

Riding the Dragon: Entrepreneurship under Market Transition
by

Yanbo Wang

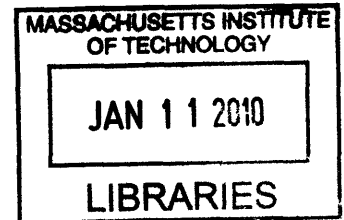
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ARCHIVES

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ABSTRACT

This dissertation focuses on three of the most important questions in entrepreneurship study, namely venture financing, corporate strategy and firm performance. The main thrust of the dissertation is to elaborate the mechanisms through which institutional and social factors impact entrepreneurial activities in developing countries.

The first essay, “Evaluation or Attention”, examines the causal mechanisms of social ties in venture financing. A staged model of network effects is developed, showing that the prior literature has drawn erroneous conclusions about the role of social ties as they conflate VC’s evaluation of entrepreneurs with the necessary preceding act of becoming aware of them.

The second essay, coauthored with Yasheng Huang, examines the institutional driver of local entrepreneur’s foreign direct investment (FDI) seeking behavior. We find that the Chinese economic system has a political pecking order in which private enterprises are located at the bottom. FDI-seeking behavior, while diluting local entrepreneurs’ ownership controls, helps change their firms’ political status to transcend institutional constraints.

The third essay examines the role of bureaucratic legacy upon entrepreneurial performance. I find that Chinese entrepreneurs with work experiences in the public sector have better access to state controlled resources but low efficiency in utilizing these resources. This pattern reflects that entrepreneurs are organizational products: individuals’ past work experiences shape both their positions within the social structure and the organizational blueprints that they transfer to new ventures.

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Introduction

RIDING THE DRAGON: ENTREPRENEURSHIP UNDER MARKET TRANSITION

My dissertation's title, "Riding the Dragon", refers not only to the empirical context that I am examining, but also to the various opportunities and risks that private entrepreneurs face in transitional economies. On the one hand, the legacy of "shortage economy" (Kornai, 1992) has created many unfulfilled market niches in former socialist countries and successful entrepreneurs often grow their firms at a skyrocketing speed. On the other hand, market supporting institutions are underdeveloped in these economies and entrepreneurs often fall victims to the government's "grabbing hands". From these perspectives, entrepreneurship under market transition is exactly like riding a dragon – while one may rise fast, he may also fall down in a hard way! Thus, studying the various strategies that entrepreneurs adopt to overcome institutional voids has important implications, both theoretically and practically.

My choice of China is based on its obvious significance in the world economy and that I have a wealth of personal and research experience. Born in the last year of the Cultural Revolution, I was raised in the reform years. I have personally witnessed how the lives of billions have been changed and what a central role that entrepreneurship has played in the process of China's transition. At the same time, I have also witnessed many entrepreneurs whose ventures failed due to governmental policies that were originally designed to make a positive change in the economy. I wish that my study will shed light on our understanding of dynamics of entrepreneurial activities in China and help both the decision making of (potential) entrepreneurs and policy makers in China and beyond its national border.

My research has two main themes. The first theme examines the positive and negative aspects of social ties on entrepreneurial success. My goal is to reveal the various tradeoffs that individuals have to make when their economic actions are embedded in social relationships. The second theme looks at how institutional factors shape entrepreneurial behaviors and performance. My goal is to show how well-intentioned policies may create economic distortions and force entrepreneurs to adopt various nonmarket strategies. Even though I look at the traditional sectors as well, my main focus is on China's high-tech firms and the quickly emerging venture capital industries. These

sectors are the most knowledge-intensive. They are not only the new engine of economic growth in China but also are shaping the global landscape of technology innovation and competition. In the section below, I briefly outline my research.

Social Networks for Developing Economy Entrepreneurs

In “Evaluation or Attention: How do Social Ties Matter in Venture Financing”, I examine high-tech firms’ pursuit of venture capital (VC) to understand the mechanisms through which social networks influence the decision-making process of resource holders. In particular, while prior research has found a positive correlation between social ties with VCs and entrepreneurs’ access to capital, these studies conflate the evaluation of entrepreneurs with the necessary preceding act of becoming aware of them. My research challenges the established wisdom, arguing that while better-networked entrepreneurs are advantaged in terms of getting the initial attention of investors, this advantage does not carry over to the next stage of evaluation. By collapsing the two stages together prior studies have come to erroneous conclusions about the role of social networks. Disentangling these two stages empirically raises a key inferential challenge which I solve. Specifically, one needs exogenous variation in entrepreneurs’ social networks that is caused neither by the venture’s business opportunities nor the unobserved characteristics of entrepreneurs. Without a setting that captures such variation, it is hard to isolate the effect of social networks on advantages such as access to venture financing from other factors that simultaneously affect the advantage and tie formation.

My approach is to exploit intra-entrepreneur variation of ties to venture capitalists: an entrepreneur often approaches several VC firms for funding and usually does not have previous ties with all of them. Using this variation, combined with entrepreneur level fixed-effects enables me to directly study how social ties affect the chances of gaining a VC’s attention. One key advantage of this method is that it rules out the possibility that the observed network effect can be explained by entrepreneur or firm level characteristics that may influence tie formation and VC attention at the same time. Using a unique dataset collected through fieldwork in China, I find that an entrepreneur is more likely to

gain an interview offer from a connected VC firm as opposed to one from outside the entrepreneur's network. However, evidence also suggests that firms benefiting from social ties in the first stage are less likely to be selected for funding in the second stage. These results imply that social bonds impose constraints upon VCs in granting interviews as they are influenced, indeed sometimes even coerced, to take into consideration some firms that they might not otherwise investigate.

In "Bureaucracy and Entrepreneurship under Market Transition", I explore a different aspect of social ties and their influence on entrepreneurship. Rather than focus on the positive value of social ties - for example in gaining introductions, resources etc. - I examine the little explored "down side" of social networks showing how entrepreneurs' connections with the state may hold them back from growing their firms' competitiveness. The fact that bureaucrats enjoyed large economic advantages over the rest of the society is an extremely robust empirical finding in the context of state-controlled economies. However, the literature has no consensus regarding the capability of bureaucrats to retain these advantages during market transition. The elite retention theory argues that former cadres can rely on connections and administrative expertise acquired under state socialism to maintain high economic status in the post-socialist era. However, the market transition theory has argued that cadres will lose their advantages due to the decline of the state's redistributive power in the emergence of a market society. A recent literature has particularly argued that "the realities of bureaucratic life are fundamentally incompatible with the development of entrepreneurial initiative" (Sorensen, 2007), suggesting bureaucrats-turned-entrepreneurs perform poorly.

My research reconciles these two perspectives. Using a nationally representative survey of private entrepreneurs in China, I find that, compared with entrepreneurs whose careers did not include time in the state sector, bureaucrats-turned-entrepreneurs are more likely to access key external resources such as bank credit and so grow their firms to larger sizes. However, bureaucratic experiences also have a detrimental effect, as firms of bureaucrats-turned-entrepreneurs do not utilize resources efficiently and suffer from productivity losses. My findings suggest that career experiences can drive two distinctive

causal mechanisms that each impact different dimensions of entrepreneurial success. On one hand, individuals' career paths define their external networks and social legitimacy. From this perspective, bureaucrats-turned-entrepreneurs are more likely to develop ties with state institutions that continue to control key resources such as banking credits and hold suspicious views of the newly emerged private sector. On the other hand, individuals internalize their former employers' corporate cultures and imprint their organizational routines. From this perspective, bureaucrats-turned-entrepreneurs may inherit the "soft-budget constraint" and other state-sector characteristics that are not compatible with the newly established market rules.

