

The Performance of Foreign Venture Capital Firms in Emerging Economies: A Study of U.S. Firms in China

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Abstract

Extant research on the international venture capital (VC) firms largely focuses on cross-country comparison; only a limited number of studies have examined the internationalization of VC firms and their strategies in host countries. This study approaches the research topic mainly from an institutional perspective, and intends to understand the performance of foreign VC firms in emerging economies, a topic that has rarely been examined in previous research. Using a sample of U.S. VC firms investing in China, this study finds that U.S. VC firms with more investment experience at home have weaker investment performance in China. The empirical results also show that U.S. VC firms investing in ventures with larger top management team, staging their investments, and syndicating with other U.S. VC firms are likely to achieve better performance in China. Contrary to what was hypothesized, syndicating with Chinese VC firms decreases U.S. VC firms' investment performance in China.

Keywords: emerging economies, institutional perspective, liability of foreignness, venture capital

1. Introduction

Research examining the growth and development of the venture capital (VC) industry and VC firms in different countries have captured a great deal of attention (e.g. Batjargal, 2007; Black & Gilson, 1998; Bruton, Ahlstrom, & Puky, 2009; Zacharakis, McMullen, & Shepherd, 2007). However, extant research on the international VC industry mainly focuses on cross-country comparison (Wright, Pruthi, & Lockett, 2005). Researchers have not paid adequate attention to the internationalization of VC firms and their strategies in host countries, with the studies by Patzelt and colleagues (2009) and Li and colleagues (2014) as two recent exceptions. Given the significant amount of cross-border VC flows and the geographic diversity of VC investments (Wright et al., 2005), a better understanding of VC firms' strategies in host countries becomes increasingly important. Among the target markets for VC firms to expand internationally, emerging economies are particularly intriguing because they simultaneously offer the biggest attractions and challenges to VC firms. The rapid changes in those economies create abundant new business opportunities, which spur the need for VC (Karsai, Wright, & Filatotchev, 1997). Furthermore, in the process of transforming their environments and strengthening their competitiveness, the managerial expertise accompanied with foreign VC firms is highly valued. Accordingly, this study intends to fill this gap in the literature by examining U.S. VC firms' strategies in China, the largest emerging economy.

This study mainly approaches the research topic from an institutional perspective (e.g., North, 1990), and intends to contribute to the understanding of VC firms' strategies and actions in emerging economies, a topic which has rarely been examined in previous research while foreign VC investment in emerging economies has become an increasingly important business phenomenon. Using an institutional approach, extant studies have noted the importance of the institutional environment in explaining the differences in VC decisions and strategies across countries. However, little is known about VC firms' strategies and actions in host countries, especially in emerging economies. This study directs the research attention to the relationship between VC firms' strategies and actions when they operate in host emerging economies in light of the unique characteristics in those institutional environments. In employing an institutional perspective, this study helps enrich the theoretical knowledge in the international entrepreneurship literature.

A major reason why VC firms from developed countries hesitate to enter emerging markets is the high level of uncertainties caused by the underdevelopment of the institutional infrastructure needed for the smooth

functioning of markets (Khanna & Palepu, 2005). It is widely acknowledged that organizations' practices are constrained by the institutional environment they face (North, 1990). Both theory and empirical evidence have shown that the way in which VC firms formulate strategies and solve problems depends, in part, on the institutional environment in which they are embedded (e.g., Ahlstrom & Bruton, 2006; Bruton et al., 2009). A legitimate practice in one institutional environment may appear to be unacceptable or inappropriate in another. For example, Zacharakis and colleagues (2007) argued that investment decisions are institutionally dependent. They found that VC firms in relationship-based economies weigh human capital factors more heavily in decision policies than their counterparts in rule-based economies. Given the substantial institutional differences between developed and emerging economies, successful VC firms from developed countries, when entering emerging economies, may not find equal success as they are at home when they face unique local market conditions and institutional requirements in the host countries (Wright, Lockett, & Pruthi, 2002).

