Finance   Leavey School of Business

6-8-2015

Do Entrepreneurs Make Good VCs?

Ye Cai
Santa Clara University, ycai@scu.edu

Merih Sevilir

Xuan Tian

Follow this and additional works at: http://scholarcommons.scu.edu/finance

Part of the Finance and Financial Management Commons

Do Entrepreneurs Make Good VCs?*

Ye Cai
Leavey School of Business
Santa Clara University
ycai@scu.edu
(408) 554-5157

Merih Sevilir
Kelley School of Business
Indiana University
msevilir@indiana.edu
(812) 855-2698

Xuan Tian
Kelley School of Business
Indiana University
tianx@indiana.edu
(812) 855-3420

Current draft: October 2012

Abstract

Using hand-collected data on the backgrounds of venture capitalists (VCs), we show that in a typical venture capital firm in our sample, 13.9% of VCs have been entrepreneurs before becoming a VC, referred to as entrepreneur VCs. Both OLS and 2SLS analyses suggest that venture capital firms employing a greater fraction of entrepreneur VCs have better performance. In addition, the positive effect of entrepreneur VCs on venture capital firm performance is stronger for smaller and younger venture capital firms, and venture capital firms specializing in high-tech industries and in early-stage investments. We further explore performance implications of VCs with prior experience in a finance-related field (i.e., Wall Street experience) and prior experience in a non-finance related field (i.e., Main Street experience). We find that contrary to prior experience in entrepreneurship, neither prior experience in Wall Street nor in Main Street is significantly related to venture capital firm performance. Finally, we provide evidence that entrepreneur VCs have greater individual performance in terms of VC rankings established by *Forbes*. Overall, our results are consistent with the idea that entrepreneur VCs have a better understanding of the business of starting and developing a new firm due to their first-hands experience, and play an important role in reducing the gaps in information and difference of opinions between an entrepreneur and the VCs backing the entrepreneur.

_____

"Anyone who is not a former entrepreneur should not be in VC (industry)."
Eric Benhamou, a co-founder of Bridge Communications,
ex-CEO of 3Com, and founder of Benhamou Global Ventures

1. Introduction

Kaplan and Schoar (2005) show substantial heterogeneity and persistence in the performance of the venture capital industry and argue that it can be explained by the underlying heterogeneity in the skill and quality of venture capitalists (VCs). But a substantially unanswered question is what makes a skilled and high quality VC? Our understanding of this important question is incomplete at best, perhaps due to limitations in availability of data on individual characteristics of VCs. In this paper, we focus on prior entrepreneurship experience of individual VCs as a driver of skill and quality. Using hand-collected data on the professional backgrounds of VCs, we study VCs who have been entrepreneurs before becoming a VC, referred to as entrepreneur VCs. Anecdotal evidence suggests that entrepreneur VCs have become common in recent years. For example, based on a recent article from the *New York Times*, insiders in the venture capital industry believe that "*venture capital is once again attracting the right mix of former founders and operators who are truly passionate about nurturing companies and who have hard work-won insights that can help founders succeed.*"[1]

We provide evidence that in a typical top performing venture capital firm in our sample, 13.9% of VCs have been former entrepreneurs in that they founded at least one start-up company before becoming a VC.[2] We also show a positive relation between the fraction of entrepreneur VCs in a venture capital firm and the venture capital firm's performance using various performance measures. In addition, we find that former entrepreneurship experience of a VC is

---

[1] Source: "Do former entrepreneurs make better venture capitalists" – NYTimes.com, November 16, 2011.
[2] The current study focuses on the top 300 venture capital firms recorded in the Thomson Venture Economics database using the 2010 venture capital firm reputation scores developed in Nahata (2008).

positively related not only to the performance of the VC firm she works for, but also to her own individual success measured through a VC ranking survey conducted by the *Forbes* magazine, suggesting that former entrepreneurs make successful VCs.

An extensive body of work in financial economics establishes that VCs play an important role for the growth and success of the start-up companies they finance. VCs advise small entrepreneurial start-ups (Bottazzi, Da Rin, and Hellmann, 2008), provide help with the professionalization and enhancement of the management team (Hellmann and Puri, 2002; Chemmanur, Simonyan, and Tehranian, 2011), exercise intensive monitoring and corporate governance (Barry et al., 1990; Lerner, 1995; Gompers, 1995; Kaplan and Stromberg, 2003, 2004; Tian, 2011), motivate and nurture innovation (Hellmann and Puri, 2000; Kortum and Lerner, 2000; Tian and Wang, 2012), and ease their portfolio firms' access to public capital markets (Megginson and Weiss, 1991; Lerner, 1994; Lee and Wahal, 2004; Chemmanur and Loutskina, 2008; Nahata, 2008). However, VCs and entrepreneurs often work together in an environment characterized by misaligned incentives and informational asymmetries. We posit in this paper that the information gap between VCs and entrepreneurs could be lower if VCs backing an entrepreneur's start-up have been a former entrepreneur themselves, given that such VCs have already experienced the process of starting and developing a new start-up company before becoming a VC. The reduced information gap between entrepreneur VCs and entrepreneurs then could manifest itself in the performance of the venture capital firm at which entrepreneur VCs work and in the individual performance of such VCs.

We find that the fraction of entrepreneur VCs in a venture capital firm is positively related to the venture capital firm's market share in the IPO market. Similarly, there is a positive relation between the fraction of entrepreneur VCs in a venture capital firm and the fraction of

portfolio firms the venture capital firm is able to bring public, a metric used in the literature as an important performance measure in the venture capital industry. To help establish causality and address the concern that our baseline results are driven by unobservable VC and venture capital firm characteristics, we construct an instrument based on the local supply of entrepreneurial VCs, and conduct the two-stage least square (2SLS) regressions. Our analyses are consistent with the baseline results.

If entrepreneur VCs help reduce information asymmetries present in a VC-entrepreneur relationship, one may expect that their ability to do so would be more pronounced when there is a larger information gap between the entrepreneurs and VCs. Consistent with this conjecture, we find that the positive relation between the fraction of entrepreneur VCs and venture capital firm performance is stronger in smaller and younger venture capital firms, and venture capital firms specializing in high-tech industries and in early-stage investments.

While exploring the relation between entrepreneur VCs and venture capital firm performance, we also include other important background information regarding individual VCs. Specifically, we look at whether a given VC has an operational background in terms of having worked in a non-finance industry (i.e., Main Street) before becoming a VC. Similarly, we check whether a given VC has worked in the finance industry (i.e., Wall Street) before becoming a VC. We also include educational backgrounds of VCs in terms of having an MBA degree, having a doctoral degree, whether the VC graduated from an elite school, as well as VC age and tenure in the current venture capital firm.

We find that previous experience in both a finance and non-finance related industry is insignificant in explaining the venture capital firm performance while an entrepreneurship background remains positively and significantly related to performance after controlling for all

professional and educational background characteristics that the previous literature has used in explaining performance. Hence, our paper makes a new contribution to the literature by documenting the existence of VCs who have been former entrepreneurs before becoming a VC as well as establishing a positive relation between such VCs and venture capital firm performance. While it is well-known that the majority of angel investors are retired entrepreneurs, to our best knowledge, our paper is the first studying VC investors with a previous entrepreneurship background. Our findings are complementary to the evidence reported in Bottazzi, Da Rin, and Hellmann (2008) that VCs' prior business experience is positively related to their interactions with their portfolio firms, which, in turn, positively contributes to the success of portfolio firms, based on a sample that includes the survey for 17 European countries.[3] Our findings are also related to Zarutskie (2010) that studies the relation between professional and educational backgrounds of VCs and venture capital firm performance.[4]

After investigating the relation between entrepreneur VCs and venture capital firm performance, we turn our attention to explore whether an entrepreneurship background explains individual VC performance as well. Using individual VC performance rankings established by *Forbes*, we provide evidence that VCs who have been former entrepreneurs are more likely to be included on the most successful VC list established by *Forbes*. Importantly, a previous background in neither Wall Street nor Main Street is related to a higher *Forbes* performance ranking.

---

[3] We extend this line of inquiry one step further by using a more refined classification of prior experience of VCs before becoming a VC. More specifically, we classify VCs into one of three categories, VCs with prior entrepreneurship experience of starting a new business, VCs with prior experience in Wall Street, and VCs with prior experience in Main Street, and show that it is the VC's prior entrepreneurship experience which contributes to the success of venture capital firms she works at.

