Paper to be presented at
DRUID-Asia, Singapore, February 23-25, 2016
Co-organized by DRUID, NUS Business School and SMU - Lee Kong Chian School of Business.

Joint Venture Formation between Small Entrepreneurial Ventures and Foreign MNCs in an Emerging Economy

Maggie Qiuzhu Mei
Grenoble Ecole de Management
MTS
maggie.mei@grenoble-em.com

Jojo Jacob
Grenoble Ecole de Management
Management, Technology & Strategy
Jojo.Jacob@grenoble-em.com

Abstract

As small entrepreneurial ventures typically have limited track records and carry considerable uncertainties, entrepreneurs need to generate a wide range of signals to convince external resource holders of the potential value of their ventures. This paper seeks to specify the mechanisms that shape complementarity and/or substitution effects between multiples signals in the context of international joint venture formation involving small entrepreneurial firms in an emerging economy China. Stressing the heterogeneities across different signals, we link two streams of literature investigating respectively venture-level and founder-level signals by investigating how entrepreneurs' backgrounds can reinforce and/or weaken the signaling value of their ventures' attributes. We test our ideas by examining the probability of joint venture formation among a sample of 404 small entrepreneurial firms in China with international partners. We show that two venture attribute signals—initial capital investment and the number of corporate investors—have positive effects on the likelihood of forming joint venture with international partners. We further demonstrate that the effects of venture-level signals on joint venture formation with an international partner are moderated differently by founder's work experience in state-owned enterprises (SOE) and that in government.

Jelcodes:M13,A1

Joint Venture Formation between Small Entrepreneurial Ventures and Foreign MNCs in an Emerging Economy

Abstract

As small entrepreneurial ventures typically have limited track records and carry considerable uncertainties, entrepreneurs need to generate a wide range of signals to convince external resource holders of the potential value of their ventures. This paper seeks to specify the mechanisms that shape complementarity and/or substitution effects between multiples signals in the context of international joint venture formation involving small entrepreneurial firms in an emerging economy China. Stressing the heterogeneities across different signals, we link two streams of literature investigating respectively venture-level and founder-level signals by investigating how entrepreneurs' backgrounds can reinforce and/or weaken the signaling value of their ventures' attributes. We test our ideas by examining the probability of joint venture formation among a sample of 404 small entrepreneurial firms in China with international partners. We show that two venture attribute signals—initial capital investment and the number of corporate investors—have positive effects on the likelihood of forming joint venture with international partners. We further demonstrate that the effects of venture-level signals on joint venture formation with an international partner are moderated differently by founder's work experience in state-owned enterprises (SOE) and that in government.

Joint Venture Formation between Small Entrepreneurial Ventures and Foreign MNCs in an Emerging Economy

Introduction

In order to capitalize on entrepreneurial opportunities, small entrepreneurial ventures face the critical challenge of mobilizing external resources. Since small entrepreneurial ventures typically have limited track records and carry considerable uncertainties, entrepreneurs need to generate a wide range of signals to convince external resource holders of the potential of their ventures. For example, small entrepreneurial ventures might sell their shares at discount to prominent VCs (Hsu, 2004) and invest in high-profile management teams (Higgins and Gulati, 2006) in exchange for prestigious affiliation signals. While the entrepreneurship literature has recently been particularly interested in exploring multiple signals, there exists conflicting views on the interplay between different signals. For example, Ozmel et al (2013) and Hsu and Ziedonis (2013) view multiple signals as alternatives. According to these authors, different signals bring about similar benefits so the value of one signal is greater in the absence of other signals. In contrast, Plummer et al (2015) argue that it is insufficient to signal a new venture's prospects with one signal due to noisiness of the signaling environment. They propose and test the argument that the biggest gain comes when a firm combines different signals, suggesting complementarity between different signals. Given that investing in signals is costly, an important question arises as to how different signals will interact with each other in achieving organizational outcomes.

Depending on the focus of signals, the entrepreneurship literature falls into two main lines of inquiries. One strand of studies focuses on the attributes of ventures such as their patents (Hsu and Ziedonis, 2013; Haeussler, Harhoff, and Mueller, 2014) and affiliations with prominent partners (e.g., Gulati and Higgins, 2003; Hsu, 2004; Stuart et al., 1999). Conveying information about technological and social accomplishments of ventures, these signals have found to be effective to convey information on the potential quality and prospects of the small entrepreneurial ventures. A second research stream emphasizes the credentials of entrepreneurs in enhancing the

credibility of the ventures, particularly when the prospects of the venture are highly uncertain and ambiguous. (e.g., Burton et al. 2002; Shane and Cable, 2002; Shane and Khurana, 2003). Specifically, this body of research argues that the prior human capital and social capital endowments that an entrepreneur has accumulated can provide information about his or her ability to lead the venture to success, conferring him/her an advantage in external resource acquisition. So far, however, the literature has investigated the signaling value at the levels of venture and founder in isolation. Yet, Hsu and Ziedonis (2013) propose that the signaling value of a venture's attributes may be contingent upon its founder' prior experience; similarly Stuart et al (1999) argue that "prior accomplishments of an entrepreneurial venture are rarely sufficient to resolve the uncertainty about its quality" (p.317), suggesting the need to examine the signaling values of venture and founder attributes together.

This paper seeks to specify the mechanism governing complementarity and/or substitution between multiples signals in the context of small entrepreneurial firms. Following Pollock et al. (2009) and Conti et al. (2013), we emphasize the importance of distinguishing between different signals as they convey different information about a firm. We reason that the conflicting findings concerning how different signals interact with each other might be caused by an inability to differentiate between signals. Highlighting the heterogeneities across different signals, we link two streams of literature that focus respectively on venture-level and founder-level signals by investigating how entrepreneurs' backgrounds can reinforce and/or weaken the signaling value of their ventures' attributes. We test our ideas by examining the probability of joint venture formation among a sample of 404 small entrepreneurial firms in China with international partners. We show that two venture attribute signals—initial capital investment and the number of corporate investors—have positive effects on the likelihood of forming joint venture with international partners. We further demonstrate that the effects of venture-level signals on joint venture formation with an international partner are moderated differently by founder's work experience in state-owned enterprises (SOE) and that in government.