In a comparative study on VC behaviors between China and the West, Bruton and Ahlstrom (2003) examined how the underdeveloped institutional environment renders domestic VC firms in China behave differently in selecting firms to fund, structuring relationships, monitoring funded firms, providing value-added services and exit from their counterparts in the West, where relevant institutions are more developed and mature. What received inadequate attention are the cross-border VC activities (Wright et al., 2005). Given the substantial difference in institutional environments between developed economies and emerging economies, examining the types of VC firms and their strategies and actions when entering emerging economies is necessary for us to better understand the dynamics of cross-border VC investments. Premised on an institutional perspective, which emphasizes the necessary strategic adaptation to reduce uncertainties and risks associated with operating in different institutional environments (Hoskisson, Eden, Lau, & Wright, 2000; Peng, 2003), this study thus seeks to shed light on the performance of foreign VC firms in emerging economies. In particular, using a sample of VC firms from the U.S., this study focuses on the performance of those firms in China.

2. Overview of China's VC Industry

2.1 Development Path of the Industry

Foreign VC firms entered China in the early 1980s (Ahlstrom, Bruton, & Yeh, 2007), and China's domestic VC industry emerged later in the mid-1980s. The industry was developed in response to the central government's idea to "utilize the venture capital mechanism to promote the development of Chinese high-technology industries" (Lu, Tan, & Huang, 2013; Xiao, 2002). The driving forces giving rise to VC emergence, as well as the initial organizational forms of VC firms, distinguish the VC industry in China from its counterparts in developed economies. In essence, the VC industry in China has taken a distinctive evolutionary path over time as the result of unique institutional features.

By and large, the initial goals of the central government and VC firms in China appeared incongruent. While the central government wanted to direct VC investments into the high technology and infrastructure sectors, VC firms tended to target lower technology industries where the investment risk is lower (Lau, 1999). At that time, the most preferred VC investment opportunities were large state-owned enterprises or township and village enterprises, especially in stable, well established industries (Ahlstrom et al., 2007). Actually, such preferences are more in line with local governments' intentions. Local governmental authorities in China often encouraged VC firms to invest in state-owned enterprises to help propel them to world class corporations, and sometimes the local governments serve as financing sponsors of VC firms directly (Ahlstrom et al., 2007). As such, the VC industry did not play a critical role in China's innovation system or the development of young, small ventures until the 2000s.

The VC industry began flourishing around 2000 when the government adopted a number of policies to promote VC investments, with Beijing, Shanghai and Shenzhen as industrial centers (Batjargal & Liu, 2005; Xiao, 2002). Since joining the WTO in 2001, China's VC industry has continued to grow rapidly. In the beginning of 2003, the central government revised the Venture Capital Regulations, which specifies the rules governing private equity investments, making the landscape more predictable and favorable for VC investors (Ewing, 2004).

After the rapid development in the past decade, China has now become the largest VC market in Asia (Batjargal, 2007). In 2001, \$135 million of VC funds were raised; in 2010 the amount of raised funds grew to almost \$13 billion. Likewise, over \$6 million of equity were invested in 2001; by 2010 almost \$400 million were invested. In 2015, the amount of VC invested in China was as high as \$37 billion, second only to the amount of \$68 billion invested in the U.S. The size, and especially the growth, of China's VC market are significant.

2.2 Institutional Influences on VC Development in China

A country's VC system emerges and evolves in relation to the particularities of the local context. Different countries have different starting conditions and institutionalization processes that give rise to the specific structure and dynamics of their respective VC industry. A national VC market is the outcome of the particular combination of the nation's political, legal, economic and social institutions, as well as any on-going institutional movement or transition (Dossani & Kenney, 2002).

Institutional forces that both encourage and discourage the development of VC industry coexist in China, some of which are idiosyncratic to its institutional environment (Ahlstrom et al., 2007). On the one hand, a number of necessary institutional elements required for a flourishing VC industry have been emerging in China in recent years, such as the robust economic growth, the increasing attention and commitment to intellectual property rights protection, the positive attitude toward entrepreneurial activities, and the governmental support for development of high-tech industries (Pukthuanthong & Walker, 2007). In addition, the Chinese educational system emphasizes the development of business and engineering programs, which provide the human resources needed for entrepreneurial activities. Not surprisingly, as China's economy rapidly growing, the need for VC and other types of private equity increases.