[4] Note that while Zarutskie (2010) studies the effect of a VC's previous background in an entrepreneurial start-up company, she does not differentiate between VCs who worked as executives in a start-up and VCs who started a new business themselves. Our paper defines VCs as entrepreneur VCs only if they started a new start-up company before becoming a VC.

This paper is organized as follows. Section 2 describes our data. Section 3 analyzes the relation between entrepreneur VCs and the performance of the venture capital firm they work at. Section 4 explores whether an entrepreneurship background is related to an individual VC performance. Section 5 concludes.

2. Sample Selection and Summary Statistics

We construct our venture capitalist (VC) sample based on the following procedures. We start with the top 300 venture capital firms recorded in the Thomson Venture Economics database using Nahata (2008) venture capital firm reputation scores as of year 2010. This venture firm reputation score is based on the dollar market value of all companies the venture firm took public since 1980 normalized by the aggregate market value of all venture capital-backed companies that went public since 1980. Because the Venture Economics database provides an incomplete list of VCs working at the venture capital firms, we search the websites of these 300 venture capital firms and hand-collect the names and biographies of individual VCs if available. We exclude 110 venture capital firms from our sample since they do not provide any information about their VCs on their websites.

We then match our sample of VCs with the BoardEx database of Management Diagnostics Ltd. BoardEx contains extensive biographical information on corporate directors and top executives including their educational background, employment history, and other professional and social activities. We employ a three-round matching procedure based on VC names as well as the names of the venture capital firms they work at. Specifically, the first round starts with merging our VC sample with the BoardEx database using both the VC's first and last names and the venture capital firm names. We are able to identify 306 VCs from the BoardEx database in this round. In the second round, we look for unique matches of VC's first and last

names in BoardEx (for example, Jim Breyer of Accel Partners). Since these names are uniquely identified in the BoardEx database, mismatching concerns are minimized. However, we still perform a double check using VC age to screen out mismatches, which leaves us 1,133 VCs in this round of matching. In the last round, we focus on the matches based on VC names that are not unique in the BoardEx database (for example, there are four David Cowan covered by BoardEx, and one of them is a VC at Bessemer Venture Partners). We screen out mismatches using both VC age and educational background as additional criteria, and this yields a match of 125 VCs in the third round. Our final sample contains 1,564 individual VCs working for 154 venture capital firms as of July 2011 with complete coverage of educational and professional backgrounds of VCs.

To identify entrepreneur VCs, we read each VC's biography carefully and code a VC as an entrepreneur VC if she has founded at least one start-up company before becoming a VC. We search for "found" and "founder" in their biographies and classify a VC as an entrepreneur VC only if he has founded an industrial firm before becoming a VC. We collect the industry information and SIC codes of the firms VCs worked before becoming a VC from the Dun & Bradstreet database for privately held firms. We then construct two other variables, *Wall Street VC* and *Main Street VC*, which capture other professional backgrounds for a VC. If a VC has worked at a financial firm (SIC code 6000-6999) before joining the venture capital firm, we classify her as a *Wall Street VC*. If a VC has worked at a non-financial firm before becoming a VC, we classify her as a *Main Street VC*. A VC's prior entrepreneurial experience, Wall Street experience, and Main Street experience are not necessarily mutually exclusive.

We collect each VC's personal data from BoardEx such as age, gender, degree (MBA, JD, MD, or Ph.D.), and possession of professional certifications (CPA or CFA). We construct

each VC's tenure in the current venture capital firm using the starting year information provided in her biography. We further obtain venture capital firm characteristics from the Venture Economics database. This database includes the number of start-up companies the VC firm has invested in, the number of financing rounds it has participated in, and the investment outcomes of its portfolio firms.

Table 1 presents the summary statistics for the venture capital firm characteristics in our sample. In a typical venture capital firm, 13.9% of VCs are classified as entrepreneur VCs. The fractions of VCs with prior Wall Street and Main Street experience are 36.8% and 72.5%, respectively. The average VC in our sample is 54.5 years old, and has worked in the current venture capital firm for 12.5 years. Regarding VCs' educational background, on average, 46% of VCs are MBA degree holders, 16.3% have JD/MD/Ph.D. degrees, 38.5% graduated from elite schools, and 6% of them have a professional certification such as a CPA or a CFA.[5]

An average venture capital firm in our sample is 21 years old, has invested 179 start-up companies, and has participated in 475 financing rounds since 1980. 20.6% of their portfolio companies eventually went public. Recall that these 154 firms are among the most successful and reputable 300 venture capital firms, therefore it is not surprising that the venture capital firms in our sample are more experienced and more successful than an average venture capital firm recorded in the Venture Economics database.

3. Entrepreneur VCs and Venture Capital Firm Performance

In this section, we examine the relation between the fraction of entrepreneur VCs in a venture capital firm and the performance of the venture capital firm. In Section 3.1, we report

---

[5] Elite schools include Harvard University, Yale University, MIT, Stanford University, University of Pennsylvania, Princeton University, and Dartmouth College. These are the most commonly attended schools by VCs in our sample.

our baseline results of the relation between entrepreneur VCs on venture capital firm performance. Section 3.2 addresses the identification issue using an instrumental variable approach. In Section 3.3, we further investigate the effect of entrepreneur VCs on venture capital firm performance across various types of venture capital firms. In Section 3.4, in addition to the entrepreneurship background, we include VCs' Wall Street and Main Street backgrounds and examine the relative importance of different backgrounds on venture capital firm performance.

3.1. Entrepreneur VCs and venture capital firm performance

To study the relation between entrepreneur VCs and the performance of venture capital firm they work at, we estimate the following empirical model using the cross-sectional ordinary least square (OLS) regression:

$$Performance = \alpha + \beta \times Fraction\ of\ Entrepreneur\ VCs + \delta'Z + Industry + u \qquad (1)$$

where the observational unit is a venture capital firm. Our first measure of *Performance* is the natural logarithm of a VC's IPO market share, *Ln(IPO market share)*, a widely used performance and reputation measure for venture capital firms introduced by Nahata (2008). We also use the proportion of a venture capital firm's portfolio companies that eventually go public, *IPO exit*, as an alternative measure of venture capital firm performance.[6] The main variable of interest in this analysis is *Fraction of Entrepreneur VCs*, which equals the fraction of VCs with prior entrepreneurship experience within a venture capital firm. *Z* is a vector of venture capital firm and individual VC characteristics that could contribute to the performance of a venture capital

---

[6] Although both IPOs and acquisitions have been considered as successful exit by previous studies (e.g., Gompers and Lerner, 2000; Brander, Amit, and Antweiler, 2002; Sørensen, 2007; Bottazzi, Da Rin, and Hellmann, 2008; Chemmanur, Krishnan, and Nandy, 2011), existing literature suggests that going public is a more desirable exit pathway than acquisitions for both entrepreneurs and venture capital investors. For example, Brau, Francis, and Kohers (2003) show that IPO firms enjoy a 22% "valuation premium" relative to firms that are acquired, and Sahlman (1990) argues that almost all of the returns for venture capital investors are earned on their eventually going public portfolio firms. Bayar and Chemmanur (2011) suggest that only the best-quality VC-backed firms can access the public capital markets through an IPO.

firms. It includes the venture capital firm's general investment experience (*Ln(no. of firms invested in the past), Ln(no. of rounds invested in the past), Ln(VC firm age)*), as well as the venture capital firm's expertise in certain industries (*Industry concentration*) and in certain development stages of ventures (*% investment in early ventures*). We also control for VCs' average age (*Ln(average VC age)*), average tenure in the firm (*Ln(average VC tenure)*), educational background (*Fraction of MBA VC, Fraction of JD/MD/PHD VC, Fraction of VCs from elite schools*), and possession of professional certification (*Fraction of VCs with CFA/CPA*). *Industry* accounts for unobservable variations within the 18-industry classifications of Venture Economics that may influence the venture capital firm's performance.[7] Standard errors are heteroskedasticity-robust.