Institutional Drivers of Entrepreneurship

Beyond the two papers described above, I am also working to understand the relationship between institutional context (more broadly defined than social networks) and entrepreneurs' choice of organizational form. My working paper "Institutional Constraints and Entrepreneurs' FDI Seeking Behaviors" (with Yasheng Huang) challenges the notion that the prevalence of foreign direct investment (FDI) indicates the host country's institutional strength in protecting private enterprises. We argue that local firms' preference for an ownership arrangement (namely FDI) rather than contractual arrangement in their partnership with foreign firms represents an institutional bias against local entrepreneurs that prevents them from accessing key economic resources for growth. Specifically, there is a political pecking order in China where foreign invested enterprises rank much higher than private local firms. As a result, FDI helps local private enterprises to change their ownership status and transcend institutional constraints. To test these arguments, we leverage wide variation in firm ownership and institutional context among Chinese regions, together with a dataset of a nationally representative sample of non-state owned enterprises. We find that FDI indeed is more attractive for firms in poor institutional environments and the effect is particularly strong for private entrepreneurs, who are at the bottom of China's political pecking order.

These three essays, while covering a wide range of outcome variables, have a common theme: in China, a developing country where market-supporting institutions are underdeveloped, entrepreneurs and other economic actors have to rely on non-market strategies for their ventures' survival and growth and these strategies do not come without a cost – for venture capitalists, while social ties transfer “soft information” that reduces investment uncertainty and risks, these ties also enact social obligation and reduce investors' flexibility in attention allocation; for (potential) entrepreneurs, while work experience in the public sector helps develop connections with the state, such a career path also exposes these individuals to inefficient organizational routines and bureaucratic cultures; for private enterprise owners, while foreign enterprise status helps overcome domestic political discrimination, this forces them to split firm ownership without necessarily being compensated with technological/managerial knowhow. It might have been a coincidence for the three essays to fall into the same theme. However, as a Chinese, I'd like to say it is the wisdom of my ancestors that inspires me: according to the yin yang philosophy, along with light, there is always darkness. So are entrepreneurial strategies in developing countries!

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Chapter One

EVALUATION OR ATTENTION: HOW DO SOCIAL TIES MATTER IN VENTURE FINANCING?

This paper advances our understanding of why entrepreneurs with social ties to venture capital (VC) firms are more likely to be awarded VC financing. Prior research tends to argue that embeddedness in social relationships alleviates the concerns of adverse selection and moral hazard in economic transactions, thus entrepreneurs with social ties to investors are more likely to gain VC financing. However, the availability of alternative mechanisms for VCs to collect information and to monitor startup behavior, plus the often limited capability of referrers in judging the quality of startup ventures (information misalignment) and potential conflict of interest between referrers and investors (incentive misalignment) should limit the role of social ties in VC decision-making. Why then do we see positive correlation between social ties and venture financing? This paper argues that past studies focus mainly on the final outcome of venture financing and thus conflate investors' decision-making about which entrepreneurial ventures to fund with the necessary preceding act of becoming aware of them. I propose a two-stage model of VC decision-making, where entrepreneurs have to first receive VC interview offers before being evaluated for funding selection. Using a dataset collected through fieldwork involving 72 startups in two Chinese science parks, I find that better networked entrepreneurs have an advantage in getting the initial attention of investors, but this advantage does not carry over to the next stage of evaluation. Collapsing the two stages together can give misleading conclusions about the role of social networks.

INTRODUCTION

Social networks seem to play a crucial role in the world of entrepreneurship. Startup firms generally have little legitimacy and few of the resources needed for survival and growth (Stinchcombe 1965; Aldrich and Auster 1986; Freeman, 1997). To overcome these constraints, entrepreneurs often draw upon their "social capital." A large literature has found entrepreneurs with social ties to decision-makers are more successful in achieving desirable economic ends such as bank loans (Uzzi 1999; Mizruchi and Stearns 2001), innovative capability (Stuart 1998; Ahuja 2000; Burt 2004), and organizational longevity (Baum and Oliver, 1991). Summarizing the literature, Stuart and Sorenson (2005:233) conclude, "If one thinks of ideas, knowledge, and capital as the central

ingredients entrepreneurs must assemble in new venture creation, social relations provide the connections required to unite these ingredients to form new organizations.”

At first glance, this summary statement seems to capture the important role that networks play in securing venture capital (henceforth, VC) financing. In a study of 134 high tech firms, Stuart and Shane (2002) find that new ventures are most likely to be funded when their founders have direct or indirect ties with the VC community. Similar results have been replicated in many different settings (Shane and Cable 2002; Hsu 2007; Hallen 2008), including transition economies (Bruton and Ahlstrom 2003). In their study of the investment decisions of 40 Chinese venture capitalists, Batjargal and Liu (2004) find that these Chinese investors not only prefer to invest in firms owned by their friends, but also tend to approve them for higher levels of funding.

The natural question to ask is why venture capitalists (VCs) might favor firms to which they have social ties. Prior literature has focused mainly on the issue of evaluation, arguing that social embeddedness helps solve the problems of adverse selection and moral hazard in economic exchanges. On the one hand, network ties facilitate information exchange between entrepreneurs and investors (Podolny 2001; Shane and Cable 2002), giving them a better way of combining resources for new value creation than through arm’s length transactions (Podolny and Page 1998; Uzzi 1999; Uzzi and Lancaster 2003). On the other hand, network ties may serve as a control mechanism (Coleman 1988; DiMaggio and Louch 1998), helping investors monitor entrepreneurs’ behavior and mobilize the VC community to prevent and punish opportunistic behavior (Stuart and Sorenson 2005). From these perspectives, a given venture would be evaluated much more positively by investors with whom the entrepreneur has prior social ties than by those with whom she lacks ties.

While these arguments seem compelling, there are good reasons to doubt network effects in evaluation. Although resource holders are expected to favor entrepreneurs to whom they are connected when social ties are the only source of reliable information (Rangan 2000; Rona-Tas and Guseva 2001), it is unclear why they should favor social

ties when alternative mechanisms can serve the same purpose (Zuckerman 2008). The VC industry has developed various measures to let investors assess the quality of entrepreneurs and the promise of their business ventures (Sahlman, 1990). Though imperfect, mechanisms such as due diligence, vesting and board membership do create opportunities for investors to interact with entrepreneurs closely and help align the interests of the two parties (Lerner and Gomper, 1999; Baum and Silverman, 2004). These mechanisms are not perfect, but neither is reliance on prior connections (Granovetter 1985: 491; Fernandez et al. 2000; Sorenson and Waguespack 2006).¹ The important issue is that as long as the alternative mechanisms function reasonably well, the role of social ties at evaluation should be limited (Kuwabara 2007; Robinson and Stuart 2007; Zuckerman 2008).²

If social ties do not play a salient role in evaluation, why has the prior literature consistently shown a strong and positive relationship between social ties and venture financing? This paper proposes an alternative theory of network effects in venture financing, arguing that the apparent preference for entrepreneurs with social ties to the VC firm is an artifact of the multi-stage nature of funding decisions. Specifically, I argue that VC financing is a two-stage selection process, of which evaluation is the last stage (see Figure 1), preceded by an awareness stage. By focusing on the final outcome, past research ignores the earlier stage and the potential network effects there. This raises the possibility that the benefits of ties found at evaluation could be an artifact of collapsing the stages of the process.

Responding to the call for “more process-oriented” research in the network literature (Powell and Smith-Doerr 2005), I develop a multi-stage view of network effects. As decision-making generally takes place in a sequence of action and deliberation (Simon 1955; Coleman et al. 1966), it is important to reveal the black box of decision-making in order to understand how economic exchanges are embedded in social relationships (Van den Bulte and Lilien 2004; Sorenson and Waguespack 2006). By making a clear distinction between the awareness generation (i.e., constructing the set of options to be considered for evaluation) and efficiency evaluation (i.e., evaluating the consideration set

to select the most efficient options) stages of the decision-making process, this study helps further our understanding of when and how social ties matter in economic exchanges. Specifically, I argue that network ties help entrepreneurs make VCs aware of opportunities to invest in their firms; however, once they are in the consideration set, entrepreneurs do not necessarily benefit from social connections in terms of how they are evaluated.