On the other hand, institutions that are unfavorable to the VC industry exist. The history of VC in China is comparatively short and so a culture of VC investing is generally lacking. Public awareness of VC financing remains at a low level. Most Chinese entrepreneurs are not familiar with the practices and norms of the VC industry. Other key institutional constraints on the development of VC industry in China include the low levels of availability and accessibility of exit mechanism that allows investors to appropriate financial returns. Cross-country historical evidence has shown that a well-developed stock market is critical for the healthy development of the VC industry, because it provides a viable and profitable exit mechanism for both fund investors and entrepreneurs to realize the returns of their investments (Black & Gilson, 1998; Dai, Jo, & Kassiech, 2012). However, initial public offerings (IPOs) in China have traditionally been considered a primary vehicle for privatization of state-owned enterprises; and the mass public also tends to view VC investments and IPOs as alternative ways of financing promising entrepreneurial ventures. Therefore, it is generally more difficult for VC firms in China to exit through IPOs, which have been the more profitable and preferred exit mechanism in Western countries.

Unique institutional factors in China have created a VC industry with its own idiosyncratic characteristics (Ahlstrom et al., 2007). Consequently, foreign VC firms investing in China are likely to exhibit behavior in ways that adapt to this institutional uniqueness in order to succeed.

3. Hypotheses Development

3.1 Liability of Foreignness

Firms face additional costs resulting from their unfamiliarity with and lack of roots in foreign countries, which is widely known as the liability of foreignness in the international business literature (Zaheer, 1995). The liability of foreignness encountered by U.S. VC firms when entering the Chinese market is substantial due to the significant differences in cultures and institutions between the two countries, as well as the difficulty in establishing themselves as trustworthy partners in the eyes of Chinese venture firms that generally do not trust foreign investors.

Specifically, U.S. VC firms investing in China face dual uncertainties: endogenous and exogenous uncertainties. Endogenous uncertainties pertain not only to the difficulty to assess new ventures' capabilities but also to the inherent agency relationship between VC firms and funded firms (Gompers & Lerner, 2004). Due to significant information asymmetry in China, moral hazard tends to be severe, whereby managers of the funded firm may continue a failing business or pursue projects that generate high private benefits but low financial benefits to the VC firm (Neher, 1999). Exogenous uncertainties stem from the country's institutional environments. U.S. VC firms face substantial exogenous uncertainties in China that are characterized by the presence of "institutional void" (Khanna & Palepu, 2005).

The liability of foreignness in China is particularly severe for those U.S. VC firms that have rich investment experience accumulated at home for a long time. The U.S. VC firms begin expanding internationally after the VC industry is fully developed in the U.S. The confidence on the well-established, successful U.S. VC model is likely to represent a strong inertia when U.S. VC firms make investment in foreign countries. The more experience a U.S. VC firm obtains domestically, the more it may strictly adhere to its ongoing way when investing in other countries. The prior investment experience may be applicable in developed countries that have

similar economic, cultural and institutional environments to those in the U.S.; however, this experience is less likely to work well in countries that have vastly different cultures and/or are in the process of significant institutional transition like China. Therefore, I posit that in China, U.S. VC firms that have more investment experience at home, which often hold a strong belief in the U.S. VC model, would perform less well than do U.S. VC firms without a deep root at home, which are often more flexible and willing to adapt their investment strategies.

Hypothesis 1: U.S. VC firms that have more investment experience at home are likely to have lower investment performance in China.

Given the significant differences between the U.S. and China in economic, cultural, and institutional environments, U.S. VC firms have to adapt their strategies in order to overcome the liability of foreignness they face in China. In other words, U.S. VC firms that adopt portfolio strategy and investment strategy that fit China's specific context are more likely to achieve better performance.

3.2 Portfolio Strategy and VC Performance

To minimize the risk of loss and maximize financial returns, VC firms are careful in selecting deals. There are significant differences between China and the U.S. in the criteria VC firms use to evaluate a firm and decide whether or not to invest (Bruton & Ahlstrom, 2003). In the U.S., a firm's business plan usually serves as a primary document based on which VC firms evaluate the firm's quality and judge the investment risk. In China, a firm's business plan provides just a part of the key information VC firms need to know for evaluating the true value of the firm. VC firms need to collect additional information and pay more attention to some criteria that are not emphasized that much in the U.S.

In China, access to timely and accurate information is often difficult. Such information asymmetries represent a real problem for VC firms, especially those focusing on high risk, high technology firms. Besides the lack of transparency resulting from underdeveloped institutions, the fear of losing face, which is common in many Asian countries including China, also contributes to the difficulty of obtaining critical information. When facing financial difficulties, the management of Chinese firms who monopolizes information sources is likely to withhold unfavorable information from outside investors (Xiao, 2002). Some business managers even deliberately hide their firms' weaknesses and exaggerate the strengths when negotiating with VC firms. Such dishonesty, once identified, sours the relationships between the two parties and consequently terminates additional capital infusions from VC firms. Therefore, U.S. VC firms investing in China are likely to pay more attention to the objective firm attributes that reflect firms' value and potential in order to achieve good investment performance.