This paper makes important contributions to the entrepreneurship and signaling literature. First, specifying the conditions under which complementarity and/or substitution between two signals is likely to happen, this study enhances our

understanding of the operative mechanisms that convert different signals into economic value. In particular, it presents a comprehensive picture of the implications of multiple signals by differentiating between venture-attribute signals and founder-background signals, pointing to the synergetic and negative interplays between the two. Second, the extant literature is biased towards developed economies. Typically, the literature examines how high-technology entrepreneurial firms in developed economies such as the US can obtain financial resources through initial public offering (IPO) and venture capital (VC) funding. However, these findings may not be readily generalizable to the context of entrepreneurial firms in emerging economies. On the one hand, entrepreneurial firms in emerging economies "face a unique problem in that they are plagued by significant knowledge and resources disadvantages" (Chittoor et al., 2009; p.189) due to underdeveloped markets for strategic resources such as finance and technology. Given the inadequacy of locally available resources for technology and finance, joint venture formation with foreign partners is a much-favored approach by firms in emerging economies to overcome the institutional voids they face. However, a foreign firm intending to partner with a small entrepreneurial firm from an emerging economy faces substantial information asymmetry and uncertainty, making it a fascinating context in which to examine signaling theory. On the other hand, in emerging-economies affiliations with powerful local institutions that can influence the 'rules of the game' can provide firms unique strategic advantages. In China, for example, links with the government is argued as a critical resource for firms in not only overcoming the imperfect institutional environments but also in leveraging those imperfections to gain unique advantages over firms which do not have such connections (Ahuja and Yayavaram 2011). However, despite a rich literature examining the importance of government connection, studies so far have not considered the signaling value of government connection. By explicitly analyzing the signaling value of entrepreneurs' connections in the government, this paper advances the entrepreneurship and signaling literatures both theoretically and empirically.

In the following section we describe a simple theoretical model of formation of joint venture between small entrepreneurial firms in an emerging economy with international partners. Drawing on signaling theory, we deduce a core set of hypotheses. We then describe the research method, sample, and variables used to test

the hypotheses. Results of the empirical analysis of the impact of, and the interplay between, firm-level and founder-level variables on the formation of international joint venture are then reported. We conclude by noting the implications for theory and practice and the limitations of our research.

Theoretical Background

Internationalization is an important growth strategy for entrepreneurial firms around the world (Oviatt and McDougall, 1999; Yamakawa et al., 2008; Lu et al., 2010). Small entrepreneurial ventures might engage in outward internationalization (e.g., exploring foreign markets) and/or inward internationalization (e.g., utilizing management skills and new technology from foreign firms) (Welch and Luostarinen, 1993). Small entrepreneurial firms from emerging economies have benefited tremendously from inward internationalization such as joint venture formation with foreign partners at home (Zhou et al., 2007; Luo and Tung, 2007). The former set of firms are generally less resource endowed and less competitive compared to firms from developed economies. Furthermore, the barriers to accessing critical resources are high in emerging economies because of their "institutional voids" such as, for example, a lack of financial intermediaries. Given this, an important channel for small entrepreneurial ventures from emerging economies to access financial, managerial and technological resources is to form joint ventures with foreign partners. For example, Luo and Tung (2007) argue that "they (foreign partners) can serve as role models, transfer technology to local partners (in developing economies), and offer many opportunities for local firms to learn about international technology, practices and standards, which can in turn reduce these firms' liability of foreignness when they eventually expand abroad".

However, small entrepreneurial ventures from emerging economies might face important obstacles in forming joint venture with foreign partners. Unlike simple one-way licensing agreements, which frequently take place between established MNCs and emerging-economy firms, or even non-equity collaborations, joint ventures involve greater information flows and greater coordination, requiring greater trust between partner firms (Kogut, 1988; Inkpen and Beamish, 1997; Madhok, 1997). In the context of joint-venture formation with a small entrepreneurial firm from an emerging economy, the foreign partner faces substantial information asymmetries and

a high risk of adverse selection. On the one hand, a small entrepreneurial venture seeking foreign partners for joint venture formation has incentives to misrepresent the value of its resources, and its commercialization potentials in order to woo potential partners. On the other hand, a potential partner faces difficulty evaluating the quality of a small entrepreneurial venture before collaboration actually begins because of a lack of objective operating data. Furthermore, the emerging economy context, which is characterized by inefficient markets, active government involvement, extensive business networking, and high institutional uncertainty, exacerbates the substantial information asymmetry and the adverse selection risks associated with the selection of joint venture partners. To overcome these barriers, small entrepreneurial ventures from emerging economies can engage in activities that signal their quality, lending credibility to their claims and potentially facilitating formation of joint venture with foreign partners.

In the context of small entrepreneurial ventures, signaling theory is widely used to explain alliance formation (Ozmel et al., 2013), acquisitions (Shen and Reuer, 2005), initial public offering (Stuart et al., 1999; Pollock et al., 2009), and external capital acquisition (Hsu and Ziedonis, 2010; Plummer et al., 2015). It suggests that under uncertain conditions, and where information asymmetries exist between two parties, economic actors are likely to rely on signals to make inferences about the unobserved qualities of the other party (Sanders and Boivie, 2004). Spence (2002) defines signals as "things that one does that are visible and that are in part designed to communicate" (p.407). Assuming that production of effective signal is less costly for high-quality producers, the signaling mechanism can effectively separate high and low-quality producers, thus addressing information asymmetry and facilitating economic transaction (Spence, 1974).

The entrepreneurship literature identifies two broad types of signals: those on venture attributes and those on founder credentials. Venture attributes that transmit signals include prestigious affiliates (Start et al., 1999; Hsu, 2006), patent stocks (Hsu and Ziedonis, 2010; Haeussler, Harhoff, and Mueller, 2014) and capital investment (Conti et al., 2013) – they may concern the quality and past achievement of the firm but also the prospect for its future growth. In our paper, we consider two firm-attribute signals – founding capital and corporate investor backing. The credentials of founder can take

several forms. It may signify that "these individuals are talented enough to have been selected into elite organizations (Wasserman, 2003); they gained experience and insights from those organizations (Lovas, 2002); and they may still have access to influential and informed parties at these organizations (Finkle, 1998; Zimmerman and Zeitz, 2002)" (Pollock et al., 2009, p.5). Thus, founder credential signals convey information on the potential of founders to enable future accomplishments for the venture. Two founder credential signals are examined in this paper - founder's work experience at state-owned enterprises (SOEs) and founder's work experience at government.

Spence (1974) highlights that signals can distinguish high-quality actors from low-quality ones because of the fact that there is a cost associated with signaling and that more productive actors are able to send better signals compared to less productive actors. He demonstrates, for example, that signaling value of an individual's superior human capital is that it conveys the information that he or she possesses superior productive capacities. Applying this logic to our chosen venture-attribute signals (founding capital and corporate investors) and founder-credential signals (founder's SOE work experience and founder's government work experience) we suggest that these signals point to the ventures' productive capabilities and therefore to the growth prospects of small entrepreneurial ventures. Signals may also offer a certification function of endorsing the quality of a firm without conveying much information about its substantive resources, such as human capital or social capital (Pollock et al., 2009). Nevertheless, Luo et al., (2009) suggest that the two aspects of a signal need to be considered together. Indeed, in their investigation of scientists as a signal, these authors argue "scientists would not be able to provide a credible signal of legitimacy if they did not play a productive role in knowledge firms" (p. 1316). Adopting a similar position, in our examination of the interplay between signals, we emphasize signals' role in identifying a firm's specific productive capabilities. Thus, when two signals convey information on similar productive capabilities, we expect that redundancy between two signals is likely to happen because they can be substitutable to each other. However, when two signals refer to different productive aspects, they reinforce the effect of each other and hence enhance the credibility of the venture.