To explain the varying role of social ties across the two stages, I look at the VC decision-making environment and the content and structural features of networks that connect VCs and entrepreneurs. I argue that information embedded in social ties helps reduce investors' search costs but is a relatively secondary consideration when it comes time to make a decision with financial implications. In the deal origination (or awareness) stage, VCs are faced with a large number of options and a relative lack of time for intensive due diligence; hence, there is scope for social networks to appreciably and systematically influence how investors construct their consideration sets. By contrast, the information value of social ties is reduced in the evaluation stage because of limitations on referrers' knowledge (e.g. many individuals connected with VCs are laypersons who lack the business knowledge to help VCs judge investment opportunities), their potential conflicts of interest (e.g. referrers are often friends with the entrepreneurs they refer, or the latter has promised a commission fee), and the availability of alternative mechanisms (for investors to evaluate and monitor entrepreneurs).

This paper develops and tests the two-stage model by analyzing China's VC market. As a developing country with weak market-supporting institutions, China makes a good setting for such research. A large body of literature has found that in an environment where formal institutions such as laws and regulations are weak, firms have to perform such basic functions as obtaining market information, interpreting regulations, and enforcing contracts through informal means (Keister 2001; Peng, 2004; Rona-Tas and Guseva, 2001). This makes relationships "absolutely essential to successfully complete any task in virtually all spheres of social (and economic) life" (Gold et al. 2002:3; see also, Zhou et al. 2003; Gerber and Mayorova 2008)³. Thus, China serves as a

conservative test for my argument that networks may not play a salient role in venture evaluation: If I do not find that social ties help entrepreneurs gain favorable evaluations from VC in China, where institutions are weak and social ties should matter, it is unlikely social ties would generate such advantages in the U.S., where institutions are strong and ties matter less.

The rest of the paper is organized as follows: Section II reviews the literature on the role of networks in economic transactions and integrates it with in-depth field research to develop a multi-stage model of VC financing. Because qualitative research can overstate theoretical processes, I complement the field research with a quantitative study of 72 startup firms that reported 358 requests for VC financing. Section III describes the empirical setting and data, and Section IV presents the empirical analysis. I use a variety of empirical methods to test the theory, in order to ensure the robustness of the statistical results. The findings from within-entrepreneur fixed-effect conditional logistic regression provide rare evidence of an association between social ties and interview granting, independent of entrepreneurs' individual characteristics. The last section of the paper discusses the empirical results and compares them with findings in the labor market and innovation adoption literatures to draw some general conclusions regarding how social relationships may enter into decision-making across contexts.

SOCIAL NETWORKS IN ECONOMIC DECISION-MAKING

The prevalence of using social ties in the quest for economic benefit seems to confirm the old saying that, "It is not what you know, but who you know that matters!" Many studies have found that actors with social ties to decision-makers are more likely to obtain desirable ends such as job mobility (Granovetter 1973; Bian 1997; Burt 1997), financial resources (Uzzi 2002; Gulati and Higgins 2003), and business contracts (Larson 1992; Zhou et al. 2003). These studies gradually shifted the characterization of economic exchanges from anonymity to familiarity (Zuckerman 2008), and revealed that social relationships are an important determinant of the creation and maintenance of economic advantages (Sorensen 1996; Lin 1999).

As the notion that social ties create privileged access to key resources gained increasing acceptance, the focus of research shifted towards studying the mechanisms through which social ties yield benefits. An emerging theme in several literatures is that decision-making is a sequence of actions and deliberation and that the influence of networks is contingent on the stage of the decision-making process (Fernandez and Weinberg, 1997; Mizruchi and Stearns, 2001; Van den Bulte and Lilien, 2004; Zuckerman, 2008). This line of argument can be traced back to Coleman et al.'s (1966: 58) classic study *Medical Innovation*, which argued that factors “enter into the making of a decision” with a “characteristic time-order” that “correspond[s] to a sequence of stages in the cognitive process of decision-making itself.” The authors further suggest,

“relatively more formal sources of influence – particularly the impersonal mass media, but also the personal agent of interested company – may bring word of what’s new ... this is followed, prior to actual adoption of the innovation, by rather extensive checking with other sources, and particularly with the informal-personal sources of information.”

Van den Bulte and Lilien (2004) recently picked up the idea and showed that distinguishing between the two stages of awareness (i.e., interest generation for consideration) and evaluation (e.g. efficiency assessment for selection) has important implications. Re-analyzing the *Medical Innovation* data, the authors find that a one-stage model would show no evidence that social ties matter among doctors in new drug diffusion (Van den Bulte and Lilien, 2001; 2004). In contrast, a two-stage model demonstrates that network ties do influence the evaluation and thus the eventual adoption of new drug, even though doctors mainly learned of its availability through impersonal mass media (Van den Bulte and Lilien, 2004). An application to the adoption of ATMs by US banks further illustrates that collapsing the two stages of awareness and evaluation may give misleading conclusions about how network ties enter into decision-making. In a similar fashion, Fernandez and Sosa's (2005) study of labor market segregation shows that, while gender homophily of networks affects job application (an awareness stage),

that effect would be concealed if a study focused solely on the employer's final choice (evaluation).

The two-stage model can apply to many decision contexts, including VC financing. The large number of funding requests that VCs receive, plus the complexity of evaluating them, makes VC financing a situation where decision-makers have to divide the decision into relatively simple and structured stages (Newell and Simon, 1972; Mintzberg et al., 1976). Like doctors and employers, venture capitalists rarely evaluate all the options available or even all that they are aware of. It is not atypical for a VC firm to screen out 90% of business plans received before reviewing the rest through due diligence for funding consideration (Tyejee and Bruno, 1984). Given the number of submitted business plans that fail to make it into consideration for VC financing, breaking down the decision-making into stages helps illustrate the possibility that the observed network effect really operates in the awareness stage rather than the evaluation stage.

MULTI-STAGE MODEL OF NETWORK EFFECTS IN VENTURE FINANCING

Although prior research has found a positive relationship between entrepreneurs' ties with investors and their access to VC funding, both empirical and theoretical reasons lead to the suspicion that networks have a limited effect on how startups are evaluated but instead play a role in bringing them to VCs' awareness. Empirically, all prior research has had information only on the outcome of funding decisions. Therefore, these studies have had to infer the effect of social ties by comparing the networks entrepreneurs who received VC financing and those who did not. Such an approach implicitly assumes that networks influence VCs' evaluation of *all* firms, regardless of whether they have actually passed the awareness stage of the VC decision-making process and entered the consideration set for selection. Consequently, this line of research cannot distinguish between the following three scenarios: 1) networks help entrepreneurs mainly during the first, or awareness-generation, stage; 2) networks help entrepreneurs mainly during the second, or evaluation, stage; or 3) networks help entrepreneurs at both stages. A data set

that makes an explicit distinction between the two stages should help unpack the causal mechanism to help explain where the advantages of entrepreneurs with social ties to VC arise.

Key theoretical reasons bolster the doubt raised by the empirical gap that VCs would rely heavily on information from mutual ties in evaluating new ventures. First, heterogeneity of the referral network can make the referral process “clunky” (Obukhova, 2008). Although VCs receive recommendations from other investors and seasoned entrepreneurs (Tyebjee and Bruno, 1984; Roberts, 1991:196-197), they also receive many referrals from laypersons such as neighbors, family friends, and other people with whom they share non-professional ties. Unlike investors or seasoned entrepreneurs, these individuals often lack the professional knowledge to help VCs make intelligent judgments regarding investment opportunities. Given the high market and technological uncertainty in the industries in which VCs operate, the identification and recognition of feasible ventures often requires a long learning curve that is beyond most people’s reach.⁴ Even though mutual friends are motivated to connect entrepreneurs with investors, their referrals may result in “blind dating” that does not match the two parties’ skills, assets, and objectives. After bringing entrepreneurs and investors together, referrers usually leave them alone and let them figure out the rest. From this perspective, social referrals help entrepreneurs and investors search at the “extensive” margin (Rees 1966), but not necessarily at the “intensive” margin (Fernandez et al. 2000).