The institutional environment needed for entrepreneurship to proliferate and prosper is still underdeveloped in China. Unlike Western countries such as the U.S., where individuals are allowed to start over after failure/bankruptcy, in China, the mass public's general opinion toward failure is less positive and the bankruptcy law is less favorable. Typically, the risk of bankruptcy is higher among young firms. When the law cannot provide strong protection for the investors, it becomes particularly risky for VC firms to invest in brand-new ventures (Lee, Peng, & Barney, 2007).

Another factor that contributes to the risk of investing in brand-new ventures in China is the difficulty of conducting effective monitoring. Although VC firms can effectively help funded ventures to overcome the liability of newness by providing a number of useful value-added services in the U.S., the effect of such benefit is often discounted due to the inherent lack of trust on outsiders in China. In China, business managers are often very reluctant to allow VC firms to intervene in operation and management even though they know the latter have rich industrial experience. In the U.S., one of the critical value-added services VC firms provide to portfolio firms is the diverse economic and social contacts which are also deemed to be important in China. However, the inherent lack of trust on "outsiders" or "foreigners" is likely to prevent Chinese portfolio firms from viewing the U.S. VC investors as a viable base of expanding their social capital. They may prefer to rely on their personal relationships rather than the formal investor-investee relationship with VC firms to seek resources and get things done in daily operation.

Given the information asymmetry and the limited room for U.S. VC firms to help reduce investment targets' liability of newness, investing in entrepreneurial firms that are more mature and developed is likely to generate better investment performance in China.

Hypothesis 2: U.S. VC firms whose portfolio firms are more mature are likely to have better investment performance in China.

When a VC firm enters a foreign market, it also enters a new system of relationships, which are critical to its survival and success in the new market (Guler & Guillen, 2010). In fact, the success of a VC firm depends not only on its own social networks but also those of its portfolio firms (Pukthuanthong & Walker, 2007). Social capital significantly determines the development and success of a business in China (Peng & Luo, 2000). In China, where “guanxi” plays an important role in seeking opportunities, a venture’s network-based intangible assets are more critical than its tangible assets for success. Compared with their counterparts lacking of social capital, ventures with rich social capital are more likely to survive and succeed, representing better investment opportunities for VC firms.

A major task of a firm’s top management team (TMT) is to align strategies and internal operations with the current and anticipated external environment through monitoring market trends, competitor actions, changes in regulations and so on (Hambrick, 1989). As such, TMT can be viewed as a firm’s center of information-processing, dealing with its relationship with the operating environment (Thompson, 1967). TMT size is a key determinant of the information-processing capabilities of a firm’s top management (Haleblian & Finkelstein, 1993), which have direct implications on firm performance. The size of founding teams in high-tech ventures has been found to be positively associated with growth (Cooper & Bruno, 1977; Eisenhardt & Schoonhoven, 1990).

The TMT of a new venture represents a major source of social capital and the foundation for network building (Higgins & Gulati, 2003; Kim & Higgins, 2007). For new ventures, the personal networks of TMT members are particularly important for seeking external support and collecting strategic information (Dubini & Aldrich, 1991). In China, where “guanxi” plays an important role in almost every aspect of societal life, TMT’s personal networks and networking capabilities are particularly important assets of a firm. Therefore, firms with larger TMTs may have a better chance of succeeding because larger TMTs mean more network resources. As such, large TMT size is likely to be a good selection criterion U.S. VC firms adopt when investing in China, which may enhance their investment performance.

Hypothesis 3: U.S. VC firms whose portfolio firms have larger top management teams are likely to have better investment performance in China.

3.3 Investment Strategy and VC Performance

When a firm faces a high level of uncertainty, the option to defer control and commitment becomes important. The firm should use low-control ownership structures to keep managerial flexibility and should not commit to highly irreversible investments (Rivoli & Salorio, 1996). Before launching a full-scale investment in a new venture or industry, firms typically make some initial trial investments first in order to increase the possibility of success (Bowman & Hurry, 1993). If the initial trial fails, a firm only loses the “sunk cost,” that is, the amount of initial capital input. In line with this argument, to limit potential losses, VC firms can make their investments in multiple rounds, with a small amount of capital input in each round. The staged minority investment strategy provides VC firms with managerial flexibility, by which they invest more capital when there is a good prospect or quit the investment with limited losses if the prospect proves to be poor (Fisch, 2008).