Table 2 reports the regression results estimating equation (1). The dependent variable in columns (1) – (3) is *Ln(IPO market share)*. Because our three measures of venture capital firm investment experience (the number of firms the firm has invested in, the number of rounds it has participated in, and firm age) are highly correlated with each other, we include them one by one in the first three models in Table 2. The coefficient estimates of *Fraction of Entrepreneur VCs* are positive and significant in all three specifications, suggesting that the fraction of entrepreneur VCs is positively related to the venture capital firm's IPO market share. Since IPO market share is in the logarithm form, the coefficient estimate of *Fraction of Entrepreneur VCs* gives us the semi-elasticity of a firm's IPO market share with respect to its fraction of entrepreneur VCs. The magnitude of the *Fraction of Entrepreneur VCs* coefficient estimate in column (1) suggests that increasing the fraction of entrepreneur VCs from the 25th percentile (0) to the 75th percentile (0.2) of its distribution is associated with a 10.5% (=0.523 * 0.2) increase in the venture capital

---

[7] If a venture capital firm invests in multiple industries, we choose the industry in which the firm invests the largest amount of capital since 1980 for the industry fixed effect.

firm's IPO market share. This translates to a 0.15 percentage point increase in the firm's IPO market share given the mean *IPO market share* is 1.4 percentage points in our sample. In columns (4) - (6), we replace the dependent variable with *IPO exit*. The coefficient estimates of *Fraction of Entrepreneur VCs* are positive and significant at the 5% level in all columns, suggesting that a larger fraction of entrepreneur VCs in a venture capital firm is positively related to the IPO exit rate of portfolio firms backed by the venture capital firm. For example, the coefficient estimate of *Fraction of Entrepreneur VCs* in column (4) suggests that an increase in the fraction of entrepreneur VCs from the 25th percentile to the 75th percentile of its distribution is associated with a 1.3% (=0.063 * 0.2) increase in the venture capital firm's IPO exit rate.

It is worth pointing out that with the small sample size of our analysis, 154 observations, the power of the empirical tests is typically very low. However, we are still able to identify a both economically and statistically positive and significant relation between the fraction of VCs with entrepreneurial experience and the performance of the venture capital firm.

3.2. Identification

In the previous section, we show that the fraction of entrepreneur VCs in a venture capital firm is positively and significantly related to the VC firm performance. One concern with these baseline results is that our findings may be driven by endogenous matching between entrepreneur VCs and venture capital firms with better performance. More specifically, certain unobservable venture capital firm or VC characteristics omitted from the baseline regression may be positively related to the fraction of entrepreneur VC as well as the venture capital firm's performance. Therefore, our earlier results may not necessarily reflect a causality flowing from entrepreneur VCs to firm performance. To help establish causality, we construct an instrumental

variable (IV) and use a two-stage least square (2SLS) approach attempting to identify the causal effect of entrepreneur VCs on venture capital firm performance.

Our instrument is based on the rationale that the fraction of entrepreneur VCs in a given venture capital firm should be high when the local supply of entrepreneur VCs is high (see, e.g., Berger et al. (2005) and Bottazzi, Da Rin, and Hellmann (2008) for a similar argument in different research settings). Thus we expect that, other things equal, a given venture capital firm is more likely to hire entrepreneur VCs and therefore have a higher fraction of such VCs when local entrepreneur VCs are in plentiful supply.

Following this intuition, we construct the instrument, *Local Fraction of Entrepreneur VCs*, that is the number of entrepreneur VCs divided by the total number of VCs in the same MSA area. The IV reflects the local supply of entrepreneur VCs and thus should affect the fraction of entrepreneur VCs in a given venture capital firm. It is reasonable to believe that this instrument satisfies the exclusion restriction, as the local supply of entrepreneur VCs is unlikely to directly affect the subsequent performance of the venture capital firm.

Panel A of Table 3 presents the results from the first-stage regressions with *Fraction of Entrepreneur VCs* as the dependent variables. The main independent variable of interest is the constructed instrument. All other control variables are the same as those in the baseline OLS regressions. We suppress coefficient estimates of these control variables to save space. The coefficient estimates of the instrument are positive and significant at the 1% level across all regressions. The results suggest that venture capital firms indeed tend to hire more VCs with entrepreneurial background when the local supply of such VCs is high. The *t*-statistics of the instrument are very high, i.e., the *t*-statistics are around 6 in all regressions. Therefore, based on the rule-of-thumb diagnostics suggested by Staiger and Stock (1997), the instruments are highly

11

correlated with the endogenous right-hand-side variable in the second stage and do not appear to suffer from weak instrument problem.

Table 3 Panel B reports the second-stage regression results, with VC firm performance as the dependent variable and the predicted values of the fraction of entrepreneur VCs as the main independent variable. The coefficient estimates of the instrumented *Fraction of Entrepreneur VCs* remain positive and significant. The economic magnitudes are even larger: an increase in the fraction of entrepreneur VCs from the 25th percentile (0) to the 75th percentile (0.2) of its distribution is associated with a 21.9 ~ 28.3% increase in the venture capital firm's IPO market share, and a 3.3 ~ 3.4% increase in the venture capital firm's IPO exit rate.

Comparing results obtained from the OLS regressions (Table 2) with those obtained from the 2SLS regressions (Panel B of Table 3), it is interesting to observe that the magnitudes of the 2SLS coefficient estimates of *Fraction of Entrepreneur VCs* are larger than those of the OLS estimates, even though the coefficient estimates from both approaches are positive and statistically significant. This observation seems to suggest that OLS regressions bias the coefficient estimates downward due to endogeneity, which is because some omitted variables might be associated with poorer VC firm performance, and at the same time, make the firm more attractive to entrepreneur VCs. The venture capital firm's entrepreneurial corporate culture could be an example of such an omitted variable. For instance, a venture capital firm with a very "entrepreneurial" corporate culture is certainly very attractive to VCs who have entrepreneurial backgrounds. Therefore, we are more likely to observe entrepreneurial VCs in these venture capital firms. On the other hand, venture capital firms with entrepreneurial culture may tend to invest in early-stage and risky projects that could potentially adversely affect its performance. This negative correlation caused by the omitted variable is the main driving force that biases the

OLS coefficient estimates of *Fraction of Entrepreneur VCs* downward. Once we use the instrument to clean up the correlation between the fraction of entrepreneur VCs and the residual (the VC firm's unobservable characteristics) in Equation (1), the endogeneity concern is significantly mitigated and the coefficient estimates become more positive.

Taken together, our 2SLS analysis suggests that the observed positive relation between entrepreneur VCs and venture capital firm performance is unlikely to be driven by endogeneity concerns, and there appears to be a causal effect of entrepreneur VCs on the performance of venture capital firms.

3.3. Effects of Entrepreneur VCs across Various Venture Capital Firms

So far we provide evidence that the fraction of entrepreneur VCs in a venture capital firm is positively related to its performance. One may expect that the magnitude of this effect could differ across various types of venture capital firms. If entrepreneur VCs help mitigate information asymmetries between venture capital investors and entrepreneurial start-ups, we may expect that the positive relation between entrepreneur VCs and venture capital firm performance to be more pronounced for venture capital firms that are likely to experience a greater level of information asymmetry in their portfolio investments.

3.3.1. Experienced vs. Inexperienced Venture Capital Firms

Our first two proxies for information asymmetry are based on the investment experience of venture capital firms. Venture capital firms with less investment experience may have a poorer understanding of the business of start-up investment, and they could benefit to a greater extent from the first-hand skill and experience of entrepreneur VCs. Therefore, we expect the

positive relation between entrepreneur VCs and venture capital firm performance to be stronger for venture capital firms with less investment experience.

We obtain the number of portfolio firms that the venture capital firm has invested in since 1980 from the Venture Economics database. We separate the sample into large VC firms and small venture capital firms based on whether the number of portfolio firms that the venture capital firm has invested in since 1980 is above or below the sample median. We separately estimate equation (1) for small VC firms and large VC firms, and report the regression results in Table 4. In columns (1) and (2), the dependent variable is *Ln(IPO market share)*. While the coefficient estimates of *Fraction of Entrepreneur VCs* are statistically significant at the 5% level in the subsample of small VC firms, the coefficient estimates of *Fraction of Entrepreneur VCs* in the subsample of large VC firms is positive but not statistically significant. We find similar results in columns (3) and (4) in which *IPO exit* is the dependent variable: the coefficient estimates of *Fraction of Entrepreneur VCs* is positive and significant in the subsample of small VC firms, while insignificant in the subsample of large VC firms.

As an alternative measure of venture capital firm's investment experience, we obtain the age of venture capital firms from the Venture Economics database. A venture capital firm is defined as a young (old) VC firm if its age is below (above) the sample median. Table 5 reports the estimation coefficients of equation (1) for young VC firms and old VC firms, respectively. The structure of Table 5 is parallel to that of Table 4. We find a positive and significant coefficient estimate of *Fraction of Entrepreneur VCs* in the subsample of young VC firms, while positive but not statistically significant coefficient estimate of *Fraction of Entrepreneur VCs* in the subsample of old VC firms. These findings in Table 4 and 5 are consistent with our

conjecture that less experienced (smaller or younger) venture firms could benefit more from entrepreneur VCs.