Chinese investors are very much aware of the potential pitfalls of over-reliance on social ties for venture evaluation. They were often straightforward about their concerns, as a general partner from a renowned Beijing VC firm said:

“You have to be careful (about the reliability of information sources). You pay close attention to the recommendations of people whom you know mean business. Unfortunately, that’s not always the case. When it is your Aunt No. 7 or Uncle No. 8, you listen but have to make your own judgment. You will be surprised to see how far off the

mark some referred business plans are! In certain cases, if they [the referrers] have some business sense or know a bit of the technology, they might feel embarrassed.”⁵

Second, even when referrers have private information on the quality of the investment opportunities or the expertise to distinguish sound projects from bad ones, venture capitalists may still have reservations regarding how much to rely on their information or judgment in making the final investment decision. As entrepreneurs are often personal friends of the referrers or may promise (in many cases, explicitly) a commission fee, the latter may communicate a biased view to investors regarding the quality of the entrepreneurs and their business opportunities. In the context of job markets, Fernandez et al. (2000:1333) find that human resource managers are highly skeptical about the motivation of employee referrers. As one manager said, “You would think that people would not refer just anybody since it would reflect on them if the person were not any good. But the other side of this is that I know people who would refer their dog if they can get a \$250 bonus.” Given the friendship and/or financial stakes involved, we have no reason to expect that people who refer entrepreneurs for VC consideration would behave much better.

Chinese investors are well aware of the potential conflicts of interest in business dealing through social networks. They worry that referrers are tempted to convey a one-sided message rather than a comprehensive view. As one Beijing investor from a Silicon Valley-based firm said, “How often do we give a person a negative referral? You can play down the [negative] issues. You do not bad-mouth someone in your circle. That simply does not seem right. After all, this is a small world.”

The promise of a potentially handsome commission fee from the entrepreneur can further compromise the incentive for referrers to convey objective information: “Often people get a commission fee of 1 to 3 percent (of the investment VC makes into a firm). That’s A LOT of money! As the old saying goes, ‘with money you can get the ghost to turn the millstone!’”

This does not mean that these investors are hyper-suspicious, but the high stakes involved do push them to seek means beyond personal trust to protect their interests. As one entrepreneur-turned-venture-capitalist said, “Trust is everything in China! The problem is how [to achieve it]. ... People have different motivations. When the stakes are high, temptation is also high. ... You want to trust people, but you also need proof of their trustworthiness and the tools to protect yourself. ... I have seen enough cases where good personal relationships turned sour due to the conflict of interests. ... Business is about people. However, you cannot take it too personally.”

The investor went on to recall the lesson he drew as an entrepreneur from a former friend:

“I was in Japan but wanted to find a Chinese design firm (for a particular product). HG had a team of researchers working in a related area. I knew he was quite capable, as we were college classmates. So when he said that his team could do the design, I gave them the job. I asked my wife to transfer 5 million yuan directly to his firm without much investigation [of their design capability]. I trusted them. I waited for half a year for them to deliver the prototype. After several rounds of failed promises, I flew here (e.g. Beijing) and found that they did not have the capability to design the product at all!”

This echoes many scholars’ concerns about the dark side of embedded economic exchanges (Granovetter 1985; Portes and Patricia Landolt 1996; Gargiulo 2006). It is difficult to know “from ex ante whether and to what extent personal ties can cement trust between economic actors” (Nee and Ingram 1998:22). As Granovetter (1985) concedes and even emphasizes, only those you trust are in a position to embezzle from you. It is well known that the risk of malfeasance and opportunism increases as the stakes involved in an exchange increase. The axiom “never lend money to a friend” stems from experiences on the flip side of the personal-relations-as-the-source-of-trust coin (Nee and Ingram 1998).

Even if social ties provide information about entrepreneurs and such information is reliable, the information may not necessarily give entrepreneurs with social ties to VC an advantage in receiving VC financing. When networks convey complete information about an entrepreneur, investors will learn his weaknesses as well as his strengths. Unless investors are averse to uncertainty,⁶ or referred startups are also of higher quality, more information may not make investors more likely to fund entrepreneurs with whom they share ties. Since venture capitalists generally invest in high-tech businesses that operate in an environment of high uncertainty (Gomper and Lerner, 1999), the assumption that investors are averse to uncertainty is hardly tenable. If referred firms are of higher quality than those that submit their proposals without referral, one has to ask to what extent social connections have independent effects on funding decisions. Theories and research on group dynamics have long suggested that network ties are not formed randomly (McPherson et al. 2001), and that firms with limited resources are less attractive to potential partners (Podolny 1994; Hsu 2004; Siegel 2007). We may expect that high-capability entrepreneurs are both more likely to form ties with VCs and to receive their funding, rendering the perceived relationship between networks and positive economic outcomes spurious.

We also have reason to suspect that VC may not rely on the existence of mutual ties with entrepreneurs to ensure contract enforcement. Alternative mechanisms could be equally effective in ameliorating the risk of opportunistic behavior (Gompers and Lerner, 2002; Kaplan and Stromberg, 2003). For instance, rather than allocating an investment in a lump sum, VCs can make the investment in installments. Supplying entrepreneurs with additional funds only when they have reached designated milestones helps induce their effort, extend the “shadow of the future,” and align the interests of the transacting parties. They can also use vesting to create a positive incentive: entrepreneurs, if they reach designated milestones, will receive more equity shares and thus higher payoffs. Board memberships provide further opportunities for investors to monitor entrepreneurs’ behavior closely and to exercise the power to reshape the management team if necessary (Wasserman 2003). Furthermore, the VC community is relatively small, and many firms are intricately linked with one another. Entrepreneurs that intend to victimize one VC

have to consider the possibility of collective sanction from the whole VC community, since news of their malfeasance would be quickly circulated in the VC community, which would cost the entrepreneurs future funding opportunities.⁷

Due to the heterogeneity of the referral network and the potential for conflicts of interest, VCs have a strong incentive to use other sources to double-check the reliability of the information they received through referrals. Thus, we should expect the following hypothesis:

H1: Once in the evaluation stage, an entrepreneur's chance of receiving financing from venture capital firms is not influenced by the existence of ties between the two parties.

Social Ties and Awareness Generation

Returning to the awareness stage, one important yet rarely explored theme in the prior literature is that social relationships shape an entrepreneur's chances of getting onto investors' radar screens. Stuart and Sorenson (2005:238) have suggested that entrepreneurs with social ties to VC are better positioned to make potential investors aware of the opportunity to invest in their firms, arguing that "much as entrepreneurs recognize opportunities by aggregating information available in their networks, investors identify promising investment candidates in part by searching across their networks. Better-connected founders therefore more likely reach the attention of investors looking for options." Theory and research on decision-making have long pointed out that actors rarely evaluate all the options that are available or even all that they are aware of (Simon, 1955; Alba, Hutchinson and Lynch, 1999). As the set of alternatives actually considered can be much smaller than the set available, the filtering effect can be substantial (Simon, 1955; March and Simon, 1958; Van den Bulte and Lilien, 2004:9). Given the number of business plans that fail to gain VCs' attention, it is surprising that the venture financing literature has rarely explored how social ties shape the way that investors determine which firms make it into the consideration set for evaluation.