Like other social or business relationships, a trustful relationship between VC firms and their portfolio firms takes long time to develop in China. Staged investment allows VC firms more time for developing this trustful relationship before they make huge commitment. The trust accumulated over time will make portfolio firms more open to VC firms’ strategic suggestions. Moreover, staged investment can also serve as an incentive that motivates portfolio firms to perform well in order to receive more financing. As such, VC firms making staged investment over multiple rounds are more likely to have better investment performance in China.

Hypothesis 4: U.S. VC firms that make staged, multiple rounds of investment in their portfolio firms are likely to have better investment performance in China.

Extant literature has well established the important role of networks in the internationalization of firms. Researchers have found that network relationships influence foreign market selection and entry mode (Coviello & Munro, 1997), pattern of international expansion (Martin, Swaminathan, & Mitchell, 1998), internationalization strategies (Welch & Welch, 1996), pace of internationalization (Loane & Bell, 2006) and internationalization of SME and firms from emerging markets (Chetty & Blankenburg Holm, 2000; Elango & Pattnaik, 2007). Particularly, network relations facilitate knowledge sharing that is crucial in the learning process of foreign firms, reducing the liability of foreignness.

Syndication is a common practice in VC industry, through which a VC firm builds its network with other VC firms (Lockett, Ucbasaran, & Butler, 2006). VC syndication is a voluntary arrangement among independent VC

firms to co-invest in a portfolio firm for a joint payoff (Bygrave, 1987; Wilson, 1968), either in the same investment round or at different points in time (Brander, Raphael & Werner, 2002). VC syndication involves information sharing and syndication partners often engage in co-development of the portfolio firms. VC syndication is usually driven either by individual deal management motives such as deal selection and resource seeking (e.g., Brander et al., 2002) or by portfolio management motives such as risk sharing and portfolio diversification (e.g., Manigart et al., 2006). From portfolio firms' point of view, being financed by a number of VC firms is better than a single VC firm. It has been found that syndicated VC investments generate higher returns than stand-alone VC investments (Brander et al., 2002). One of the most critical factors explaining such higher returns is the larger pool of accessible network resources.

Extant international business literature has provided evidence that partnering with local firms helps overcome the liability of foreignness (Bhanji & Oxley, 2013). Foreign firm can benefit from allying with local partners in a number of ways. Compared with the foreign firms, local firms usually have a better understanding of local markets, customs and priorities and are able to utilize this local knowledge to their advantage (Elango, 2009). By partnering with local firms, foreign firms can acquire tacit local knowledge that is critical for making appropriate strategy in the local context. Foreign firms can also gain "legitimacy spillovers" (Kostova & Zaheer, 1999) through their local partners, which increase their creditability in dealing with external stakeholders. Therefore, U.S. VC firms syndicating with Chinese VC firms are likely to perform better in China.

Co-investing with other U.S. VC firms also likely increases a U.S. VC firm's chance of achieving desired investment performance in China. When two or more U.S. firms work together, they can share with one another experiences of both success and failure in China. VC firms from the same country have more common languages and often face the same difficulties in the host country. Sharing the common goal of generating financial returns, U.S. VC firms tend to have similar expectations on their portfolio firms and are more likely to reach agreement in terms of how to monitor and facilitate portfolio firms' operation. Moreover, the same cultural background usually makes them supportive to one another. In short, it is beneficial for a U.S. VC firm to syndicate with other U.S. VC firms in China.

Hypothesis 5a: U.S. VC firms that make syndicated investments with Chinese VC firms are likely to have better investment performance in China.

Hypothesis 5b: U.S. VC firms that make syndicated investments with other U.S. VC firms are likely to have better investment performance in China.

4. Methodology

4.1 Sample and Data Sources

The data used in this study were primarily drawn from the *VentureXpert* database from Security Data Company (SDC), supplemented with information from public filings and other public sources as needed. The *VentureXpert* database, or its predecessor (Venture Economics), has been used in many VC studies (e.g., Gompers, 1995; Lerner, 1995; Kaplan & Schoar, 2005; Gompers, Kovner, Lerner, & Scharfstein, 2007), and has been found to be generally free from bias (Kaplan, Sensoy & Strömberg, 2002). The final sample used for statistical analysis is comprised of 195 U.S. VC firms that had invested in China as of 2010.