3.3.2. High-tech vs. Non-high-tech VC Firms

If entrepreneur VCs help mitigate information asymmetries between venture capital investors and entrepreneurial start-ups, we may expect the effect of entrepreneur VCs on venture capital firm performance to be more pronounced for the venture capital firms that invest more in start-ups in high-tech industries. For high-tech start-ups, the information gap between entrepreneurs and VCs is likely to be bigger, and entrepreneur VCs could play a more important role in reducing this gap.

The Venture Economics database provides information about the industry classifications of venture capital firms. Given the small-sample nature of our study, we use the most general 3-industry classifications provided by the database: Medical/Health/Life Science, Information Technology, and Non-high Technology. We group the first two industries and label them as "High-tech industries", and label the third industry group as "Non-high-tech industries". If a venture capital firm invests in multiple industries, we choose the industry in which the venture capital firm invests the largest amount of capital and assign that industry to the venture capital firm. We separate our sample of venture capital firms into firms specializing in high-tech industries and firms specializing in non-high-tech industries, and estimate equation (1) for each subsample separately.

Table 6 presents the results on the relation between entrepreneur VCs and venture capital firm performance for high-tech and non-high tech venture capital firms. The dependent variables are *Ln(IPO market share)* in columns (1) and (2), and *IPO exit* in columns (3) and (4). We find that the *Fraction of Entrepreneur VCs* has a positive and significant coefficient estimates on both

15

measures of venture capital firm performance in the subsample of VC firms investing in high-tech industries. The coefficient estimates of *Fraction of Entrepreneur VCs* in the subsample of VC firms investing in non-high-tech industries are, however, not statistically significant. This result suggests that while the fraction of entrepreneur VCs does not appear to affect the venture capital firm performance for firms specializing in non-high tech start-ups, entrepreneur VCs are positively related to the performance of the venture capital firms specializing in high-tech start-up companies.

3.3.3. Early-stage vs. Late-stage VC Firms

Due to the nature of early-stage ventures, it is reasonable to expect that venture capital firms investing in early-stage start-ups are subject to a greater level of asymmetric information in their start-up investments. In addition, compared to late-stage start-ups, early-stage start-ups are characterized with greater risk and uncertainty and are more likely to fail. Hence, entrepreneur VCs could be more important for the survival of early-stage start-ups in terms of reducing the information gap between VCs and entrepreneurs. Therefore, one may expect the positive effect of entrepreneur VCs on venture capital firm performance to be stronger for the venture capital firms investing in early-stage start-ups.

The Venture Economics database provides information about the development stage of a start-up company when it receives the first-round venture capital financing. We define a start-up company as an early-stage start-up if it is in either the "start-up/seed" or "early" stages when it receives the first-round venture capital investment, and as a late-stage start-up if it is in "expansion", "later stage", or "buyout/acquisition" stages when it receives the first-round venture capital financing. We then calculate the proportion of early-stage start-ups in a venture capital firm's portfolio since 1980, and partition the sample into two subsamples, VC firms

16

investing in early-stage ventures and VC firms investing in late-stage ventures, based on whether the proportion of early-stage start-ups a venture capital firm has invested in is higher or lower than the sample median.

We report the results based on the development stages of start-ups in Table 7. The coefficient estimate of the *Fraction of Entrepreneur VCs* is positive and significant at the 5% level in column (1) but is insignificant in column (2), where the dependent variable is *Ln(IPO market share)*. Similarly, we observe a positive and significant effect of *Fraction of Entrepreneur VCs* on *IPO exit* in the subsample of VC firms specializing in early-stage ventures, and a positive but insignificant coefficient estimate in the subsample of VC firms specializing in late-stage ventures. These results suggest that the positive relation between the fraction of entrepreneur VCs in a venture capital firm and the performance of the venture capital firm is stronger for venture capital firms specializing more in early-stage start-ups.

3.4. Entrepreneurship, Wall Street, and Main Street Experience

Our evidence so far has shown a positive relation between the fraction of entrepreneur VCs and the performance of the venture capital firm. Zarutskie (2008, 2010) find that VCs with past experience involving an executive role on the Main Street and a finance role on the Wall Street are positively related to the success of their venture capital firm. In this section, we explore the relative importance of an entrepreneurship, Main Street, and Wall Street background on the performance of a venture capital firm. Specifically, we estimate the following model:

$Performance = \alpha + \beta_1 \times Fraction\ of\ Entrepreneur\ VCs + \beta_2 \times Fraction\ of\ Wall\ Street\ VCs +$

$\beta_3 \times Main\ Street\ VCs + \delta'Z + Industry + u$ (2)

where the observational unit is a venture capital firm. The dependent variable, *Performance*, could be one of two variables used before, *Ln(IPO market share)* and *IPO exit*. The main

variables of interest are *Fraction of Entrepreneur VCs*, *Fraction of Wall Street VCs*, and *Fraction of Main Street VCs*. *Z* is a vector of controls defined in equation (1). We control for venture capital industry fixed effects. Standard errors are heteroskedasticity-robust.

Table 8 reports the results estimating equation (2). The coefficient estimates of *Fraction of Entrepreneur VCs* remain positive and significant in all six columns. The magnitudes of *Fraction of Entrepreneur VCs* are slightly larger than those in the baseline regressions reported in Table 2 but remain very much comparable. We also notice that the coefficient estimates of *Fraction of Wall Street VCs* are positive but statistically insignificant, suggesting that having VCs with a previous experience in Wall Street is not related to a venture capital firm's performance. The coefficient estimates of *Fraction of Main Street VCs* have mixed signs but none of them are statistically significant, suggesting that VCs' previous background in Main Street is not related to firm performance. In summary, these results show that neither prior Wall Street experience nor prior Main Street experience of VCs is significantly related to venture capital firm performance. However, the fraction of entrepreneur VCs in a venture capital firm remains positively related to its performance.

4. Entrepreneur VCs and Individual VC Performance

In this section, we turn our attention to an individual VC level analysis to examine whether a VC's prior entrepreneurship background positively contributes to her personal performance and success as a venture capitalist. As we argued before, VCs who are former entrepreneurs are likely to have hands-on experience in founding and developing start-ups, and therefore they are likely to have a better understanding about the nature of entrepreneurship. After they become VCs, the skills they obtained from their prior entrepreneurship background may help them better screen projects and better create values for start-up companies. In other

18

words, their prior entrepreneurship experience may give them a comparative advantage in becoming a more successful and recognized individual VC.

As a measure of the performance of an individual VC, we use the *Forbes* Midas List 2011's Top Tech Investors which lists the 100 most successful VCs in 2011.[8] Specifically, we estimate the following probit model to examine whether entrepreneur VCs are more likely to have a higher *Forbes* performance ranking:

$$Top\ VC = \alpha + \beta \times Entrepreneur\ VCs + \delta'Z + Industry + u \qquad (3)$$

where the observation unit is an individual VC. The dependent variable, *Top VC*, is an indicator variable which equals one if the VC is listed on the 2011 *Forbes* Top Tech Investor list, and zero otherwise. We include the usual control variables that capture both individual VC and venture capital firm characteristics in the regression. We also include the venture capital firm industry fixed effects in the regression. Since the residuals could be correlated across observations of the same venture capital firm, we cluster standard errors at the venture capital firm level.

Columns (1) and (2) of Table 9 report the probit regression results estimating equation (3). We control for venture capital firm performance with *Ln(IPO market share)* in Columns (1) and *IPO exit* in Columns (2). We report the marginal effects of independent variables because the raw coefficients of the probit model are usually hard to interpret. The marginal effects of *Entrepreneur VC* in both columns are positive and significant at the 1% level, suggesting that VCs who have a entrepreneurship background are more likely to become a top ranked VC based on the *Forbes* rankings. Specifically, VCs who are former entrepreneurs are 0.9% more likely to become a top VC compared to their counterparts who have had no prior entrepreneurship

---

[8] *Forbes* Midas List 2011's Top Tech Investors is available at http://www.forbes.com/lists/midas/2011/midas-list-complete-list.html. See http://www.forbes.com/2011/04/05/midas-list-methodology.html for a detailed methodology of constructing this list.

background. Given that only 34 (2.2%) VCs in our sample are listed in the *Forbes* Top Investor list, the economic magnitude of having prior entrepreneurship background is highly significant.

Other VC characteristics also appear to be related to the probability of becoming a successful VC. For example, younger VCs and VCs with a longer tenure in the current venture capital firm are more likely to be listed as a top ranked VC compared to their counterparts. VC's educational background and their professional certification, on the other hand, have no significant impact on the likelihood of being on the *Forbes* rank.