Hypothesis Development

Founding capital

Founding capital is defined to encompass investment from the founder, friends, family (FFF), other businesses, and government at the time of the founding of the venture. Founding capital is important for at least two reasons. First, besides providing basic resources to capture the entrepreneurial opportunity, founding capital is critical for the new venture to survive early shocks and growing pains. As the early phase of a venture's life cycle can be highly volatile, a substantial amount of founding capital will provide greater flexibility and a cushion for the venture to absorb unexpected shocks and surprises. It is thus a very important prerequisite for the survival and growth of the venture (Cavarretta & Furr, 2011). Second, founding capital provides freedom to the new venture to take bold and risky decisions and withstand a few failures. New ventures that engage in exploration and pursue bold projects could potentially develop products or services that have a high performance benefit (Cohen & Klepper 1992). In line with these predictions, several studies show that founding capital is a significant factor in predicting the success and growth of new ventures (e.g., Song et al. 2008, Bruderl & Preisendorfer 1998; Bruderl, Preisendorfer & Ziegler, 1992).

However, raising financial capital is one of the biggest obstacles that new firms face (Shane & Stuart, 2002). Absent firms' operational history, investors face considerable information asymmetries and uncertainties about their capabilities and growth potentials. Adding to this problem, which all young firms face irrespective of the contexts in which they operate, are other difficulties that are specific to the particular context of emerging economies. The capital market in China until recently has been very limited in size and scope, helping primarily established large players to raise capital. Venture capitalists, who are generally known to be reluctant to invest in small ventures, have only a weak presence in China. The corporate sector in China is yet to view venture investment as an important avenue for achieving competitive advantage. In this context a new venture that successfully attracts substantial amount of capital at its founding sends a strong signal of its resources and prospect. Furthermore, Shen and Reuer (2005) suggest that intangible assets such as technology might increase the likelihood of ex ante misrepresentations because the quality and true value of such

assets are difficult to verity. On the other hand, the problem with asymmetric information is less severe with tangible assets such as financial capital, thereby more easily facilitating transaction between economic partners. We therefore propose the following hypothesis.

H1: Founding capital has a positive impact on joint venture formation with international partner.

Corporate investor

It is well known that venture capitalists play an instrumental role in adding value to new ventures (e.g., Ozmel et al., 2013; Pollock et al., 2009; Hsu, 2004). Recent research suggests that corporate venture capitalists (CVC) may be able to offer more wide-ranging support for their portfolio firms compared to independent venture capitalists (Maula et al., 2005). In the context of emerging markets such as China where venture capitalists have only a weak presence, corporate investment is an important source of resources for new ventures. In addition to finance, corporate investors are often able to provide access to valuable strategic resources, including deep industry and technological know-how (Dushnitsky, 2004; Maula et al., 2009; Maula and Murray, 2002). By virtue of possessing significant market power in sectors where the new ventures operate, CVCs are also in a position to directly assist the growth of the new ventures (Maula et al., 2009). These arguments suggest that a firm with corporate investor can benefit from the managerial, technological and, in particular, informational resources of established firms, enabling it to tide over the challenges that a small entrepreneurial firm typically experiences.

We argue that corporate investment will have a positive effect on the likelihood of joint-venture formation between a small entrepreneurial venture and an international partner. Given that CVCs are selective in investing in new ventures and that investors routinely undertake due diligence exercises prior to arriving at their decision to invest in a firm, corporate backing can serve as an endorsement of the firm's quality. Furthermore, receiving investment from multiple CVCs suggests that the new venture is well positioned in the network of established firms, indicating that the new venture possesses access to the valuable resources and capabilities of established firms (e.g., Ozmel et al., 2013). Thus, we have

H2: The number of corporate investors in a firm has a positive effect on joint venture formation with international partner

Founder credential signals interact with firm attribute signals

In this section we explore how founder credential signals will interact with the firm attribute signals proposed in H1 and H2. Resources and capabilities of small firms are a reflection of the capabilities of the firms' founders. As such the signals they emit could potentially interact with those by firm level factors, such as initial capital and the number of corporate investor, outlined earlier. Specifically, we investigate two important founder credentials that are specific to the Chinese context - experience working in State Owned Enterprise (SOEs) and in the government.

SOE work experience

In the 1980s, the China's industrial sector consisted almost exclusively of state- and collective-owned enterprises. Since 1993, Chinese SOEs underwent significant reforms - about 80% of all small and medium-sized enterprises have been sold to employees and outside investors, and more than 12,00 large and better-performing enterprises were restructured into public listed firms as a key step towards corporatization. By the end of 2008, there were 154,000 SOEs in China, or an equivalent of 3.1% of the total enterprise number. They hold 50% of the total industrial assets and contributed to 40% of China's GDP. These suggest that SOEs are a vital segment of the industrial landscape in China.

We expect founder's work experience at SOEs will influence the likelihood of joint-venture formation with an international partner positively. First, some of the key liabilities of newness and smallness are the absence of efficient management methods, established routines and procedures, and credibility with suppliers and customers (Stinchcombe 1965). Compared to most private enterprises, corporatization has been implemented at SOEs through economic reform. Thus, work experience at SOEs confers an entrepreneur the managerial and technical expertise that are not accessible to someone without such work experience. Observing and understanding the diverse functions of an organization and interacting with its multiple stakeholders are vital sources of entrepreneurial knowhow, skills and preparedness. These experiences

allow an entrepreneur to swiftly introduce organizational routines and processes vital for efficient operations, and establish strong, stable links with suppliers and customers.

Second, prior studies suggest that prestigious affiliation of founder signify that he/she may still have access to influential and informed parties at these elite organizations (Finkle, 1998; Zimmerman and Zeitz, 2002). As mentioned before, SOEs still hold a significant control over much of the Chinese economy. Founders who have worked in SOEs can be expected to be familiar with the inner workings of the system, and in particular with potential suppliers, competitors, partners and the state of the market. As such, founder's work experience signals to potential joint venture partners her intrinsic capabilities of efficiently operating a firm in an environment about which foreign firms possess very little knowledge. In sum, SOE work experience captures the managerial capability of the founder.

We noted before that founding capital signifies the quality and prospect of the firm as a high amount of capital help the firm survive early shocks and growing pains as well as provide the necessary leeway for experimenting with ambitious yet risky ideas. A new venture can also benefit from the managerial, technological and, in particular, informational resources of established firms through corporate investment. We expect that that the positive effect of founding capital and corporate backing will be enhanced when the founder possesses superior managerial capability. Since SOE work experience captures the managerial capability of the founder, we hypothesize that the positive effect of founding capital and corporate backing will be enhanced by the founder's SOE work experience. Thus we have:

H3*a: Founder's work experience in s*tate-owned enterprise will positively moderate the effect of founding capital on joint venture formation with international partner.

H3*b: Founder's work experience in s*tate-owned enterprise will positively moderate the effect of corporate venture capital support on joint venture formation with international partner.