An important insight regarding consideration sets is that they are also the result of satisficing behaviors rather than optimizing behaviors, particularly in complex situations where the search for best candidates requires efforts that are beyond an actor's cognitive capability (Simon, 1955; March and Simon, 1958; Payne, 1976). Given the number of funding requests they receive and the limited time they may spend screening them, venture capitalists are likely to use the shortcut of relying on the information conveyed through social ties to infer the quality of a proposal (Fried and Hisrich 1994; Shane and Cable 2002; Stuart and Sorenson 2005). They may even interpret the information channeled through networks more positively and give entrepreneurs with whom they have social ties the benefit of the doubt (Sorenson and Waguespack 2006; Zajonc 1968). As Rangoon (2000:813) suggests, "when actors need to but cannot, independently or via market mechanisms, cost-effectively ascertain the identity and reliability of potential exchange partners, then scope exists for social networks to appreciably and systematically influence efficiency." Searches conducted through social networks tend to be cheap and expeditious, because information can be acquired "by use of social relationships that are maintained for other purposes" (Coleman, 1988:104). Information conveyed through social ties thus most easily satisfies venture capitalists' relatively low information requirements in the attention stage (i.e., deal screening). As one entrepreneur-turned-investor put it:

"I cannot emphasize enough how important personal relationships are in this business. *Guanxi* [the Chinese word for social ties] opens doors. The more people you know in a meaningful way, among people who are involved in company-building, the more likely you will get the opportunity to talk about your venture. ... I graduated from Tsinghua University and had experience with startups in California. Naturally I am connected with a large community of entrepreneurs and investors of top caliber."

A second investor was more explicit about the informational role of social ties:

"You can pick up the phone and make some calls. ... You know each other well and [the referrer] has to answer your questions. This is a quick way for you to get some information about the firm, particularly on the management team. It often takes time for

you to dig out the information independently. Our firm receives between 30 and 70 business proposals each week. Both the most and least promising ones are easy calls. However, the majority fall in a gray area. Extra information that is trustworthy definitely makes a difference in our decision of whom to invite [for presentation].”

Some VCs went further and argued that social referral itself might serve as a screening mechanism:

“One thing I can say is that firms referred by friends generally are not too bad, particularly when the referrers themselves are businessmen or investors. ... The quality of deals we receive [through other channels] varies dramatically. In some cases you don’t even want to read the business proposal after the first glance. ... However, it is very rare to receive bad deals through referral. When people care about their reputations, they do not want to leave a bad taste in a friend’s mouth. That’s no good!”

During the awareness stage, entrepreneurs with social ties to VC may have further advantages unrelated to the information that social ties convey or facilitate. Investors with strong ties to entrepreneurs approaching them for funding may often feel that they have no choice but to treat them favorably. When a friend recommends a deal, the investor’s active response, such as scheduling an interview, would be interpreted as reciprocity for the referrer’s goodwill and would bolster the referrer’s reputation among investors and entrepreneurs. In contrast, inaction would be interpreted as lack of respect for the friend, which would damage the referrer’s reputation and lead to a rupture of the social tie between referrer and investor. Since it is relatively cheap for VCs to expand their consideration sets, on the margin they might include proposals in which the referral conveys little information, but carries high social costs for inaction. The granting of interviews, from this perspective, serves as a payment of courtesy and a show of respect for the referrer and maintains the social tie between referrer and investor, but should not carry over to have an effect on evaluation. One well-respected entrepreneur-turned-VC-investor told me a story about an entrepreneur whom he interviewed, although he knew from the start that he would not invest in the firm:

“... I made my fortune in this industry back in California and know it inside out. His firm had no chance to deliver the type of return I would expect [as an investor]. Do not get me wrong. It is solid business and he can make good money. I have no doubt about it. Director M [of one of the most renowned science parks in China] made the introduction. For me, that made it a ‘political task’ and there was no choice [but to interview the entrepreneur]. ... You give people credit for their good intentions [in referring deals].”⁸

Similarly, another investor explained,

“We live in a *guanxi* society. Whether in business dealings or in daily life, it is better to give people some *mianzi* [i.e., preserve each other’s face and show respect]. When I first came back from the U.S., I felt strongly against the practice of *renqing* [the exchange of social favors] as it seemed to be such a waste of time. However, conducting business only on business terms does not work. When you only put up the business face, people think you are cold-hearted and calculating. It would create distance, and not many people would speak their hearts to you. You have to walk a fine line, and this is not a trivial issue. ... It is hard to say ‘No’ to people whom you know well. It’s a delicate art.”⁹

Combining theoretical arguments with the field research about the effects of social ties on VC interview granting suggests the following hypothesis:

H2: Startups are more likely to receive interview offers from VCs with which they have social ties than from VCs to which they are not connected.

DATA AND SETTING

This paper uses China as a strategic site to examine how social relationships enter into a VC’s decision-making processes. There are several reasons that China serves as a

good research setting. First, Chinese society is well known for its emphasis on interpersonal relationships in guiding economic and social organizations (Fried 1969; Hwang 1987; Walder 1986). Although managers all over the world devote a considerable amount of time and energy to social networking (Mintzberg 1973), Chinese managers perhaps “rely more heavily on the cultivation of personal relationships to deal with the exigencies of their situation” (Child 1994: 150; see also Peng and Luo 2000) than managers in other cultures. The reliance on social relations is seen as so fundamental that some scholars argue the Chinese economy is essentially “network capitalism” (Boisot and Child 1996; Hamilton 1989)¹⁰. Second, China is a developing country where many market-supporting institutions are weak. To overcome institutional voids, firms often adopt informal means and draw upon social relationships to identify reliable transacting partners (Guseva and Rona-Tas, 2001), ensure contract compliance (Zhou et al., 2003), and foster governmental accountability (Peng, 2004; Tsai, 2007). Even though economic transactions are generally embedded in social relationships (Macaulay, 1963; Granovetter, 1985), networks play a particularly large role in the developing country context (Child, 1994; McMillan and Woodruff, 2002). From this perspective, China is an ideal place to investigate the role of networks and thus it is a conservative research laboratory for examining the limited role of social relationships in venture financing. If social ties do not play a salient role in a *guanxi*-based society like China, we should not expect them to play a salient role in the West, as the latter has a more individual-oriented value system as well as better developed market-supporting institutions.

The data are the result of five months of fieldwork in early 2008, during which I conducted more than 140 interviews, including meetings with approximately 110 startup firms, 15 venture capitalists, eight governmental officials, and six science park managers. The interviews lasted between 45 minutes and three hours, with most being about 90 minutes. The interview questions focused on the founder’s individual background and the startup’s path of development.

A key founder of each startup also answered a questionnaire that solicited detailed information about the founder’s educational background, career history, entrepreneurial

experience, business partners, relationships with VCs, and the outcome of the funding request(s) for each VC they approached.

One unique feature of the dataset is that it distinguishes between the various stages through which entrepreneur/VC interactions take place, making it possible to identify where the advantages for connected entrepreneurs arise. The data also include multiple observations for startup/VC interaction over the same entrepreneur, allowing me to run entrepreneur-level fixed-effects analysis whenever possible to rule out hypotheses based on individual capability.

I chose to study internet and telecom ventures. During the past decade, these are the two high-tech sectors that have attracted the most Chinese VC investments (Zeng, 2004: vi; Li, 2005). The firms in the research sample are mainly located in two university science parks (USPs). These parks were established with the mission of accelerating business through technology commercialization, knowledge agglomeration and resource sharing. China built its first USP in 1991 and now has about 100. The two parks at which I conducted interviews are classified as National University Science Parks due to the sponsoring institutions' technological capacity and their success in promoting high tech firms. These two parks have gradually grown into magnets for firms that want to access local talent and technological assets, and have attracted enormous attention from venture capital firms that seek investment opportunities in high tech startups. Thus, these USPs present a high concentration of high tech startups that have VC financing, making them an ideal setting for fieldwork on VC financing in China. The USPs also keep comprehensive information on the firms they host, enabling researchers to define the boundary of the target population and making it easy to sample relevant firms.