Finally, we examine the relative importance of an entrepreneurship, Wall Street, and Main Street background in affecting the success of an individual VC in terms of being listed in the *Forbes* Top Investor rankings. We add *Wall Street VC* and *Main Street VC* in equation (3) and report the results in columns (3) and (4) of Table 9. The coefficient estimates of *Entrepreneur VCs* continue to be positive and significant at the 1% level. On the contrary, the coefficient estimates of *Wall Street VC* and *Main Street VC* are positive but statistically insignificant, suggesting that prior background in Wall Street or Main Street does not contribute significantly to the individual success of a VC.

Overall, our analysis suggests that a prior background in entrepreneurship significantly affects individual VC's performance in the venture capital industry while neither prior experience in Wall Street nor prior experience in Main Street is significant in explaining individual success. These results suggest that the skill set needed to be successful in the venture capital industry is significantly different from that required in the Wall Street or in the Main Street, but is closely related to the skills obtained from one's experience of being an entrepreneur.

5. Conclusion

This paper uses a hand-collected data set on the backgrounds of VCs and provides evidence that 13.9% of VCs have been former entrepreneurs before becoming a VC in a typical top performing venture capital firm. Venture capital firms with a greater fraction of entrepreneur VCs exhibit better firm performance in terms of their IPO market shares and the fraction of portfolio firms they take public. The positive relation between entrepreneur VCs and venture capital firm performance is stronger for less experienced (smaller and younger) venture capital firms, and venture capital firms specializing in high-tech industries and in early-stage investments. While VCs with prior background in entrepreneurship are positively related to venture capital firm performance, VCs with prior experience in Wall Street and Main Street are not significantly related to venture capital firm performance. Finally, we provide evidence that entrepreneur VCs are more likely to have better individual performance as measured by a *Forbes* VC ranking.

Overall, our results are consistent with the idea that entrepreneur VCs have a better understanding of the business of starting and developing a new start-up company due to their first-hands experience from founding their own firm, and play a role in reducing communication and information gaps between an entrepreneur and the VCs backing the entrepreneur.

Reference

Barry, C., C. Muscarella, J. Peavy III, and M. Vetsuypens, 1990, "The Role of Venture Capital in the Creation of Public Companies: Evidence from the Going Public Process," *Journal of Financial Economics* 27, 447-471.

Bayar, O. and T. Chemmanur, 2011, "IPOs or Acquisitions? A Theoretical and Empirical Analysis of the Choice of Exit Strategy by Entrepreneurs and Venture Capitalists," *Journal of Financial and Quantitative Analysis* 46, 1755-1793.

Berger, A., Miller, N., Peterson, M., Rajan, R., and J. Stein, 2005, "Does Function Follow Organizational Form? Evidence from the Lending Practices of Large and Small Banks," *Journal of Financial Economics* 76, 237-269.

Bottazzi, L., M. Da Rin, and T. Hellmann, 2008, "Who are the Active Investors? Evidence from Venture Capital," *Journal of Financial Economics* 89, 488-512.

Brander, J., R. Amit, and W. Antweiler, 2002, "Venture Capital Syndication: Improved Venture Selection vs. Value-Added Hypothesis," *Journal of Economics and Management Strategy* 11, 422-452.

Brau, J., B. Francis, and N. Kohers, 2003, "The Choice of IPO versus Takeover: Empirical Evidence," *Journal of Business* 76, 583-612.

Chemmanur, T., K. Krishnan, and D. Nandy, 2011, "How does Venture Capital Financing Improve Efficiency in Private Firms? A Look Beneath the Surface," *Review of Financial Studies* 24, 4037-4090.

Chemmanur, T. and E. Loutskina, 2008, "The Role of Venture Capital Backing in Initial Public Offerings: Certification, Screening, or Market Power?" Working Paper, Boston College.

Chemmanur, T., K. Simonyan, and H. Tehranian, 2011, "Management Quality, Venture Capital Backing, and Certification in Initial Public Offerings," Working Paper, Boston College.

Gompers, P., 1995, "Optimal Investments, Monitoring, and the Staging of Venture Capital," *Journal of Finance* 50, 1461-1489.

Gompers, P. and J. Lerner, 2000, "Money Chasing Deals? The Impact of Fund Inflows on Private Equity Inflows on Private Equity Valuations," *Journal of Financial Economics* 55, 281-325.

Hellmann, T. and M. Puri, 2000, "The Interaction between Product Market and Financing Strategy: The Role of Venture Capital," *Review of Financial Studies* 13, 959-984.

Hellmann, T. and M. Puri, 2002, "Venture Capital and the Professionalization of Start-up Firms: Empirical Evidence," *Journal of Finance* 57, 169-197.

Kaplan, S. and A. Schoar, 2005, "Private Equity Performance: Returns, Persistence, and Capital Flows," *Journal of Finance* 60, 1791-1823.

Kaplan, S. and P. Stromberg, 2003, "Financial Contracting Theory Meets the Real World: An Empirical Analysis of Venture Capital Contracts," *Review of Economic Studies* 70, 281–315.

Kaplan, S. and P. Stromberg, 2004, "Characteristics, Contracts, and Actions: Evidence from Venture Capitalist Analyses," *Journal of Finance* 59, 2177–2210.

Kortum, S. and J. Lerner, 2000, "Assessing the Contribution of Venture Capital to Innovation," *Rand Journal of Economics* 31, 674-692.

Lee, P. and S. Wahal, 2004, "Grandstanding, Certification and the Underpricing of Venture Capital Backed IPOs," *Journal of Financial Economics* 73, 375-407.

Lerner, J., 1994, "Venture Capital and the Decision to Go Public," *Journal of Financial Economics* 35, 293-316.

Lerner, J., 1995, "Venture Capitalists and the Oversight of Private Firms," *Journal of Finance* 50, 301–318.

Megginson, W. and K. Weiss, 1991, "Venture Capital Certification in Initial Public Offerings," *Journal of Finance* 46, 879-904.

Nahata, R., 2008, "Venture Capital Reputation and Investment Performance," *Journal of Financial Economics* 90, 127-151.

Sørensen, M., 2007, "How Smart is Smart Money: An Empirical Two-Sided Matching Model of Venture Capital," *Journal of Finance* 62, 2725-2762.

Sahlman, W., 1990, "The Structure and Governance of Venture Capital Organizations," *Journal of Financial Economics* 27, 473–521.

Tian, X., 2011, "The Causes and Consequences of Venture Capital Stage Financing," *Journal of Financial Economics* 101, 132-159.

Tian, X. and T. Wang, 2012, "Tolerance for Failure and Corporate Innovation," *Review of Financial Studies*, forthcoming.

White, H., 1980, "A Heteroskedasticity-consistent Covariance Matrix Estimator and a Director Test for heteroskedasticity," *Econometrica* 48, 817-838.

Zarutskie, R., 2008, "The Role of Human Capital in Venture Capital," Working Paper, Duke University.

Zarutskie, R., 2010, "The Role of Top Management Team Human Capital in Venture Capital Markets: Evidence form First-time Funds," *Journal of Business Venturing* 25, 155-172.

Appendix: Variable Definitions and Data Sources

VC Characteristics (data source: BoardEx and VC Bios from Venture Capital Firm Homepage)	
Entrepreneur VC	Indicator variable: 1 if the VC is a former entrepreneur, 0 otherwise.
Wall street VC	Indicator variable: 1 if the VC worked at financial industries before joining the venture capital firm, 0 otherwise.
Main street VC	Indicator variable: 1 if the VC worked at non-financial industries before joining the venture capital firm, 0 otherwise.
VC age	Age of the VC.
VC tenure	Number of years that the VC has worked in the venture capital firm.
Male	Indicator variable: 1 if the VC is a male, 0 otherwise.
MBA	Indicator variable: 1 if the VC has a MBA degree, 0 otherwise.
JD/MD/PHD	Indicator variable: 1 if the VC has a JD or MD or PhD degree, 0 otherwise.
Elite university	Indicator variable: 1 if the VC graduated from elite universities, 0 otherwise.
CPA/CFA	Indicator variable: 1 if the VC is a CPA or CFA, 0 otherwise.
Top VC	Indicator variable: 1 if the VC is ranked among the Forbes Midas List 2011 Top Tech Investors, 0 otherwise.
Venture Capital Firm Characteristics (data source: Venture Economics)	
IPO market share	IPO market share of a venture capital firm since 1980 based on the methodology in Nahata (2008).
IPO exit	The percentage of start-ups financed by a venture capital firm that goes public since 1980.
No. of firms invested in the past	The total number of firms a venture capital firm has invested since 1980.
No. of rounds invested in the past	The total number of rounds a venture capital firm has invested since 1980.
VC firm age	Age of the venture capital firm.
Industry concentration	The value for VC firm i in year t is the sum of the squared deviations of the weights (the number of portfolio firms) for each of the 18 different industries held by the VC firm i relative to the industry weights of the total venture investment. Suppose that in year t VC firm-i has $w_{i,t,j}$ portfolio firms in industry j (scaled by the total number of venture firms). There are a total of $\overline{w}_{t,j}$ venture firms in industry j (also scaled by the total number of venture firms. The investment concentration of VC firm i at year t is defined as the sum of the squared deviations of $w_{i,t,j}$ relative to $\overline{w}_{t,j}$: $\sum_{j=1}^{18}(w_{i,t,j}-\overline{w}_{t,j})^2$.
% investment in early ventures	The fraction of the VC's investments in early-stage ventures. An early-stage venture is one that is in the "start-up/seed" or "early stage" when it receives the 1st round VC financing

Table 1: Summary Statistics
This table presents the summary statistics of 154 venture capital firms. All variable definitions are in the Appendix.