Government work experience

Government work experience, unlike SOE work experience, is less of a measure of entrepreneurial, managerial or technical capabilities of the founder. It represents the embeddedness of the entrepreneur in the institutional milieu that opens up potentially important benefit streams. In the specific context of China where government actively engages in business affairs, two issues stand out specific to the focus of this paper. One, as noted before, capital market in China is rather underdeveloped imposing serious constraints on businesses' ability to raise capital. State-controlled financial institutions are a major source of finance so connections within the government are vital for securing financing from these institutions. Secondly, similar to what other governments from East Asia did in the past, the Chinese state plays a very important liaising role in linking enterprises. Therefore, we expect that government connections thus represent a major relational capital that can help remove the haze of institutional uncertainties (e.g. undeveloped financial system) and the liability of smallness and newness (difficulty in getting social capital).

In contrast to SOE work experience, government-work experience may therefore be airing signals and information of a similar nature as firm-level characteristics. Let us first consider founding capital. While a substantial reserve of initial capital sends positive signals to potential joint venture partners about the long term prospects of a local firm, if the founder has government connections the signals from the former may make the latter somewhat redundant and vice versa. This is because government connections can play a key role in accessing finance from state-controlled financial institutions. In other words raising capital prior to a joint venture formation is less salient when the founder has connections in the government. In regard to CVC backing, we suggest that the liaison function of government might blur the signal of corporate investors. This is because government intervention in China often shapes firms' investment behavior (Chen et al., 2011). In other words, when the founder has work experience at government, the corporate investment received by the new venture might not be a result of superior quality of the firm – instead, it might be a result of government intervention. Therefore we suggest:

H4a: F*ounder's work experience* in the government will negatively moderate the effect of founding capital on joint venture formation with international partner.

H4b: F*ounder's work experience* in the government will negatively moderate the effect of corporate venture capital support on joint venture formation with international partner.

Data and Methods

Sample and data

To answer the research questions posted above, this paper exploits a nationwide survey data of Chinese private firms. Since 1993, a series of survey of Chinese private firms have been conducted by Privately Owned Enterprises Research Project Team, as part of an ongoing national project that collects information from representatives of the Chinese private sector to facilitate the central government's policymaking processes. Using multi-stage stratified sampling across administrative regions and industries, the research team generated a nationwide random sample of Chinese private firms. The survey involves an intensive interview of the entrepreneurs, with questions covering the firm (e.g., basic financial information and business development plan) as well as the entrepreneur (e.g., educational background and occupational history). By far, the dataset is the most comprehensive one for studying entrepreneurs in China and has been used in several recent studies (Nan 2014, Ang&Nan forthcoming, Li et al., 2008, Li et al., 2006).

The 2006 survey was drawn for the current study. We assembled our sample in several steps. First, following the OECD definition of small and medium-sized enterprises (SMEs), we restricted our target sample to 2368 firms with less than 250 employees and an annual turnover of euro 50 million or less. Second, given our argument that inward international entrepreneurship as a facilitator to outward international entrepreneurship, we excluded 665 firms with foreign investors and/or firms that have invested in any foreign market. After dropping firms that fail to provide complete data, our final sample consists of 404 firms, for a response rate of 17.06%. There is no significant difference between the participating firms and nonparticipating firms on the dependent variable (chi-squared=1.456, p= 0.228). An average firm in the sample is 7.379 years old. At its founding, with an initial capital

investment of RMB 2,067,300 (USD 258,412.50), it hired 38 employees. All sample firms come from three sectors: manufacturing (252 firms, 62.4%); retailing (119 firms, 29.5%); and agriculture/forest/fishery (33 firms, 8.1%).

Although relying on a cross-sectional survey data, our empirical strategy allows us to effectively deal with potential common method bias and reverse causality bias. Common method bias arises because of common method variance. For example, if a survey respondent is predisposed to provide strongly positive answers to questions, he or she is likely to distort the relationships among variables measured through the survey. Thus, the risk of common method bias will be lower when respondents' perceptions cannot introduce a significant bias, e.g., collection of objective data as in our case (Crampton and Wagner, 1994; Podsakoff et al. 2003). We further test common method bias by subjecting all variables to a factor analysis. The result of the principal components factor analysis revealed 5 factors with eigen-values greater than 1.0, indicating lack of a general factor. We therefore conclude that there does not appear to be a common method bias concern. To strengthen causality claim, we temporally separated the dependent and explanatory variables. In particular, all our explanatory variables are concerning the founding of the firm, while the dependent variable accounts for a time lags and captures firm activity after its foundation.

Dependent variable

Our dependent variable is Joint Venture Formation, a dummy variable. The main source of this variable is the question that asks "has your firm formed a joint venture with international partner?" We make sure that the joint venture locates in China by dropping 6 firms that also report positively about their foreign direct investment. Of the 404 firms in our sample, 33 firms have formed joint venture with international partners.

Explanatory and moderating variables

Founding Capital is a captured by the amount of initial capital investment of the firm. Its sources include the founder, other individuals, other businesses, and government investment. Loans from banks or other financial institutions are not included. It is a continuous variable ranging from RMB 10,000 (USD 1,250) to RMB 43,800,000

(USD 5,475,000), with a mean of RMB 2,067,300 (USD 258,412). In order to improve normality, this variable is nature log-transformed.

Number of CVCs is measured by the number of corporate investor in the firm during its founding. It is a continuous variable ranging from 0 to 20, with a mean of 0.891.

Founder*'s* Work Experience at the State-owned Enterprises is a dummy variable. It takes 1 if the founder reports working experience at a state-owned enterprise prior to the founding of the new venture, and 0 otherwise. Among the 404 business founders, 266 business founders have worked for a state-owned business before the entrepreneurial transition.

Similarly, Founder*'s* Work Experience at Government is a dummy variable. It takes 1 if the founder reports working experience at the government prior to the founding of the new venture, and 0 otherwise. Among the 404 business founders, 52 business founders have worked for the government before the entrepreneurial transition.

Control variables

To account for alternative explanations, we controlled for a number of firm-level and individual-level characteristics. At the firm level, we control for Founding Recruitment, Firm Age, Investment Concentration, and Family Control. Founding Recruitment is measured by the number of employees during founding, which is a measure of firm size. We use logarithmic value of the variable. Firm Age is captured by the years that the firm has founded as a private business. Ownership Concentration is a Herfindahl Index (HHI), which is calculated as the sum of the squares of investor share (in percentage). Ownership concentration could play dual roles in affecting formation of joint venture. On the one hand, high ownership concentration reduces agency problem and facilitates decision-making concerning joint venture formation. On the other hand, more balanced ownership structure that captured by low capital concentration signals firm value (M'inguez-Vera and Martin-Ugedo, 2007), which should positively affect the likelihood of joint venture formation. It is a continuous variable raging from 0.125 to 1, with a mean of 0.708. Family Control is measured by number of family member shareholders. It is a continuous variable ranging from 0 to 10, with a mean of 0.696. High family control could mean less effective and have a

lower level of professionalism (Martínez et al., 2007), which becomes a constraint that hinders the formation of joint venture with a foreign partner. Meanwhile, high family control motivates the founder and manager to engage in active management of the firm, which should facilitate the formation of joint venture (Silva and Majluf, 2008).