4.2 Measures

4.2.1 Dependent Variable

The dependent variable of interest in this study is U.S. VC firms' performance in China. However, a primary challenge with research on VC performance is the availability of performance information such as internal rates of return that are closely guarded (Hsu, 2004). Except for certain institutional investors, most fund providers do not require VC firms to report their performance, which results in a lack of direct measures of VC firm performance for a large sample of VC firms. To overcome this limitation, VC researchers commonly use the percentage of investments in VC firms' portfolio that ultimately generate a successful outcome as the proxy of VC performance (e.g., Hochberg, Ljungqvist, & Lu, 2007; Matusik & Fitza, 2012). I followed this common practice to measure VC performance in this study.

In the VC industry, a successful investment is generally defined as one that results in a liquidity event generating high financial returns, such as IPO and M&A. IPO is arguably the most desired outcome of a VC investment that yields the highest financial returns on average among all kinds of exit routes. However, because the IPO markets in China have yet been fully developed, selling equity of portfolio firms to strategic acquirers is deemed to be another highly desired exit route. Therefore, I measured a U.S. VC firm's performance in China by the percentage of its Chinese portfolio firms from which it exited successfully via IPO or M&A.

4.2.2 Independent Variables

VC firm experience was measured by the total number of portfolio firms the U.S. VC firm has ever invested at home. VC portfolio seniority is measured by the average age of firms in a U.S. VC firm's investment portfolio in China. Viewing firm seniority as a selection criterion that U.S. VC firms use to increase the likelihood of investment success in China, I used funded firms' age as of the year in which they received the first round of financing from a U.S. VC firm rather than their age as of 2010. VC portfolio social capital was measured by the average number of executives of firms in a U.S. VC firm's investment portfolio in China. I measured the extent to which a U.S. VC firm staged its investments by the average number of financing rounds it made in firms in its investment portfolio in China. I measured the extent to which a U.S. VC firm syndicates its investments with other U.S. VC firms by the percentage of its portfolio firms that received financing from at least one other U.S. VC firm. Similarly, the extent to which a U.S. VC firm syndicates its investments with Chinese VC firms was measured by the percentage of its portfolio firms that received financing from at least one Chinese VC firm.

4.2.3 Control Variables

I included a number of control variables in the empirical models for alternative explanations. Specifically, I controlled for a number of VC firm attributes that prior research has pointed out as factors that influence performance. I included VC firm age as of 2010. VC firm size was measured by the total investment amount of a U.S. VC firm. Portfolio size was measured by the total number of Chinese firms a U.S. VC firms invested. Corporate affiliation was coded as 1 if the U.S. VC firm is a corporate VC firm and 0 otherwise.

5. Results

Table 1 presents the descriptive statistics and the zero-order correlations between the variables included in the statistical models. I checked variance inflation factors (VIFs) to ensure that multicollinearity did not influence the results. The mean VIF is 1.29. The maximum VIF is 1.76, which is well below the guideline of 10 suggested by Chatterjee and Price (1991). Thus multicollinearity is not a problem for this study.

Table 1. Descriptive statistics and correlations

	Variable	Mean	S.D.	Min	Max
1	VC performance	0.3665	0.4124	0	1
2	Age	21.4974	15.6641	3	134
3	Size	17.6929	49.2670	0.0038	437
4	Portfolio size	4.6256	8.9873	1	53
5	Corporate VC	0.1436	0.3516	0	1
6	Experience	0.7454	0.2495	0	1
7	Portfolio seniority	4.3647	4.2121	0	36
8	Portfolio social capital	6.1410	3.7242	1	19.5
9	Staged investment	1.4900	1.1416	1	8
10	Syndicated with Chinese VC	0.0507	0.1648	0	1
11	Syndicated with other U.S. VC	0.6637	0.4041	0	1