Variable	N	Mean	S.D.	P25	Median	P75
Fraction of entrepreneur VC	154	0.139	0.237	0.000	0.000	0.200
Fraction of Wall street VC	154	0.368	0.309	0.111	0.333	0.500
Fraction of Mall street VC	154	0.725	0.296	0.600	0.800	1.000
Average VC age	154	54.543	7.582	50.692	54.500	58.500
Average VC tenure	154	12.537	5.657	9.000	11.800	15.000
Fraction of MBA VC	154	0.460	0.309	0.250	0.500	0.667
Fraction of JD/MD/PHD VC	154	0.163	0.247	0.000	0.050	0.222
Fraction of VC from elite schools	154	0.385	0.306	0.113	0.400	0.583
Fraction of VC with CFA/CPA	154	0.059	0.127	0.000	0.000	0.071
IPO market share	154	0.014	0.014	0.004	0.010	0.019
IPO exit	154	0.206	0.093	0.154	0.192	0.245
No. of firms invested in the past	154	179	168	67	139	232
No. of rounds invested in the past	154	475	513	115	350	625
VC firm age	154	20.97	10.85	12.00	20.00	30.00

Table 2: Entrepreneur VCs and Venture Capital Firm Performance

This table presents ordinary least squares (OLS) regressions estimating equation (1) for the sample of 154 venture capital firms. The dependent variable in Regression (1) to (3) is the natural logarithm of a venture capital firm's IPO market share based on the methodology in Nahata (2008). The dependent variable in Regression (4) to (6) is the percentage of start-ups financed by a venture capital firm that have successfully exited through IPOs since 1980. The remaining variable definitions are in the Appendix. All regressions control for venture capital firm industry fixed effects whose coefficients are suppressed for brevity. *t*-statistics based on standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering are reported in parentheses. ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Ln(IPO market share)			IPO exit		
Fraction of entrepreneur VC	0.523**	0.505**	0.491*	0.063**	0.064**	0.064**
	(2.562)	(2.105)	(1.678)	(2.006)	(2.015)	(1.985)
Ln(no. of firms invested in the past)	0.714***			-0.010		
	(10.058)			(-1.003)		
Ln(no. of rounds invested in the past)		0.610***			-0.008	
		(10.223)			(-0.875)	
Ln(VC firm age)			0.268**			-0.007
			(2.026)			(-0.547)
Industry concentration	0.303	0.292	-2.282***	-0.060	-0.056	-0.023
	(0.574)	(0.631)	(-4.694)	(-0.784)	(-0.687)	(-0.263)
% investment in early ventures	-1.347**	-1.694***	0.723	-0.139	-0.139	-0.165*
	(-2.387)	(-2.640)	(1.071)	(-1.457)	(-1.374)	(-1.734)
Ln(average VC age)	-0.310	-0.423	-0.612	0.043	0.045	0.049
	(-0.565)	(-0.747)	(-0.826)	(0.808)	(0.828)	(0.900)
Ln(average VC tenure)	-0.033	-0.065	0.094	-0.008	-0.008	-0.010
	(-0.242)	(-0.505)	(0.636)	(-0.632)	(-0.604)	(-0.757)
Fraction of MBA VC	0.027	0.066	0.103	0.018	0.017	0.018
	(0.109)	(0.267)	(0.318)	(0.702)	(0.667)	(0.664)
Fraction of JD/MD/PHD VC	-0.319	-0.408*	-0.094	0.057	0.058*	0.054
	(-1.442)	(-1.786)	(-0.309)	(1.649)	(1.678)	(1.555)

Fraction of VC from elite schools	0.430*	0.366	0.652**	0.025	0.026	0.023
	(1.777)	(1.500)	(2.040)	(0.845)	(0.856)	(0.773)
Fraction of VC with CFA/CPA	0.543	0.486	0.170	-0.009	-0.007	-0.006
	(1.176)	(1.169)	(0.318)	(-0.201)	(-0.165)	(-0.137)
Constant	-6.471***	-5.834***	-3.365	0.149	0.136	0.103
	(-2.990)	(-2.636)	(-1.186)	(0.756)	(0.679)	(0.485)
Industry fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	154	154	154	154	154	154
Adj. R-squared	0.651	0.637	0.345	0.067	0.065	0.061

Table 3: Entrepreneur VCs and Venture Capital Firm Performance: 2SLS Regressions
This table presents 2SLS regressions estimating equation (1) for the sample of 154 venture capital firms. Panel A reports the first-stage regression results. The dependent variable is the fraction of entrepreneur VCs in a venture capital firm. The key independent variable is the instrument that is the local fraction of entrepreneur VCs in the same MSA area of the venture capital firm. Panel B reports the second-stage regression results. The dependent variable in Regression (1) to (3) is the natural logarithm of a venture capital firm's IPO market share based on the methodology in Nahata (2008). The dependent variable in Regression (4) to (6) is the percentage of start-ups financed by a venture capital firm that have successfully exited through IPOs since 1980. The remaining variable definitions are in the Appendix. All regressions control for venture capital firm industry fixed effects whose coefficients are suppressed for brevity. *t*-statistics based on standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering are reported in parentheses. ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

Panel A: First-stage regressions

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
			Fraction of entrepreneur VC			
Local fraction of entrepreneur VC	0.876***	0.873***	0.872***	0.876***	0.873***	0.872***
	(5.219)	(5.205)	(5.204)	(5.219)	(5.205)	(5.204)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	154	154	154	154	154	154
Adj. R-squared	0.278	0.277	0.277	0.278	0.277	0.277

Panel B: Second-stage regressions

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
		Ln(IPO market share)			IPO exit	
Fraction of entrepreneur VC	1.096**	1.328**	1.416*	0.170**	0.166**	0.165**
	(2.100)	(2.434)	(1.958)	(2.153)	(2.107)	(2.091)
Ln(no. of firms invested in the past)	0.716***			-0.010		
	(11.824)			(-1.102)		
Ln(no. of rounds invested in the past)		0.610***			-0.008	
		(11.078)			(-0.972)	

	(1)	(2)	(3)	(4)	(5)	(6)
Ln(VC firm age)			0.263**			-0.007
			(2.273)			(-0.587)
Industry concentration	0.390	0.412	-2.150***	-0.044	-0.041	-0.009
	(0.971)	(0.979)	(-4.663)	(-0.725)	(-0.670)	(-0.174)
% investment in early ventures	-1.746***	-2.262***	0.094	-0.213**	-0.210**	-0.234**
	(-2.729)	(-3.332)	(0.111)	(-2.205)	(-2.136)	(-2.518)
Ln(average VC age)	-0.491	-0.683	-0.901	0.009	0.012	0.018
	(-1.199)	(-1.599)	(-1.579)	(0.153)	(0.198)	(0.284)
Ln(average VC tenure)	-0.042	-0.078	0.079	-0.010	-0.010	-0.012
	(-0.375)	(-0.665)	(0.515)	(-0.592)	(-0.573)	(-0.704)
Fraction of MBA VC	0.109	0.185	0.239	0.033	0.032	0.032
	(0.563)	(0.913)	(0.877)	(1.117)	(1.076)	(1.089)
Fraction of JD/MD/PHD VC	-0.351	-0.453*	-0.145	0.051	0.052	0.048
	(-1.504)	(-1.855)	(-0.450)	(1.448)	(1.474)	(1.366)
Fraction of VC from elite schools	0.374**	0.286	0.564**	0.015	0.016	0.013
	(2.061)	(1.508)	(2.260)	(0.542)	(0.568)	(0.475)
Fraction of VC with CFA/CPA	0.450	0.352	0.015	-0.026	-0.024	-0.023
	(1.177)	(0.883)	(0.029)	(-0.452)	(-0.416)	(-0.392)
Constant	-5.656***	-4.656***	-2.041	0.301	0.283	0.249
	(-3.416)	(-2.703)	(-0.901)	(1.201)	(1.135)	(1.003)
Industry fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	154	154	154	154	154	154
Adj. R-squared	0.634	0.602	0.301	-0.003	-0.001	-0.003