At the individual level, we control for age, gender, and educational level of the founder. Age of Founder is a continuous variable which ranging from 24 to 68, with a mean of 45. Gender of Founder is a dummy variable, which takes value of 1 if the founder is a female and 0 if a male. Education captures the human capital of the founder, therefore is controlled for. Education is a categorical variable that takes value of 0 if the founder received education lower than bachelor, 1 if bachelor, and 2 if postgraduate.

Results

Table 1 summarizes descriptive statistics and correlation of all variables. The highest correlation between pair of independent variables is 0.382, well below the 0.65 threshold, suggesting that our estimations are not likely to be biased by multicollinearity problems (Tabachnick and Fidell 1996, p. 86). A further inspection of variance inflation factors (VIFs) shows an average VIF of 1.13 and a highest VIF of 1.20, again confirming that no problematic multicollinearity is present (Neter et al. 1990).

Table 1 about here

Because our dependent variable Joint Venture Formation is a dummy variable, a series of logistic regression were estimated using STATA 13. The general specification of logistic regression is as follows: $\log\{P(Y = 1)/(1-P(Y = 1)\} = B(X, M)$, where $P(Y = 1)$ is the probability of Joint Venture Formation and X and M are vectors of independent and control variables. We used logistic estimator with robust standard errors, and furthermore clustered standard errors by industries. A series of Hosmer–Lemeshow and Pearson chi-square tests were performed to assess the goodness-of-fit for all models, and all our models demonstrate good model fits.

Table 2 reports results of hypothesis testing. On the control variables, we find that founder's work experience at state-owned enterprise and work experience at government have positive effects on the likelihood of forming a joint venture with an international partner. Also, founding size and age of the new venture both have positive effects on likelihood of joint venture formation with an international partner. Finally, ownership concentration has a negative effect on the likelihood of forming a joint venture with international partner, suggesting that a more balanced ownership structure is preferred for forming joint venture with international partner.

Table 2 about here

H1 and H2 are tested in Model 2. In support of H1 and H2, we found significant and positive effects of founding capital ($b=0.594$, $p<0.001$) and number of CVC ($b=0.235$, $p<0.001$) on the likelihood of forming joint venture with international partners. In Model 3, we test the moderating effect of work experience in state-owned-enterprise. The coefficient for the interaction between number of CVC and SoE experience is significant and positive ($b=1.452$, $p<0.001$), lending support to H3b which argued for complementarities between founder's SoE experience and founding capital as well as number of CVC. However, the interaction between founding capital and founder's SoE experience, though positive, is insignificant ($b=0.171$, n.s.), thus failing to lend support to H3a. Model 4 tests the moderating effect of government experience, where we argue for a substitution effect of founder's government experience with founding capital and with number of CVC. As expected, we found government experience negatively moderating the effects of founding capital ($b=-0.545$, $p<0.05$) as well as number of CVC ($b=-1.419$, $p<0.001$). Thus, we conclude that H4a and H4b are supported. Finally, Model 5 is the full model, which shows that the results reported above are stable.

Table 3 about here

We also conducted several robustness checks to confirm our findings. First, we recognize that the research questions we analysed were meaningless for those firms that had no intention to expand internationally. In the robustness analysis, we restricted our attention to the subsample of firms that indicated intention to expand internationally. The survey asks future plan for the new venture engaging in international activities; 223 out of the 404 firms reported that they had not yet planned

to engage in international activities. We therefore dropped these 223 firms and re-ran the analyses with the 181 firms that indicated intention to engage in international activities. The results are reported in Table 3, and all main effects that we reported in Table 2 remain similar to those in Table 3.

Discussion

In this study, we advance signalling theory to argue that the efficacy of the signals conveyed by a small entrepreneurial firm's founding capital and corporate investor are contingent, in different ways, upon the distinct credentials of its founder. We proposed that information transmitted from some founder attributes can be similar, and that from others distinct, to the signals conveyed by firm-level characteristics. We suggested, for example, that founder's experience working in SOEs indicates his managerial experience; this is an attribute that is quite distinct from firm-level attributes such as initial financial capital and corporate backing. Therefore, the signal conveyed by this founder attribute could serve to strengthen the firm level signals. On the other hand, owing to the specific nature of the Chinese institutional context, work experience of the founder in the government may facilitate securing finance and corporate support. Hence, this founder-level attribute might be conveying information that overlaps with those firm attribute signals. Supporting these arguments, we found that founders' SOE experience positively and government work experience negatively moderates the signalling value of firms' initial capital and backing from corporate investors.

The findings of this study extend the recent strand of signalling literature that highlights the contingent value of founder attributes (Hsu & Ziedonis 2013; Plummer et al 2015). The literature has so far been only suggesting founder level signals can weaken the importance of firm level signals. We argued, however, that founder level signals are not homogeneous in that while some may attenuate firm level signals others my reinforce them. We developed our arguments by integrating signalling theory with the emerging Institutions-Based View and with the traditional entrepreneurship literature. First, the entrepreneurship literature suggests that a totality of multiple factors shape the long terms success of young, entrepreneurial firms (e.g. Cooper et al 1994). Assessing these factors therefore require observing

diverse signals emanating from the venture. In particular, this suggests a need for going beyond the predominant focus in the literature on the signalling value of third party affiliations (Gulati and Higgins 2003; Pollock et al. 2009; Ozmel et al 2013), and identifying and discerning the importance of multiple firm and founder level attributes that can carry retrospective (past achievements) and prospective (expectations about future) information about the firm (e.g. Lee et al 2011). It was in this spirit that we approached to identify and test the importance of multiple signals that emerge from a firm and from its founder and the interplay between the two sets of signals. Second, the emerging Institutions-Based View highlights that firms operating in countries characterized by gaps in the institutional infrastructure can exploit these gaps through certain adaptive strategies (Ahuja and Yayavaram 2011). Such strategies are particularly noticeable in China where companies that manage to receive favourable treatment from the government are able to achieve superior performance persistently over those that received no such favours from the government (Peng and Luo 2000). We incorporated this idea into our framework and found that government links can substitute for firm's financial resources and its corporate affiliations. Overall, our approach to consider not only the negative interplays but also the positive ones between multiple signals is in line with the recent call by Ozmel et al (2013) to take into account complementarities between signals.

Another novelty of the current study relates to the empirical question it pursued and the context in which this question was explored. While most prior research adopted signalling theory for explaining young firms' success in IPO or in obtaining other forms of external funding, typically in the context of advanced economies, we focused on the importance of signals in securing international joint venture partners in the context of an emerging economy, China. Unlike IPO, joint venture does not involve the release of reliable and standard information so uncertainty associated with joint venture is much higher than that with IPO. Furthermore, because the joint ventures we studied were formed in China between Chinese firms and foreign firms, potential foreign joint venture partners face higher uncertainty due to their relative lack of knowledge about the local environment. This provided a fascinating setting for employing signalling theory and integrating it with institutions-based view that stresses the importance of having connections with those who set the 'rules-of-the

game' in non-advanced economies, such as China, where institutional environment is rather imperfect.