To avoid drawing conclusions that are idiosyncratically bound to one geographic area, local culture or institutional environment, I chose one park in Beijing, in northern China, and another in Guangzhou, in southern China. While Guangzhou is renowned for its export-oriented manufacturing industries (Vogel 1989), Beijing is more famous for leading China's leap into the information age (Lu 2000; Siegel 2002). The Beijing USP I

studied has grown into a high-tech hub in Asia. Along with startup firms, it also hosts research centers for a number of multinational companies. There are around 160 internet and telecom ventures in the Beijing USP, and I selected every third one from an alphabetical list of their incorporated names for interviews. Unsurprisingly, the Guangzhou park is much smaller; there, I selected all 36 internet and telecom firms for interviews. I approached these firms through the referrals of USP managers, venture capitalists, and journalists who report on high-tech ventures, and these referrals ensured that I succeeded in interviewing most of the entrepreneurs that were selected¹¹.

Excluding firms that have never sought VC financing (four firms) and firms that refused to reveal any financial information (two firms) or information regarding how they interacted with VCs (three firms), I obtained a sample of 72 firms. The unit of analysis in this paper is entrepreneur/VC dyad. For each of the VC firms that a startup approached, I created a VC/entrepreneur pair to capture the process of their interaction. In total, there are 358 VC/entrepreneur dyads. My survey gathered detailed information about the following variables:

Dependent Variables

Funding Offer. In order to test the hypotheses outlined above, a dummy variable is created to capture whether an entrepreneur received a funding offer from a particular VC that she approached. In total, there are 53 VC funding offers for 17 firms.¹² The proportion of firms receiving VC financing is high due to the concentration of high quality firms in the USPs and the VCs' interest in the industrial sectors that I am studying.

Interview Offers. Funding offers only measure the final outcome of VC/entrepreneur interactions. To capture the dynamic nature of this process, I create a dummy variable at the startup/VC pair level to measure whether an entrepreneur receives an interview offer from a particular VC firm that he has approached. In particular, I use the invitation by a VC to give a PowerPoint presentation as an indicator that the entrepreneur has received a serious interview offer. This is the first formal meeting

between the two parties, and it gives the startup the opportunity to demonstrate its business model, its market opportunity and the founding team's capacity to the investor. Therefore, it can be perceived as a watershed event that shows a VC's interest in the firm. Out of the 358 VC/entrepreneur pairs, 195 interview offers were extended to 58 startups.

The distinction between interview and funding offers captures the multi-stage nature of VC/entrepreneur interactions, allowing me to test the descriptive fit of the three scenarios listed above and uncover where the advantages of connected entrepreneurs arise (in the awareness stage, the evaluation stage, or both), and to explore whether collapsing the two stages into one may give misleading conclusions regarding the role of social ties in VCs' evaluation of startups.

Explanatory Variables

This study's key explanatory variable is the entrepreneur's primary method of soliciting VC financing. For each of the VCs that a startup firm approached, the founder was asked the following question: "What is the primary method that you used to build contacts with the VC firm?" The possible responses were as follows:

1. We were friends
2. We were introduced by mutual friends
3. We were acquaintances
4. We were introduced by mutual acquaintances
5. We met at a conference/other business occasion
6. I submitted a business plan
7. Other

These seven responses were further combined into three categories: 1) direct ties (responses 1 and 3); 2) indirect ties (responses 2 and 4) and 3) others (responses 5, 6 and 7). I explicitly instructed the entrepreneurs to answer this question regarding the relationship with the VC at the time contact was initiated, rather than at the time of the interview. Of the 358 cases of deal origination in the sample, 15% were initiated through direct network ties and 41% through social referrals.¹³

Control Variables

To provide more accurate estimates of the hypothesized relationships, I control other factors that previous research has found to be important in explaining startups' receipt of venture financing. First, I collected information on the amount of capital the founding team invested in the startup's first year of existence. Given the information asymmetry between VCs and entrepreneurs that favors the latter (Cable and Shane, 1997), outside investors consider the amount of capital the founders invest a sign of their confidence regarding the venture's promise. Additionally, firms with larger resource endowments are more likely to progress quickly through the development process (Aldrich and Auster, 1986; Hallen, 2008; Shane and Stuart, 2002).¹⁴ Second, I collected information on the entrepreneur's work history. Past studies have suggested that individuals' risk preferences (Gomper et al 2005; Sorensen, 2007) and network opportunities (Burton et al. 2002; Hallen, 2008) are greatly shaped by their career paths and that new ventures inherit both routines (Philips, 2002) and cultures from the founders' previously affiliated organizations. I construct a dummy variable called "Hi-profile Career" to measure whether the entrepreneur had worked as a middle- or higher-level manager in one of most famous Chinese startups (those that have been listed either on the New York Stock Exchange or the NASDAQ). These firms include Sohu.com, Baidu.com, Sina.com, Netease.com and AsiaInfo. [Only these?] We should expect that these entrepreneurs have built a career track record that will attract both high-capability employees and outside investors. Third, to capture the entrepreneurs' human capital, I collected information on their educational background (i.e., the highest degree received) and leadership skills (i.e., if the entrepreneur was a student leader in college). Although the literature suggests that leadership experience helps prepare individuals to exploit entrepreneurial opportunities (Lazaer 2002), there is no consensus regarding the role of formal and advanced education (Roberts 1991). A large share (53 out of 72) of the entrepreneurs in my sample had obtained master-level degrees. Thus, I use a dummy variable to distinguish whether the entrepreneur had received a doctoral degree or not.

I also collected information on each startup's establishment year and the industrial sector in which it operates. Prior research has shown that firms that have overcome the "liability of newness" are not only likely to survive longer (Freeman et al. 1984; Aldrich and Foil 1994) but also more likely to have a performance record that attracts investors' attention (Hallen 2008). Studies also suggest that venture capitalists favor certain industries for early stage investments (Haar et al. 1988; Shane and Cable 2002). Thus, I created a variable ("year established") to measure the year in which the firm was established and two dummy variables ("telecom" and "e-Commerce") to capture its industry.

Furthermore, I collected the names of the VCs approached by entrepreneurs in my sample. Given that VCs vary in their expertise and industrial focuses, the same business venture can be evaluated differently across investors. To capture this dimension of the story, I created an ordinal variable, based on information from the consulting firm Zero2IPO, to rank the prestige of these VC firms.¹⁵ Past research has shown that startups are particularly interested in investments from high-status VCs, because these VCs are better positioned to certify a startup's quality (Stuart et al., 1999; Hsu, 2004), to help build collaborative alliances (Hsu, 2006) and to help with an initial public offering (Stuart et al., 1999)¹⁶.

Last but not least important, I have built a variable to capture the number of interview requests that each VC receives. VC firms typically have a small staff but receive a large number of business proposals. To ensure the quality of their due diligence, VCs typically interview a limited number of entrepreneurs, based on the time constraints of the general partners, and regardless of the number of funding requests received. Thus, the higher the number of requests a VC firm receives, the lower the likelihood that any one proposal will get to the evaluation stage. The number of firms in the evaluation stage, in contrast, is relatively fixed, so a firm's chance of being selected for funding from this group should not vary with the original number of funding requests, as VCs tend to make funding decisions based on whether a firm meets evaluation criteria such as the projected internal rate of return (Fried and Hirsch 1994).

METHODS

This study uses several methods to explore the relationship between social ties and venture financing at the entrepreneur/VC pair level. I begin with a descriptive analysis of the proportion of funding offers that were obtained using each of the three approaches (direct ties, indirect ties, and other). I then use logit regression models to estimate the effect of VC ties upon an entrepreneur's likelihood of receiving funding offers¹⁷. In doing so, I examine the robustness of the conclusions to be drawn from alternative conceptual models: one that distinguishes between the awareness (equation 1, below) and evaluation stages (equation 2), and another that collapses the two into a single VC decision process (equation 3).