Variable	1	2	3	4	5	6
1 VC performance	1					
2 Age	0.1208	1				
3 Size	0.0310	0.1394	1			
4 Portfolio size	-0.1093	0.0590	0.3816*	1		
5 Corporate VC	-0.0035	-0.0402	-0.1112	0.0008	1	
6 Experience	-0.0735	0.2852*	-0.0210	-0.0833	-0.0079	1
7 Portfolio seniority	0.0327	-0.0746	0.2244*	0.0112	-0.0583	-0.0661
8 Portfolio social capital	0.3572*	-0.0555	-0.0339	-0.0848	0.1104	-0.0675
9 Staged investment	0.1848*	0.1610*	-0.0385	-0.0201	-0.1382	0.1914*
10 Syndicated with Chinese VC	-0.1237	-0.0495	-0.0341	0.0809	0.1500*	0.0953
11 Syndicated with other U.S. VC	0.1402	0.0935	-0.1239	-0.0833	0.1567*	0.2418*

Variable	7	8	9	10	11
1 VC performance					
2 Age					
3 Size					
4 Portfolio size					
5 Corporate VC					
6 Experience					

7	Portfolio seniority	1					
8	Portfolio social capital	0.0111	1				
9	Staged investment	-0.2829*	-0.0025	1			
10	Syndicated with Chinese VC	0.0655	-0.0238	-0.0804	1		
11	Syndicated with other U.S. VC	-0.3239*	0.0689	0.2601*	0.1606*	1	

Note. n = 195, * p < 0.05.

I used OLS regression analysis to test the hypotheses. Table 2 shows the results of the OLS regression analysis. Model 1 is the baseline model that only includes control variables. Model 2 is to test Hypothesis 1. Models 3-7 incorporate the four independent variables corresponding to Hypotheses 2-5, respectively. Model 8 is the full, unrestricted model, which includes all control variables and all main effects. I reported robust standard errors that are robust to departures from homoscedasticity.

Hypothesis 1 states that U.S. VC firms with more investment experience at home are likely to have lower investment performance in China. This hypothesis is supported ($p < 0.05$). Hypothesis 2 asserted that U.S. VC firms investing in firms that are more mature are likely to have better investment performance in China. The coefficient of portfolio seniority in Model 3 is positive but not significant. Thus this hypothesis is not supported. However, the coefficient in the full model is significant at the 0.05 level. Hypothesis 3 argues that U.S. VC firms investing in firms that have larger TMT are likely to perform better in China. Results show strong support for this hypothesis ($p < 0.001$), confirming the importance of social capital in China. Hypothesis 4 states that U.S. VC firms that make staged, multiple rounds of financing in their portfolio firms are likely to perform better in China. This hypothesis receives empirical support ($p < 0.05$). Hypothesis 5a suggests that U.S. VC firms that collaborate with Chinese VC firms are likely to generate better performance in China. The coefficient of this variable in Model 6 is negative and significant ($p < 0.01$), not supporting Hypothesis 5a. Hypothesis 5b argues that U.S. VC firms that make collaborative investments with other U.S. VC firms are likely to have better investment performance. This hypothesis receives statistical support ($p < 0.05$).

Table 2. Results of OLS regression

Variable	Model 1		Model 2		Model 3		Model 4	
Age	0.003	(0.002)	0.002	(0.003)	0.003	(0.003)	0.004†	(0.002)
Size	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)
Portfolio size	-0.007***	(0.002)	-0.001***	(0.002)	-0.01***	(0.002)	-0.005*	(0.002)
Corporate VC	0.011	(0.089)	0.011	(0.089)	0.012	(0.090)	-0.036	(0.077)
Experience			-0.215*	(0.128)				
Portfolio seniority					0.003	(0.008)		
Portfolio social capital							0.040***	(0.008)
Staged investment								
Syndicated with Chinese VC								
Syndicated with other U.S. VC								
Constant	0.317***	(0.061)	0.459***	(0.107)	0.303***	(0.073)	0.063***	(0.067)
F	3.35*		2.84*		2.71*		9.41***	
R ²	0.0323		0.0476		0.0331		0.1597	

Variable	Model 5		Model 6		Model 7		Model 8	
Age	0.002	(0.002)	0.003	(0.003)	0.003	(0.002)	0.004	(0.002)
Size	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)
Portfolio size	-0.007***	(0.002)	-0.006***	(0.002)	-0.006***	(0.002)	-0.005	(0.002)
Corporate VC	0.040	(0.089)	0.029	(0.089)	-0.012	(0.087)	-0.008	(0.073)
Experience							-0.250**	(0.100)
Portfolio seniority							0.012*	(0.007)
Portfolio social capital							0.037***	(0.008)
Staged investment	0.063*	(0.028)					0.065*	(0.036)
Syndicated with Chinese VC			-0.272**	(0.110)			-0.254**	(0.107)
Syndicated with other U.S. VC					0.134*	(0.077)	0.153*	(0.078)

Constant	0.233***	(0.067)	0.329***	(0.062)	0.237***	(0.074)	0.021	(0.116)
F	3.86**		3.39**		3.28**		7.17***	
R ²	0.0614		0.0437		0.0486		0.2311	

Note. n = 195. Entries represent coefficients and robust standard errors are in parentheses. Significant tests are two-tailed for control variables and one-tailed for hypothesized variables. †p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001.