The present study is not without weaknesses and has several implications for future research. First, prior research has emphasised that reputation of third party affiliations are particularly salient in minimizing the uncertainty surrounding young firm's quality and potentials. However, our data did not allow us to take into account the reputation of corporate investors in the firms in our sample. Instead we examined the signalling value of number of corporate investors in a firm. We considered this measure an appropriate proxy for third party affiliations as it captures multiple investors' confidence in the ability of a firm and potential gains that the small firm could accrue from these associations. Nevertheless, signalling value of the reputation of corporate affiliates may be of singular importance in emerging economy contexts where uncertainty levels are higher than in advanced economy contexts due to gaps in their institutional infrastructure.

Second, the literature identifies founders' own investment, along with investments from his friends and family, in his company as sending an important signal of commitment (Conti et al. 2013). However, our data did not permit discerning the amount of investment made by the founder in his company. We employed a related variable – capital at the time of founding – which we argued captures the ambition of the founder. While we believe that this is a variable of crucial signalling value especially in the Chinese context where raising capital is one of the foremost challenges entrepreneurs face, considering founder's investment in the company as an additional variable could provide a direct indication of his confidence in the future growth of the company.

Thirdly, future research may also consider a comparative analysis of joint venture formation of small Chinese firms with foreign firms and with other domestic firms. Naturally, domestic firms that are embedded in the local economy confront less uncertainty compared to foreign firms. It may therefore be fascinating to explore the relative importance attached to different signals by local firms versus foreign firms. One may for example expect that the contingent value of government connections may be less important for local firms compared to for foreign firms. On the other hand, founding capital may be viewed more favourably by Chinese firms compared to

foreign firms due to the greater recognition by the former of the challenges of raising capital in China.

Finally, the questions explored in the study and the refinements and extensions we suggested could be examined in the context of other emerging economies, such as for instance India, where institutional infrastructure, while weak, is quite different in its composition compared to China. This will help broaden our understanding of the differences and similarities in the kind of signals that are relied upon by firms, as well as in the contingent value of different founder characteristics in different institutional contexts.

REFERENCES

Ahuja, Gautam, and Sai Yayavaram. "PERSPECTIVE-Explaining Influence Rents: The Case for an Institutions-Based View of Strategy." Organization Science 22.6 (2011): 1631-1652.

Ang, Yuen Yuen, and Nan Jia. "Perverse Complementarity: Political Connections and the Use of Courts among Private Firms in China." The Journal of Politics 76.02 (2014): 318-332.

Brüderl, Josef, and Peter Preisendörfer. "Network support and the success of newly founded business." Small Business Economics 10.3 (1998): 213-225.

Brüderl, Josef, Peter Preisendörfer, and Rolf Ziegler. "Survival chances of newly founded business organizations." American Sociological Review (1992): 227-242.

Burton, M. Diane, Jesper B. Sørensen, and Christine M. Beckman. "Coming from good stock: Career histories and new venture formation." (2002).

Cavarretta, Fabrice L., and Nathan R. Furr. "Too Much of a Good Thing? Resource Effects in New Ventures." Frontiers of Entrepreneurship Research 31.3 (2011): 1.

Chen, Shimin, et al. "Government intervention and investment efficiency: Evidence from China." Journal of Corporate Finance 17.2 (2011): 259-271.

Chittoor, Raveendra, et al. "Third-world copycats to emerging multinationals: Institutional changes and organizational transformation in the Indian pharmaceutical industry." Organization Science 20.1 (2009): 187-205.

Cohen, Wesley M., and Steven Klepper. "The tradeoff between firm size and diversity in the pursuit of technological progress." Small Business Economics 4.1 (1992): 1-14.

Conti, Annamaria, Marie Thursby, and Frank T. Rothaermel. "Show Me the Right Stuff: Signals for High‐Tech Startups." Journal of Economics & Management Strategy 22.2 (2013): 341-364.

Cooper, Arnold C., F. Javier Gimeno-Gascon, and Carolyn Y. Woo. "Initial human and financial capital as predictors of new venture performance." Journal of Business Venturing 9.5 (1994): 371-395.

Crampton, Suzanne M., and John A. Wagner. "Percept-percept inflation in microorganizational research: An investigation of prevalence and effect." Journal of Applied Psychology 79.1 (1994): 67.

Dushnitsky, Gary. "Limitation to inter-organizational knowledge acquisition: the paradox of corporate venture capital." Academy of Management Proceedings. Vol. 2004. No. 1. Academy of Management, 2004.

Finkle, Todd A. "The relationship between boards of directors and initial public offerings in the biotechnology industry." Entrepreneurship Theory and Practice 22 (1998): 5-30.

Gulati, Ranjay, and Monica C. Higgins. "Which ties matter when? The contingent effects of interorganizational partnerships on IPO success." Strategic Management Journal 24.2 (2003): 127-144.

Haeussler, Carolin, Dietmar Harhoff, and Elisabeth Mueller. "How patenting informs VC investors–The case of biotechnology." Research Policy 43.8 (2014): 1286-1298.

Higgins, Monica C., and Ranjay Gulati. "Stacking the deck: The effects of top management backgrounds on investor decisions." Strategic Management Journal 27.1 (2006): 1-25.

Hsu, David H. "What do entrepreneurs pay for venture capital affiliation?." The Journal of Finance 59.4 (2004): 1805-1844.

Hsu, David H., and Rosemarie H. Ziedonis. "Resources as dual sources of advantage: Implications for valuing entrepreneurial‐firm patents." Strategic Management Journal 34.7 (2013): 761-781.

Inkpen, Andrew C., and Paul W. Beamish. "Knowledge, bargaining power, and the instability of international joint ventures." Academy of management review 22.1 (1997): 177-202.

Jia, Nan. "Are collective political actions and private political actions substitutes or complements? Empirical evidence from China's private sector." Strategic Management Journal 35.2 (2014): 292-315.

Kogut, Bruce. "Joint ventures: Theoretical and empirical perspectives." Strategic Management Journal 9.4 (1988): 319-332.

Lee, Lena, et al. "Entrepreneurial intentions: The influence of organizational and individual factors." Journal of business venturing 26.1 (2011): 124-136.

Lovas, B., 2002. Network alignment. Paper presented at the Academy of Management Conference, Denver.

Li, Hongbin, et al. "Political connections, financing and firm performance: Evidence from Chinese private firms." Journal of development economics 87.2 (2008): 283-299.

Li, Hongbin, Lingsheng Meng, and Junsen Zhang. "Why do entrepreneurs enter politics? Evidence from China." Economic Inquiry 44.3 (2006): 559-578.

Lu, Yuan, et al. "Capabilities as a mediator linking resources and the international performance of entrepreneurial firms in an emerging economy." Journal of International Business Studies 41.3 (2010): 419-436.

Luo, Xiaowei Rose, Kenneth W. Koput, and Walter W. Powell. "Intellectual capital or signal? The effects of scientists on alliance formation in knowledge-intensive industries." Research Policy 38.8 (2009): 1313-1325.

Luo, Yadong, and Rosalie L. Tung. "International expansion of emerging market enterprises: A springboard perspective." Journal of International Business Studies 38.4 (2007): 481-498.