Two-stage model of social networks:

$$\Pr (\text{Interview Offers}_{ij}=1) = F(\alpha_1 + \beta_1 \text{Ties}_{ij} + \sum B_1 Z + \mu_{i,j}) \quad (1)$$

$$\Pr (\text{Funding Offers}_{ij} | \text{Interview Offers}_{ij} = 1) = F (\alpha_2 + \beta_2 \text{Ties}_{ij} + \sum B_2 Z + \mu_{i,j}) \quad (2)$$

One-stage model of social networks:

$$\Pr (\text{Funding Offers}_{ij} = 1) = F (\alpha_3 + \beta_3 \text{Ties}_{ij} + \sum B_3 Z + \mu_{i,j}) \quad (3)$$

where, ij represents the entrepreneur i / VC firm j pair;

Ties_{ij} measures the (lack of) social ties between entrepreneur i and VC firm j ;

Z is a vector of control variables that captures VC, entrepreneur, or startup-level characteristics;

α , β and B are the coefficients for the constant term, social ties and control variables;

μ is the error term.

This paper has two main arguments: first, social ties matter most during the awareness, or interview offer, stage, but their role diminishes during the evaluation, or funding offer, stage; and second, collapsing the two stages together boosts the apparent importance of social ties in VC financing decisions. Thus, the key predictions of this paper are as follows: 1) β_1 is positive and statistically significant; 2) β_2 is of no statistical

significance and is substantively smaller than β_1 ; and 3) β_3 is positive and statistically significant, and substantially larger than β_2 .

In contrast, prior research suggests that network ties help startups gain positive evaluations and, consequently, a higher likelihood of funding offers. Thus, prior research also predicts that β_3 is positive and significant, but makes no prediction about β_1 & β_2 . In this sense, prior theory is a subset of the theory I propose.

Given that the theoretical framework proposes that there is a selection mechanism involved during the awareness stage, a selection model is a conceptually appropriate method for estimating the effect of social ties on venture financing. By running two separate regressions for the attention and evaluation stages, this paper observes the funding result only for the startup/VC pairs where the entrepreneur is selected for an interview. This may generate biased estimators, as the two stages can be interdependent on each other, in the sense that firms are less likely to receive interviews when VCs perceive them as unworthy of funding. The advantage of the selection model is that it accounts for the counterfactual that some firms might have been selected for funding evaluation if they had had social connections with the investors, but instead they were not granted interviews because they lacked such ties. To correct this selection bias, I use a bivariate probit model for two outcomes (namely, interview offer and funding offer), where the observed funding data are non-randomly selected from the set of VC/entrepreneur pairs in which funding requests are made¹⁸. The model is

$$\begin{aligned} z_{ij,1} &= \beta' x_{ij,1} + \varepsilon_{ij,1}, y_{ij,1} = \text{sgn}(z_{ij,1}), \\ z_{ij,2} &= \beta' x_{ij,2} + \varepsilon_{ij,2}, y_{ij,2} = \text{sgn}(z_{ij,2}), \\ \varepsilon_{ij,1}, \varepsilon_{ij,2} &\sim \text{BVN}(0,0,1,1, \rho), \\ (y_{ij,2}, x_{ij,2}) &\text{ is observed only when } y_{ij,1} = 1. \end{aligned}$$

In the model, $\text{sgn}()$ is an indicator function, which is one if the sign of the argument is positive and minus one otherwise. $z_{ij,1}$ and $z_{ij,2}$ are latent variables that measure the inclination to be interviewed and funded, which depends on a vector of individual characteristics. The error terms $\varepsilon_{ij,1}$, $\varepsilon_{ij,2}$ have the property of bivariate normal distribution, and ρ indicates the correlation coefficient between these two error terms.

Finally, I use an entrepreneur-level fixed-effects conditional logit regression model to alleviate the concern of a rival hypothesis based on firm capability. The network literature has been weak in identifying an independent effect of social ties on economic behavior (Munshi 2003; Mouw 2006; Reagans et. al 2007). If social ties to VC help a startup get financed (whether this occurs at the attention stage or at the evaluation stage), one has to wonder why not all entrepreneurs develop such ties. It could well be the case that some unobservable variables hold back both the development of social ties and capital access (Baum and Silverman 2004; Gompers et. al, 2006). The sociology literature in particular suggests that homophily induces relationship formation and maintenance (McPherson, Smith-Love and Cook, 2001). When venture capitalists sort people into social circles based on capability, highly capable entrepreneurs are both likely to form connections with VCs and to gain funding from them (Gompers et. al, 2006; Hallen 2008)¹⁹.

This dataset is unique in that it has multiple observations of the same entrepreneur for different startup/VC pairs, as startups rarely restrict themselves to requesting funding from only one investor. In an entrepreneur-level fixed-effects model, the entrepreneur's observed and unobserved characteristics, such as gender and capability, are constant for all entrepreneur/VC pairs. The only independent variable that varies between entrepreneur/VC pairs is the method by which the entrepreneurs approach the VC firms. In this way, it is possible to estimate within-entrepreneur variation in VC funding as a function of the existence (or absence) of social tie between an entrepreneur and each VC that he approaches. A similar approach has been taken in the study of scientists' career choices (Stern 2004), entrepreneurs' selection of VC affiliation (Hsu, 2004), and the role of social capital in the labor market (Yakubovich 2005).

RESULTS

Displaying each of the three approaches, Figure 2 describes the proportion of funding offers that the sample firms obtained. It suggests that entrepreneurs are more likely to be interviewed by VCs with whom they have direct ties (69%) or indirect ties

(60%) than by VCs to which they have no ties (44%). However, the advantages of network ties become much weaker in the evaluation stage, as reflected by funding offers. Conditional on being interviewed, 35% of direct tie cases ended in funding offers, compared with 28% of the indirect tie cases and 22% of the cases without ties.

----- Figure 2 about here -----

Table 1 shows the descriptive statistics and correlation matrix. Both interview offers and funding offers are positively correlated with the existence of direct and indirect ties between entrepreneurs and VC firms. However, the correlation is stronger between direct social ties and interview offers (.22 vs. .17 for funding offers), tentatively suggesting that networks play a larger role at this early stage of entrepreneur/VC interactions. The correlation between funding offers and direct ties becomes much weaker (.10) when we look only at the startup/VC pairs where the startups have actually entered the evaluation stage (Table 2). The same patterns hold across the two stages for indirect ties. Collectively, these descriptive statistics suggest that a two-stage conceptual model is appropriate for understanding how social ties enter into VCs' investment decisions.

----- Tables 1 & 2 about here -----

Table 3 provides the results of random-effects logit regression models predicting the likelihood that a startup firm receives funding offers. Following the previous literature, I build two models that ignore the multi-stage nature of VC decision-making and focus only on the final outcome of the deal screening process.²⁰ The empirical results show that, when the awareness and evaluation stages are collapsed into one, social ties have a strong and significant effect on the likelihood of an entrepreneur receiving VC funding, controlling for various entrepreneur and firm characteristics.

----- Table 3 about here -----

Model 1 is the baseline model, including both measures of the entrepreneur's attributes (e.g. human capital, leadership skills, career experience and political status) and

firm characteristics (e.g. location, initial capital endowment, establishment year, and industrial sectors). Among the controls, six variables are significant predictors of funding offers: founder's initial capital commitment (Exp (B) = 1.99, $p < .01$), high-profile career experience (Exp (B) = 5.29, $p < .05$), firm's location in Beijing (Exp (B) = 7.94, $p < .01$), telecom industrial sector (Exp (B) = 14.82, $p < .01$), and VC firm ranking (Exp (B) = .47, $p < .05$).