6. Discussion and Conclusion

This study examines a number of strategic factors that influence U.S. VC firms' performance in China. Empirical results show that U.S. VC firms investing in ventures with larger TMTs, staging their investments, and syndicating with other U.S. VC firms are likely to achieve better investment performance in China. However, syndicating with Chinese VC firms reduces U.S. VC firms' performance in China, which is opposite to what was hypothesized. A potential explanation of this unexpected finding is that there might be more conflicts between a U.S. VC firm and a Chinese VC firm on how to monitor and help funded ventures than between two U.S. VC firms due to culture differences. It may take longer time for the syndication partners to reach agreement on key strategic actions. Such low efficiency in turn leads to lower investment performance.

By and large, the overall findings of this study have demonstrated the success factors of foreign VC firms in emerging economies are different from those found in extant research primarily focusing on developed economies. In particular, I suggested and found supporting evidence of the role of institutions in determining the success of foreign VC firms in emerging economies. The characteristics of funded firms and the strategies/actions that lead to success of U.S. VC firms in China are different from what have been learned when examining the same question for the U.S. market. The findings contribute to the robust international entrepreneurship literature by examining how country institutional environment influences the success factors of foreign VC firms' market entry into China. First, successful VC firms in the U.S. may not find the same level of success in China, because what it takes in a different institutional environment for VC firms to perform well is different. Second, the strategies and actions that VC firms have adopted to achieve increased performance are unlikely to be equally applicable and potent in a different institutional environment, especially in emerging economies where the country institutional factors are dissimilar. As such, this study, employing an institutional approach, offers some counter-intuitive findings to what the literature on VC has generated to date.

The theoretical and empirical analysis of this study is generally in line with the stream of work in international business research emphasizing that firms frequently expand abroad so as to generate additional success, but this study has important differences. The liability of foreignness often represents a challenge for foreign firms, including foreign VC firms. Institutional differences represent one such critical challenge. If foreign VC firms cannot or do not adapt their strategies and actions to meet with the institutional challenges posed by host country environments, they are less likely to perform equally successfully. While the implications of this study seem echoing extant studies on internationalization and foreign market entry, it is important to emphasize that mitigating the liability of foreignness is not merely using a firm's core resources and capabilities to overcome those liabilities; it oftentimes necessitates the firm to adopt vastly different strategies and activities that are in line with unique host country environments. Even though VC firms may possess strong resources and capabilities, they cannot easily replicate their success overseas if they merely do exactly what they do at home.

Furthermore, this study contributes to the research on international VC firms, which is a research topic attracting increasing attention in recent years. As opposed to most research in this area, which compares VC practices between countries, this study focuses on the cross-border activities of foreign VC firms (U.S.) in emerging economies (China), which is an understudied research area. I found that while VC internationalization shares some features of firm internationalization, it exhibits interesting peculiarities that differ from extant international business knowledge. Hence, this paper has important implications to the research on VC firms' internationalization into emerging economies. Using an institutional perspective has the potential to enhance our understanding of how VC firms find success in such a highly uncertain environmental context.

This study has practical implications for VC firms. Studies on VC firms are abound, and so are studies on how firms strategize in host countries, including emerging economies. However, little is known in regard to how VC firms strategize in emerging economies. This study offers additional insights about the types of strategies and actions that would help enhance their success. This study may also have implications for public policy makers. Institutions have a large impact on the success of foreign entry into new markets. The results suggest that the best way for a government to attract foreign VC investments is not necessarily to go after the well-established VC firms that may be reluctant to adapt their entry strategies and actions. Rather, those VC firms that are willing

to make changes in their strategies and actions in host countries are likely to bring more benefit to local entrepreneurs. However, as a country's institutions change, both the foreign VC firms and the government have to pay attention and adapt accordingly.

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