED questionnaire. Some sources appear more than once due to inconsistencies in the questionnaire between waves. Also, sources categorized as both debt and equity are actually two-part questions that ask how much is expected to be paid back (debt), and how much is expected to lead to ownership or profit sharing (equity).

Table 2
Cross tabulation of use of funding source by PSED wave

		Financing Category			
		Equity	Debt	Personal	Total
Wave 1 & 2	Count	11	54	143	208
	Expected Count	74.1	43.0	90.9	208.0
	% (across)	5.3%	26.0%	68.8%	100.0%
Wave 3	Count	23	20	52	95
	Expected Count	33.8	19.7	41.5	95.0
	% (across)	24.2%	21.1%	54.7%	100.0%
Wave 4	Count	257	95	162	514
	Expected Count	183.1	106.3	224.6	514.0
	% (across)	50.0%	18.5%	31.5%	100.0%
Total	Count	291	169	357	817
	Expected Count	291.0	169.0	357.0	817.0
	% (across)	35.6%	20.7%	43.7%	100.0%

Pearson *Chi-Square* = 141.026; *df* = 4; sig. $p < 0.001$; $N = 817$

Table 3
The impact of firm and individual characteristics on acquisition of financial resources

	Multinomial Logit Estimates[a]			Δ in Predicted Probabilities[b]		
Independent Variables	Equity vs. Personal	Debt vs. Personal	Debt vs. Equity	Personal	Equity	Debt
Wave	1.307*** (.157)	.301* (.133)	-1.006*** (.169)	-.26	.26	-.01
Gender	-.199 (.229)	-.162 (.267)	.036 (.274)	.04	-.01	-.04
Race [Other]	.663 (.636)	1.465* (.623)	.802 (.523)	-.28	.01	.27
Race [Hispanics]	-.818* (.416)	-.129 (.379)	.689 (.472)	.05	-.04	-.01
Race [Blacks]	.266 (.270)	-.047 (.313)	-.313 (.315)	.005	.01	-.02
Education	.118 (.119)	.153 (.135)	.036 (.133)	-.11	.01	.11
Startup experience	.167 (.131)	-.127 (.146)	-.294* (.146)	.04	.02	-.07
Log expected revenue	.205 (.120)	.353** (.140)	.148 (.141)	-.48	-.01	.49
Industry [Asset Intensive]	.371 (.299)	.906** (.310)	.535 (.311)	-.19	.003	.19
Industry [Wholesale & Retail]	.087 (.251)	.715** (.271)	.629* (.281)	-.15	-.01	.15
Legal form	.378 (.290)	.695* (.298)	.317 (.291)	-.17	.001	.16
Intent for growth	.230 (.273)	.040 (.285)	-.191 (.293)	-.02	.01	.001
Financial projections	-.792*** (.221)	-.411 (.245)	.381 (.243)	.11	-.02	-.09
Intercept	-4.366*** (1.142)	-3.717** (1.260)	.649 (1.300)			
(N = 605)						
χ^2 (df=26)= 169.706						
Pseudo R^2 = .244						

[a] The top entries are multinomial logit coefficients. Standard errors are in parentheses.
[b] Change in the predicted probabilities of using the different categories of financing, for an increase from the minimum to the maximum value of each independent variable, while holding all other independent variables constant at their means.
***p < .001; **p < .01; *p < .05