Madhok, Anoop. "Cost, value and foreign market entry mode: The transaction and the firm." Strategic Management Journal 18.1 (1997): 39-61.

Martínez, Jon I., Bernhard S. Stöhr, and Bernardo F. Quiroga. "Family ownership and firm performance: Evidence from public companies in Chile." Family Business Review 20.2 (2007): 83-94.

Maula, Markku, Erkko Autio, and Gordon Murray. "Corporate venture capitalists and independent venture capitalists: what do they know, who do they know and should entrepreneurs care?." Venture Capital: An International Journal of Entrepreneurial Finance 7.1 (2005): 3-21.

Maula, Markku VJ, Erkko Autio, and Gordon C. Murray. "Corporate venture capital and the balance of risks and rewards for portfolio companies." Journal of Business Venturing 24.3 (2009): 274-286.

Maula, Markku, and Gordon Murray. "Corporate venture capital and the creation of US public companies: The impact of sources of venture capital on the performance of portfolio companies." Creating value: Winners in the new business environment (2002): 164-187.

Mínguez-Vera, Antonio, and Juan Francisco Martín-Ugedo. "Does ownership structure affect value? A panel data analysis for the Spanish market." International Review of Financial Analysis 16.1 (2007): 81-98.

Neter, John, William Wasserman, and Michael H. Kutner. "Applied statistical models." Boca Raton, FL: CRC Lewis Publishers (1990).

Oviatt, Benjamin M., and Patricia P. McDougall. "A framework for understanding accelerated international entrepreneurship." Research in global strategic management 7.1 (1999): 23-40.

Ozmel, Umit, Jeffrey J. Reuer, and Ranjay Gulati. "Signals across multiple networks: How venture capital and alliance networks affect interorganizational collaboration." Academy of Management Journal 56.3 (2013): 852-866.

Peng, Mike W., and Yadong Luo. "Managerial ties and firm performance in a transition economy: The nature of a micro-macro link." Academy of management journal 43.3 (2000): 486-501.

Plummer, Lawrence A., Thomas H. Allison, and Brian L. Connelly. "Better together? Signaling interactions in new venture pursuit of initial external capital." Academy of Management Journal (2015): forthcoming

Podsakoff, Philip M., et al. "Common method biases in behavioral research: a critical review of the literature and recommended remedies." Journal of Applied Psychology 88.5 (2003): 879.

Pollock, Timothy G., et al. "How much prestige is enough? Assessing the value of multiple types of high-status affiliates for young firms." Journal of Business Venturing 25.1 (2010): 6-23.

Sanders, W. M., and Steven Boivie. "Sorting things out: Valuation of new firms in uncertain markets." Strategic Management Journal 25.2 (2004): 167-186.

Shane, Scott, and Daniel Cable. "Network ties, reputation, and the financing of new ventures." Management Science 48.3 (2002): 364-381.

Shane, Scott, and Rakesh Khurana. "Bringing individuals back in: the effects of career experience on new firm founding." Industrial and Corporate Change 12.3 (2003): 519-543.

Shane, Scott, and Toby Stuart. "Organizational endowments and the performance of university start-ups." Management Science 48.1 (2002): 154-170.

Shen, Jung-Chin, and Jeffrey J. Reuer. "Adverse selection in acquisitions of small manufacturing firms: A comparison of private and public targets." Small Business Economics 24.4 (2005): 393-407.

Silva, Francisca, and Nicolás Majluf. "Does family ownership shape performance outcomes?." Journal of Business Research 61.6 (2008): 609-614.

Song, Michael, et al. "Success Factors in New Ventures: A Meta‐analysis*." Journal of Product Innovation Management 25.1 (2008): 7-27.

Spence, Michael. "Competitive and optimal responses to signals: An analysis of efficiency and distribution." Journal of Economic Theory 7.3 (1974): 296-332.

Spence, Michael. "Signaling in retrospect and the informational structure of markets." American Economic Review (2002): 434-459.

Stinchcombe, Arthur L. "Organizations and social structure." Handbook of organizations 44.2 (1965): 142-193.

Stuart, Toby E., Ha Hoang, and Ralph C. Hybels. "Interorganizational endorsements and the performance of entrepreneurial ventures." Administrative Science Quarterly 44.2 (1999): 315-349.

Tabachnick, B. G., and L. S. Fidhi. "Using multivariate statistics (3rd ed)." New York: Harper Collins (1996).

Wasserman, Noam. "Founder-CEO succession and the paradox of entrepreneurial success." Organization Science 14.2 (2003): 149-172.

Welch, Lawrence S., and Reijo K. Luostarinen. "Inward-outward connections in internationalization." Journal of International Marketing (1993): 44-56.

Yamakawa, Yasuhiro, Mike W. Peng, and David L. Deeds. "What drives new ventures to internationalize from emerging to developed economies?." Entrepreneurship Theory and Practice 32.1 (2008): 59-82.

Zhou, Lianxi, Wei-ping Wu, and Xueming Luo. "Internationalization and the performance of born-global SMEs: the mediating role of social networks." Journal of International Business Studies 38.4 (2007): 673-690.

Zimmerman, Monica A., and Gerald J. Zeitz. "Beyond survival: Achieving new venture growth by building legitimacy." Academy of Management Review 27.3 (2002): 414-431.

Table 1 Descriptive Statistics and Correlation (N=404)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Joint venture formation	1.000												
2 Founding capital	0.207	1.000											
3 Number of CVCs	0.253	0.087	1.000										
4 State-owned work experience	0.061	-0.001	0.016	1.000									
5 Government work experience	0.020	-0.041	0.026	-0.162	1.000								
6 Initial size	0.135	0.283	0.104	0.093	0.017	1.000							
7 Firm age	0.174	-0.020	0.175	0.008	-0.009	-0.057	1.000						
8 Capital concentration	-0.095	-0.059	-0.084	-0.003	-0.092	-0.132	0.115	1.000					
9 Family control	0.142	0.064	0.382	0.017	-0.016	0.158	0.144	-0.157	1.000				
10 Age of founder	0.033	0.042	0.126	0.218	0.002	0.140	0.246	0.052	0.039	1.000			
11 Gender of founder	-0.070	-0.050	-0.053	-0.088	-0.007	-0.168	-0.057	-0.054	0.036	-0.053	1.000		
12 Founder's education=Bachelor	-0.044	0.031	0.018	0.003	0.075	0.005	-0.005	-0.087	0.099	-0.151	0.041	1.000	
13 Founder's education = Postgraduate	0.092	0.029	0.154	-0.093	0.170	0.100	-0.021	-0.041	0.096	-0.026	-0.064	-0.051	1.000
Min	**0.000**	**1.000**	**0.000**	**0.000**	**0.000**	**1.000**	**1.000**	**0.125**	**0.000**	**24.000**	**0.000**	**0.000**	**0.000**
Max	**1.000**	**4380.000**	**20.000**	**1.000**	**1.000**	**500.000**	**21.000**	**1.000**	**10.000**	**68.000**	**1.000**	**1.000**	**1.000**
Mean	**0.082**	**206.730**	**0.891**	**0.661**	**0.129**	**38.000**	**7.379**	**0.708**	**0.696**	**45.438**	**0.101**	**0.067**	**0.035**
Medium	**0.000**	**50.000**	**1.000**	**1.000**	**0.000**	**20.000**	**6.000**	**0.680**	**0.000**	**45.000**	**0.000**	**0.000**	**0.000**
S.D.	**0.274**	**432.690**	**1.629**	**0.474**	**0.335**	**53.846**	**4.090**	**0.203**	**1.023**	**7.883**	**0.302**	**0.250**	**0.183**