Table 4: Entrepreneur VCs and Venture Capital Firm Performance: small vs. large VC firms
This table presents ordinary least squares (OLS) regressions estimating equation (1) for two subsamples based on the number of portfolio companies the venture capital firm has invested in since 1980. The dependent variable in Regression (1) and (2) is the natural logarithm of a venture capital firm's IPO market share based on the methodology in Nahata (2008). The dependent variable in Regression (3) and (4) is the percentage of start-ups financed by a venture capital firm that have successfully exited through IPOs since 1980. The remaining variable definitions are in the Appendix. All regressions control for venture capital firm industry fixed effects whose coefficients are suppressed for brevity. t-statistics based on standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering are reported in parentheses. ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	Ln(IPO market share)		IPO exit	
	Small VC firms	Large VC firms	Small VC firms	Large VC firms
	(1)	(2)	(3)	(4)
Fraction of entrepreneur VC	0.743**	0.488	0.103*	0.028
	(2.099)	(0.782)	(1.856)	(1.104)
Ln(no. of firms invested in the past)	0.473***	1.161***	-0.007	0.012
	(4.014)	(5.381)	(-0.304)	(1.064)
Industry concentration	0.285	3.051	-0.070	0.027
	(0.537)	(1.405)	(-0.773)	(0.187)
% investment in early ventures	-1.341*	-1.465	-0.161	-0.135
	(-1.697)	(-0.995)	(-1.017)	(-1.460)
Ln(average VC age)	-0.203	-0.510	0.134*	-0.097
	(-0.279)	(-0.492)	(1.688)	(-1.589)
Ln(average VC tenure)	-0.044	-0.066	-0.024	0.007
	(-0.211)	(-0.166)	(-0.922)	(0.588)
Fraction of MBA VC	0.301	-0.151	0.045	0.014
	(0.777)	(-0.251)	(1.010)	(0.624)
Fraction of JD/MD/PHD VC	-0.143	-0.653	0.062	0.042
	(-0.508)	(-1.358)	(1.218)	(1.381)
Fraction of VC from elite schools	0.138	0.069	0.076	-0.012
	(0.363)	(0.129)	(1.555)	(-0.592)

Fraction of VC with CFA/CPA	1.171**	-1.498	-0.013	0.039
	(2.148)	(-1.158)	(-0.120)	(1.208)
Constant	-5.793*	-7.548	-0.174	0.548**
	(-1.988)	(-1.642)	(-0.542)	(2.018)
Industry fixed effect	Yes	Yes	Yes	Yes
Observations	77	77	77	77
Adj. R-squared	0.315	0.550	0.041	0.081

Table 5: Entrepreneur VCs and Venture Capital Firm Performance: young vs. old VC firms

This table presents ordinary least squares (OLS) regressions estimating equation (1) for two subsamples based on the age of venture capital firms. The dependent variable in Regression (1) and (2) is the natural logarithm of a venture capital firm's IPO market share based on the methodology in Nahata (2008). The dependent variable in Regression (3) and (4) is the percentage of start-ups financed by a venture capital firm that have successfully exited through IPOs since 1980. The remaining variable definitions are in the Appendix. All regressions control for venture capital firm industry fixed effects whose coefficients are suppressed for brevity. *t*-statistics based on standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering are reported in parentheses. ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	Ln(IPO market share)		IPO exit	
	Young VC firms	Old VC firms	Young VC firms	Old VC firms
	(1)	(2)	(3)	(4)
Fraction of entrepreneur VC	0.704**	0.306	0.113***	0.041
	(2.368)	(0.707)	(2.775)	(1.051)
Ln(no. of firms invested in the past)	0.839***	0.655***	-0.006	-0.026
	(11.013)	(5.097)	(-0.432)	(-1.492)
Industry concentration	2.016***	-0.763	-0.022	-0.100
	(4.342)	(-0.841)	(-0.141)	(-1.333)
% investment in early ventures	-2.163***	0.022	-0.101	-0.143
	(-3.247)	(0.022)	(-0.808)	(-1.277)
Ln(average VC age)	0.330	-1.207*	0.102	-0.087
	(0.563)	(-1.695)	(1.620)	(-1.145)
Ln(average VC tenure)	-0.110	0.085	-0.021	-0.009
	(-0.605)	(0.435)	(-0.777)	(-0.455)
Fraction of MBA VC	0.305	-0.297	0.075*	-0.009
	(1.109)	(-0.866)	(1.672)	(-0.279)
Fraction of JD/MD/PHD VC	0.462	-0.799***	0.172**	0.034
	(1.306)	(-2.753)	(2.112)	(1.092)
Fraction of VC from elite schools	0.216	0.615*	-0.000	0.084
	(0.624)	(1.891)	(-0.003)	(1.665)
Fraction of VC with CFA/CPA	1.343***	-0.181	0.072	0.026

	(2.985)	(-0.530)	(0.923)	(0.635)
Constant	-9.604***	-2.962	-0.138	0.732**
	(-4.176)	(-1.015)	(-0.574)	(2.409)
Industry fixed effect	Yes	Yes	Yes	Yes
Observations	81	73	81	73
Adj. R-squared	0.710	0.676	0.126	0.065

Table 6: Entrepreneur VCs and Venture Capital Firm Performance: VC firms investing in high-tech industries vs. in non-high-tech industries

This table presents ordinary least squares (OLS) regressions estimating equation (1) for two subsamples based on whether the venture capital firm mainly invest in high-tech industries or in non-high-tech industries. The dependent variable in Regression (1) and (2) is the natural logarithm of a venture capital firm's IPO market share based on the methodology in Nahata (2008). The dependent variable in Regression (3) and (4) is the percentage of start-ups financed by a venture capital firm that have successfully exited through IPOs since 1980. The remaining variable definitions are in the Appendix. All regressions control for venture capital firm industry fixed effects whose coefficients are suppressed for brevity. *t*-statistics based on standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering are reported in parentheses. ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	Ln(IPO market share)		IPO exit	
	VC firms investing in high-tech industries	VC firms investing in non-high-tech industries	VC firms investing in high-tech industries	VC firms investing in non-high-tech industries
	(1)	(2)	(3)	(4)
Fraction of entrepreneur VC	0.390*	1.918	0.076**	0.189
	(1.776)	(0.752)	(2.425)	(0.493)
Ln(no. of firms invested in the past)	0.746***	0.803**	-0.007	-0.006
	(10.184)	(2.396)	(-0.674)	(-0.105)
Industry concentration	0.057	1.868	0.049	-0.067
	(0.122)	(1.754)	(0.545)	(-0.272)
% investment in early ventures	-1.172*	-1.216	-0.234**	-0.043
	(-1.912)	(-0.376)	(-2.184)	(-0.088)
Ln(average VC age)	-0.210	-2.857	0.044	0.053
	(-0.365)	(-1.388)	(0.823)	(0.168)
Ln(average VC tenure)	-0.035	0.493	-0.006	-0.052
	(-0.246)	(0.510)	(-0.487)	(-0.395)
Fraction of MBA VC	-0.074	1.982	0.012	0.127
	(-0.295)	(1.481)	(0.537)	(0.603)
Fraction of JD/MD/PHD VC	-0.279	-2.127	0.057	0.081

	(-1.336)	(-1.195)	(1.564)	(0.309)
Fraction of VC from elite schools	0.478*	-1.686	0.043	-0.155
	(1.834)	(-1.232)	(1.449)	(-0.708)
Fraction of VC with CFA/CPA	0.283	-0.371	0.028	-0.206
	(0.724)	(-0.152)	(0.643)	(-0.559)
Constant	-7.057***	0.253	0.136	0.138
	(-3.102)	(0.037)	(0.676)	(0.120)
Industry fixed effect	Yes	Yes	Yes	Yes
Observations	132	22	132	22
Adj. R-squared	0.666	0.225	0.120	-0.765