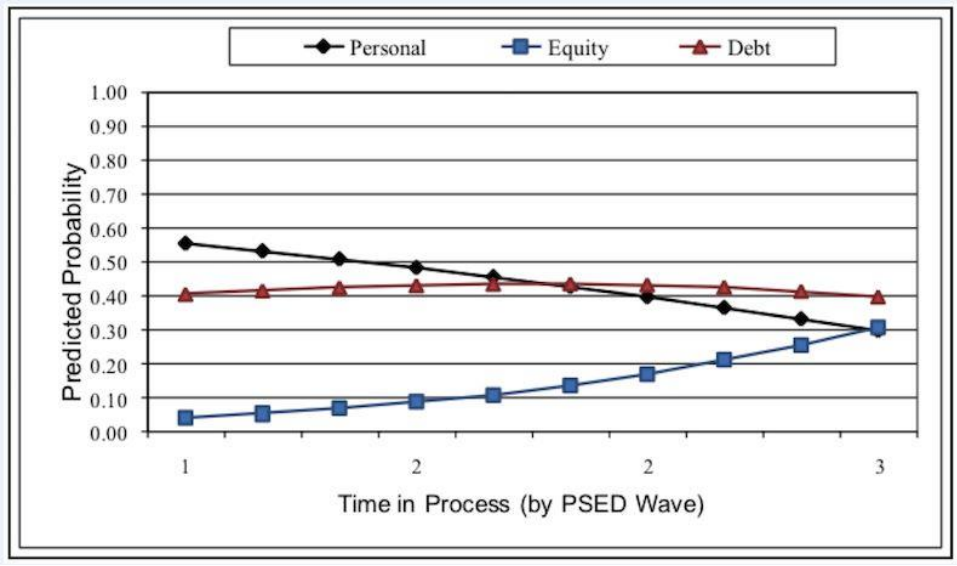

Figure 1: Predicted probabilities of change in financing over time

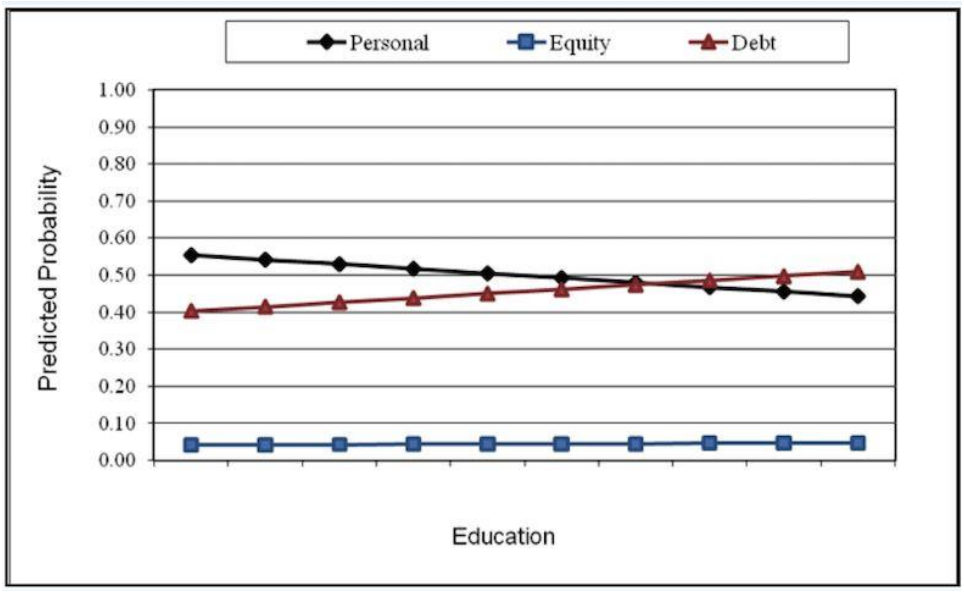

Figure 2: Predicted probabilities of change in financing by education level

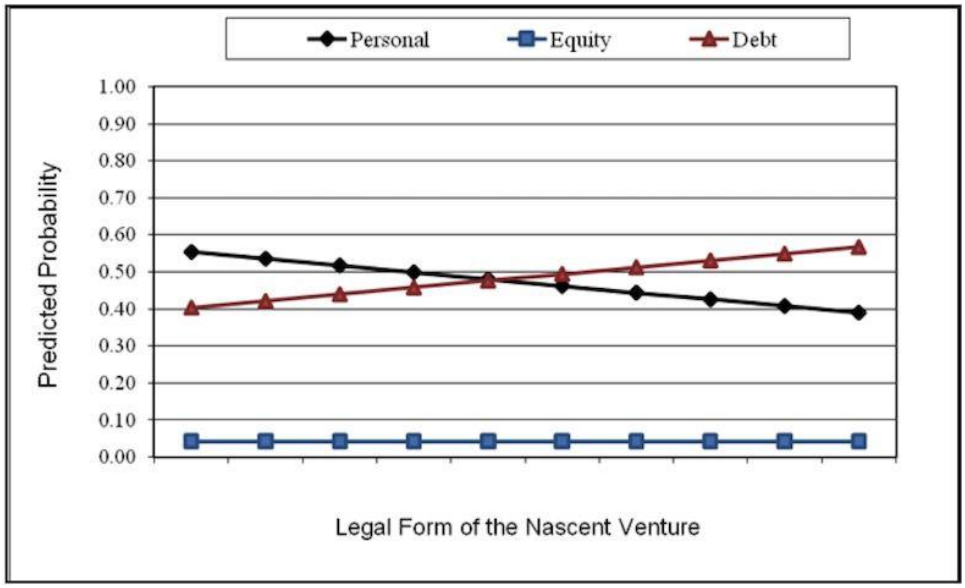

Figure 3: Predicted probabilities of change in financing by legal form

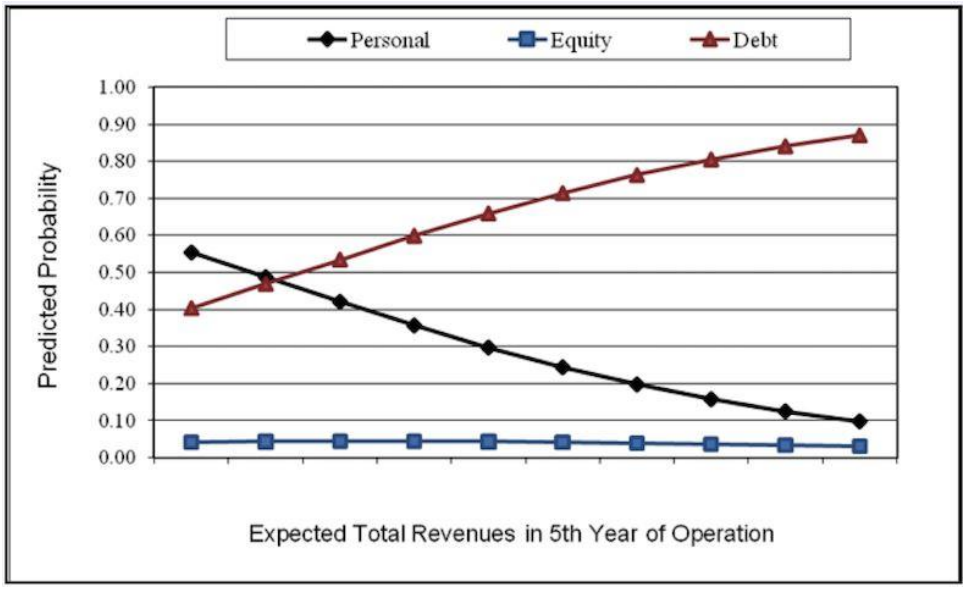

Figure 4: Predicted probability of change in financing by expected year-5 revenue