Table 2 Regression Analysis of Joint Venture Formation (Logistic Regression)

	Model 1	Model 2	Model 3	Model 4	Model 5
Explanatory variables					
Founding capital (ln)		0.594***	0.483	0.669***	0.61
		(0.0677)	(0.4330)	(0.0824)	(0.4183)
Number of CVCs		0.235***	-1.080***	0.275***	-0.908**
		(0.0686)	(0.2860)	(0.0687)	(0.3138)
Interaction effects					
Founding capital*State-own experience			0.171		0.0904
			(0.5480)		(0.5220)
CVCs*State-own experience			1.452***		1.325***
			(0.3440)		(0.3360)
Founding capital*Gov't experience				-0.545*	-0.494*
				(0.2560)	(0.2010)
CVCs*Gov't experience				-1.419***	-1.125***
				(0.1500)	(0.1910)
State-own work experience	0.704**	1.087*	-1.192	0.903*	-0.763
	(0.2290)	(0.5420)	(2.6600)	(0.3920)	(2.5150)
Government work experience	0.355*	0.647*	0.521	4.192**	3.600**
	(0.1500)	(0.3060)	(0.4600)	(1.3600)	(1.1870)
Founding recruitment	0.479***	0.114	0.215***	0.144	0.214*
	(0.1320)	(0.0842)	(0.0413)	(0.1360)	(0.0879)
Firm age	0.176***	0.202***	0.258***	0.188***	0.243***
	(0.0379)	(0.0522)	(0.0703)	(0.0566)	(0.0651)
Ownership concentration	-2.398***	-2.317***	-2.205**	-2.514***	-2.371**
	(0.6290)	(0.6540)	(0.7120)	(0.4990)	(0.7290)
Family control	0.0264	-0.0365	0.00126	-0.0496*	-0.0107
	(0.0430)	(0.0280)	(0.0842)	(0.0206)	(0.0884)
Age of founder	-0.0171	-0.0343+	-0.0322*	-0.0321	-0.0315+
	(0.0261)	(0.0182)	(0.0148)	(0.0207)	(0.0171)
Founder gender = Female	-0.776	-0.771	-0.705	-0.676	-0.64
	(0.4840)	(0.7190)	(0.9410)	(0.6450)	(0.8770)
Founder's education = Bachelor	-1.027	-0.905	-0.712	-0.91	-0.852
	(1.5260)	(1.3890)	(1.2720)	(1.2200)	(1.2140)
Founder's education = Postgraduate	0.681	0.813	0.544	0.71	0.487
	(0.8890)	(0.9400)	(1.3020)	(1.2140)	(1.5290)
Industry	Yes	Yes	Yes	Yes	Yes
Region	Yes	Yes	Yes	Yes	Yes
Constant	(2.7860)	-4.461+	(3.6750)	-5.500+	(4.9210)
	(2.9770)	(2.6970)	(3.2030)	(3.0100)	(3.2020)
N	404	404	404	404	404
pseudo R2	0.214	0.287	0.324	0.308	0.338
log pseudolikelihood	-89.814	-81.526	-77.200	-79.034	-75.688

Robust standard errors in parentheses (one-way clustering at industry level: 3 clusters)
Two-tailed hypothesis testing
+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

Table 3 Subsample Analysis of Joint Venture Formation (Logistic Regression)

	Model 6	Model 7	Model 8	Model 9	Model 10
Explanatory variables					
Founding capital (ln)		0.786***	0.522	1.023***	0.683
		(0.1500)	(0.5160)	(0.1230)	(0.5134)
Number of CVCs		0.248*	-1.718***	0.416***	-1.252***
		(0.0970)	(0.4550)	(0.0686)	(0.3480)
Interaction effects					
Founding capital*State-own experience			0.422		0.457
			(0.7880)		(0.7880)
CVCs*State-own experience			2.143***		1.927***
			(0.5960)		(0.4640)
Founding capital*Gov't experience				-1.202***	-1.100*
				(0.3140)	(0.5130)
CVCs*Gov't experience				-2.471***	-2.119***
				(0.5540)	(0.4250)
State-own work experience	0.825**	1.443***	-2.751	1.060**	-3.049
	(0.2810)	(0.3840)	(3.3300)	(0.3540)	(3.6950)
Government work experience	0.807***	1.329***	1.360*	8.811***	8.062***
	(0.1590)	(0.3740)	(0.5490)	(1.5320)	(2.1760)
Founding recruitment	0.255**	-0.274**	-0.099	-0.313**	-0.16
	(0.0857)	(0.0916)	(0.1930)	(0.0990)	(0.1840)
Firm age	0.168***	0.192***	0.294***	0.154***	0.255***
	(0.0248)	(0.0298)	(0.0201)	(0.0331)	(0.0126)
Ownership concentration	-1.780***	-1.600*	-0.908	-2.993***	-1.964
	(0.4770)	(0.6580)	(1.2340)	(0.5070)	(1.4750)
Family control	0.206*	0.119	0.260**	0.149**	0.282*
	(0.0911)	(0.1000)	(0.0950)	(0.0540)	(0.1280)
Age of founder	-0.0484+	-0.0813***	-0.0699***	-0.0883***	-0.0786***
	(0.0287)	(0.0207)	(0.0077)	(0.0222)	(0.0129)
Founder gender = Female	-1.264***	-1.835***	-2.060**	-2.494***	-2.825***
	(0.2140)	(0.1120)	(0.6470)	(0.2690)	(0.7960)
Founder's education = Bachelor	-0.957	-1.151	-0.715	-1.374	-1.223
	(1.6070)	(1.5830)	(2.4390)	(2.2050)	(3.1000)
Founder's education = Postgraduate	1.391***	1.646***	1.605***	1.198**	1.251*
	(0.0649)	(0.0925)	(0.3830)	(0.3950)	(0.5420)
Industry	Yes	Yes	Yes	Yes	Yes
Region	Yes	Yes	Yes	Yes	Yes
Constant	-0.3320	-2.604+	-2.019+	-2.656+	-2.034***
	(2.7940)	(1.3740)	(1.1290)	(1.3560)	(0.5850)
N	181	181	181	181	181
pseudo R2	0.203	0.316	0.375	0.379	0.419
log pseudolikelihood	-66.066	-56.718	-51.764	-51.487	-48.128

Robust standard errors in parentheses (one-way clustering at industry level: 3 clusters)
Two-tailed hypothesis testing
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$