Table 7: Entrepreneur VCs and Venture Capital Firm Performance: VC firms investing in early-stage ventures vs. in late-stage ventures

This table presents ordinary least squares (OLS) regressions estimating equation (1) for two subsamples based on whether the venture capital firm mainly invest in early-stage ventures or in late-stage ventures. The dependent variable in Regression (1) and (2) is the natural logarithm of a venture capital firm's IPO market share based on the methodology in Nahata (2008). The dependent variable in Regression (3) and (4) is the percentage of start-ups financed by a venture capital firm that have successfully exited through IPOs since 1980. The remaining variable definitions are in the Appendix. All regressions control for venture capital firm industry fixed effects whose coefficients are suppressed for brevity. t-statistics based on standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering are reported in parentheses. ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	Ln(IPO market share)		IPO exit	
	VC firms investing in early-stage ventures	VC firms investing in late-stage ventures	VC firms investing in early-stage ventures	VC firms investing in late-stage ventures
	(1)	(2)	(3)	(4)
Fraction of entrepreneur VC	0.667**	0.326	0.103**	0.050
	(2.256)	(1.106)	(2.145)	(0.937)
Ln(no. of firms invested in the past)	0.728***	0.909***	0.016	-0.008
	(9.017)	(5.365)	(1.108)	(-0.299)
Industry concentration	0.597	-0.315	-0.006	-0.094
	(1.356)	(-0.242)	(-0.049)	(-0.584)
% investment in early ventures	-2.201***	-1.855*	-0.011	-0.308
	(-2.729)	(-1.793)	(-0.065)	(-1.482)
Ln(average VC age)	-0.645	0.044	0.082	0.032
	(-1.088)	(0.051)	(0.599)	(0.291)
Ln(average VC tenure)	0.066	-0.096	-0.006	-0.004
	(0.420)	(-0.331)	(-0.305)	(-0.115)
Fraction of MBA VC	0.203	-0.318	0.007	0.006
	(0.540)	(-0.938)	(0.138)	(0.107)
Fraction of JD/MD/PHD VC	-0.519**	-0.432	-0.047	0.074

36

	(-2.129)	(-1.272)	(-0.755)	(1.121)
Fraction of VC from elite schools	0.078	0.393	-0.008	0.040
	(0.210)	(1.209)	(-0.142)	(0.670)
Fraction of VC with CFA/CPA	0.086	-0.002	-0.055	0.003
	(0.164)	(-0.004)	(-0.441)	(0.023)
Constant	-4.929**	-8.359**	0.344	0.675
	(-2.130)	(-2.556)	(0.606)	(1.658)
Industry fixed effect	Yes	Yes	Yes	Yes
Observations	77	77	77	77
Adj. R-squared	0.719	0.599	-0.025	0.014

Table 8: Entrepreneurship, Wall Street, Main Street Experience and Venture Capital Firm Performance
This table presents ordinary least squares (OLS) regressions estimating equation (1) for the sample of 154 venture capital firms. The dependent variable in Regression (1) to (3) is the natural logarithm of a venture capital firm's IPO market share based on the methodology in Nahata (2008). The dependent variable in Regression (4) to (6) is the percentage of start-ups financed by a venture capital firm that have successfully exited through IPOs since 1980. The remaining variable definitions are in the Appendix. All regressions control for venture capital firm industry fixed effects whose coefficients are suppressed for brevity. t-statistics based on standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering are reported in parentheses. ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Ln(IPO market share)			IPO exit		
Fraction of entrepreneurial VC	0.552***	0.578**	0.547*	0.066**	0.065**	0.066*
	(2.664)	(2.538)	(1.868)	(1.996)	(1.991)	(1.977)
Fraction of Wall Street VC	0.274	0.319	0.157	0.017	0.017	0.018
	(1.268)	(1.426)	(0.552)	(0.641)	(0.646)	(0.665)
Fraction of Main Street VC	0.146	-0.025	-0.117	0.007	0.009	0.010
	(0.622)	(-0.106)	(-0.426)	(0.240)	(0.322)	(0.331)
Ln(no. of firms invested in the past)	0.731***			-0.009		
	(10.346)			(-0.933)		
Ln(no. of rounds invested in the past)		0.625***			-0.007	
		(10.618)			(-0.785)	
Ln(VC firm age)			0.287**			-0.004
			(2.061)			(-0.329)
Industry concentration	0.302	0.277	-2.324***	-0.061	-0.056	-0.027
	(0.595)	(0.596)	(-4.737)	(-0.758)	(-0.669)	(-0.297)
% investment in early ventures	-1.415**	-1.688***	0.778	-0.142	-0.144	-0.169*
	(-2.502)	(-2.702)	(1.179)	(-1.447)	(-1.401)	(-1.702)
Ln(average VC age)	-0.338	-0.521	-0.707	0.041	0.043	0.046
	(-0.606)	(-0.928)	(-0.968)	(0.694)	(0.720)	(0.770)
Ln(average VC tenure)	-0.060	-0.090	0.088	-0.010	-0.010	-0.012
	(-0.466)	(-0.732)	(0.598)	(-0.733)	(-0.720)	(-0.854)

Fraction of MBA VC	0.002	0.049	0.095	0.016	0.015	0.015
	(0.008)	(0.182)	(0.274)	(0.642)	(0.606)	(0.568)
Fraction of JD/MD/PHD VC	-0.385	-0.443*	-0.083	0.054	0.054	0.050
	(-1.544)	(-1.707)	(-0.254)	(1.424)	(1.434)	(1.300)
Fraction of VC from elite schools	0.438*	0.394	0.676**	0.026	0.026	0.023
	(1.685)	(1.511)	(2.070)	(0.901)	(0.899)	(0.815)
Fraction of VC with CFA/CPA	0.566	0.575	0.257	-0.007	-0.006	-0.003
	(1.282)	(1.451)	(0.477)	(-0.143)	(-0.125)	(-0.074)
Constant	-6.525***	-5.530**	-2.998	0.150	0.133	0.105
	(-2.977)	(-2.505)	(-1.065)	(0.667)	(0.582)	(0.435)
Industry fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	154	154	154	154	154	154
Adj. R-squared	0.653	0.641	0.339	0.056	0.054	0.050

Table 9: Entrepreneur VCs and Individual VC Performance
This table presents marginal effects of Probit regressions estimating equation (4) for the sample of 1,564 VCs. The dependent variable is an indicator variable that equals to one if the VC is ranked among the *Forbes* Midas List 2011 Top Tech Investors, and zero otherwise. Entrepreneurial VC is an indicator variable which equals to one if the VC is a former entrepreneur, and zero otherwise. The remaining variable definitions are in the Appendix. All regressions control for venture capital firm industry fixed effects whose coefficients are suppressed for brevity. *t*-statistics based on standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering are reported in parentheses. ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
Entrepreneur VC	0.009***	0.009***	0.009***	0.009***
	(3.129)	(3.126)	(3.210)	(3.227)
Wall street VC			0.001	0.000
			(0.662)	(0.526)
Main street VC			0.001	0.001
			(1.304)	(1.199)
Ln(IPO market share)	0.003**		0.002**	
	(2.160)		(2.239)	
IPO exit		0.004		0.005
		(0.428)		(0.495)
Ln(no. of firms invested in the past)	0.000	0.002***	0.000	0.002***
	(0.189)	(3.078)	(0.114)	(3.045)
Industry concentration	-0.019*	-0.023**	-0.017*	-0.021**
	(-1.809)	(-2.401)	(-1.855)	(-2.463)
% investment in early ventures	0.016	0.021*	0.015	0.019*
	(1.506)	(1.813)	(1.465)	(1.767)
Ln(VC age)	-0.012***	-0.015***	-0.011***	-0.014***
	(-4.954)	(-5.064)	(-5.069)	(-5.203)
Ln(VC tenure)	0.003***	0.003***	0.003***	0.003***
	(4.431)	(3.943)	(4.575)	(4.047)
MBA	0.001	0.001	0.001	0.001
	(1.393)	(1.272)	(1.439)	(1.317)
JD/MD/PHD	0.001	0.001	0.001	0.000
	(0.712)	(0.458)	(0.687)	(0.428)
Elite university	0.000	0.000	0.000	0.000
	(0.163)	(0.295)	(0.074)	(0.229)
Industry fixed effect	Yes	Yes	Yes	Yes
Observations	1,564	1,564	1,564	1,564
Pseudo R-squared	0.300	0.280	0.305	0.284