These control variable coefficients provide important insights into VC financing. As proposed by prior research, VCs are more likely to fund new ventures whose entrepreneurs have established a successful career path in high-profile startup firms (Hallen, 2008). This type of work experience both familiarizes entrepreneurs with the venture creation process and helps them build social connections with key resource holders such as VCs (Burton, Sorensen and Beckman, 2002). Entrepreneurs' initial investment also matters, serving as an important signal to potential investors regarding the entrepreneur's confidence in the business opportunity and commitment to its pursuit. It may also be a surrogate for prior success of the entrepreneur or for wealthy family background, both of which may suggest other influences upon VC funding decisions.

Model 2 examines whether entrepreneurs connected with venture capital firms are more likely to receive funding offers. It shows that funding outcomes are positively correlated with both direct ties (Exp (B) = 3.08; $p < .05$) and indirect ties (Exp (B) = 1.78; $p > .10$). In addition, the model with network measures fits better than that with controls alone (likelihood ratio chi-square = 3.58, $p < .10$). Taken together, these results seem to confirm prior research that social ties help entrepreneur access key external resources.

----- Tables 4 & 5 about here -----

Tables 4 and 5 provide the results for network effects operating through stages. Models 3 and 4 relate to the attention stage, examining the relationship between social ties and an entrepreneur's likelihood of receiving an interview offer; while models 5 and 6 predict the likelihood of receiving a funding offer, given that the entrepreneur has become part of the VC's consideration set for funding by succeeding at the attention

stage and receiving an interview offer. The first key result is that, based on the change of coefficients for social tie measures between models 4 and 6, social ties—particularly direct ones—play a larger role in bringing entrepreneurs to the attention of VC investors ($\text{Exp}(B) = 6.03, p < .01$) than in helping them gain favorable evaluations ($\text{Exp}(B) = 1.79, p > .10$). The second key result is that collapsing the two stages into one fails to specify the mechanism through which social ties work, leading to erroneous conclusions regarding the role of networks. In the one-stage model, e.g. model 2, social connections, particularly direct ties, have strong and positive effects on venture financing ($\text{Exp}(B) = 3.08, p < .05$). However, a two-stage model finds no support for this argument ($\text{Exp}(B) = 1.79$ for direct tie, $\text{Exp}(B) = 0.96$ for indirect ties; neither with statistical significance). This result is not caused by the change of sample size from the one-stage model (i.e., model 2) to the evaluation model in a two-stage framework (i.e., model 6). Indeed, the standard errors of the two models are quite similar to each other, ruling out the possibility that a smaller sample in the two-stage model renders the network effect insignificant. More importantly, there is a 49% decrease in the magnitude of the coefficient for direct ties from the one-stage model (model 2) to the two-stage model (model 6), equaling a 42% decrease in the odds ratio. Collectively, these results suggest that collapsing the awareness and evaluation stages together would lead to a conclusion that exaggerates the role of networks in venture evaluation.

----- Table 6 about here -----

Table 6 presents the results for a different methodological approach. Given the dyadic nature of the data, observations are clustered around both VCs and entrepreneurs. To account for this structural feature of the data, I use two-way clustering logit models to generate cluster-robust inferences about the role of social ties in venture financing. Even though there are changes in the magnitudes of the coefficients, the basic empirical result continues to hold: while the one-stage model suggests that networks have a direct effect on how entrepreneurs are evaluated, a two-stage model demonstrates that the advantages of entrepreneurs with social ties to the VC rest mainly in the awareness generation stage.

Once in the VC's consideration set, connected firms do not necessarily enjoy large advantages over their unconnected peers in terms of how they are evaluated.

----- Table 7 about here -----

Table 7 presents the results for the bivariate probit models (BVPM). In comparison with Model 10 (BVPM without selection), Model 11 (BVPM with selection) not only takes into account the fact that only firms that have received interviews have the chance to be funded, but also corrects for the bias introduced by the non-random process of interview granting. There are three salient features across these models. First, network measures continue to have a positive and significant effect on an entrepreneur's chance of receiving an interview, reinforcing the view that social connections help startups gain attention from potential investors. Second, network measures still do not have significant effects on how an entrepreneur is evaluated, after controlling for the preceding stage of selection for interview offers (Model 11). Third, a model (namely, Model 10) that does not account for the selection process would suggest that social ties play an important role in how an entrepreneur and his venture are evaluated. The comparison between these two models provides the most straightforward evidence to support the multi-stage view of network effect in venture financing, namely that better networked entrepreneurs have an advantage in getting the initial attention of investors, but that this advantage does not carry over to evaluation stage. More importantly, ignoring the selection process at the awareness stage can give misleading conclusions about the role of social networks.

----- Table 8 about here -----

Table 8 presents the results for the fixed-effects models, employing only within-entrepreneur variation in interview offers and ignoring variation between entrepreneur/VC pairs. Model 12, for interview offers, shows as before that entrepreneurs are significantly more likely to receive attention from VC firms with whom they are connected. The VC funding equation, Model 13, provides no support for the argument that network ties have a strong effect on venture financing. The coefficient for indirect

ties even becomes negative, suggesting that third party referral may have generated social pressures that make VCs grant interviews to some startups that are not good matches for their investment portfolios.

Since I estimate within-entrepreneur fixed-effects with entrepreneur/VC dyads as the unit of analysis, I control for any possible sources of variation across entrepreneurs. Thus, the effects of social contacts are independent of any observable and time-invariant unobservable attributes of the entrepreneur. This shows that the observed relationship between social ties and interview offers is not simply attributable to unobserved capability measures that may cause both network formation and interview offers.

DISCUSSION

The paper provides the first effort to develop a multi-stage view of how social ties enter into the dynamic process of decision-making in the context of venture financing. The evidence comes from a dataset that breaks the VC's funding decision into awareness and evaluation stages. The previous literature collapses these two stages into one. The question I ask is: Given the availability of alternative and equally effective mechanisms for VCs to evaluate and monitor funding applicants, why do entrepreneurs with social ties to VC seem to be more likely to receive VC financing? I find that in the Chinese internet and telecom sectors, social ties greatly help entrepreneurs gain the attention of VC investors; however, the role of social ties shrinks dramatically once an entrepreneur is in a VC's consideration set. In a context where decision-making takes place in stages and social ties play an important role in determining which options enter the consideration set, collapsing the awareness and evaluation stages into one will apply the explanatory power that network ties have at the first stage to the second stage instead, thereby artificially magnifying the effect of social ties on venture evaluation.

My conclusion that network ties play a larger role during the awareness stage than at the evaluation stage is based not only on the lack of statistical significance of the network variables at the evaluation stage, but also on the change of magnitude in their coefficients from the one-stage model to the two-stage model. Thus, my findings cannot

be explained solely by the shrinking of sample size due to the filtering effect at the first stage, where many entrepreneurs fail even to be interviewed by VCs. Additionally, the finding that entrepreneurs are more likely to receive interview offers from VCs to which they have social ties is supported both by cross-entrepreneur and within-entrepreneur comparisons. Thus, this finding cannot be explained by unobservable individual characteristics of the entrepreneur that correlate with group formation dynamics. In particular, we can rule out the possibility that variation in entrepreneurial capability alone underlies both the formation of ties between VCs and entrepreneurs and the entrepreneurs' ability to receive VCs' attention.

Limitations

This paper has several limitations that deserve acknowledgement. First, the potential threat of recall bias may inflate the estimated effect of networks. If entrepreneurs perceive a loss of face when they mobilize their social ties but do not receive favorable outcomes, they may report only those cases where social ties led to positive outcomes. This is less of a problem for my main result at the second stage, as I find that the role of social ties is limited regarding how ventures are evaluated. Still, the positive recall bias may distort the positive finding at the awareness stage.

Second, from several perspectives the firms sampled in this study are among what are regarded as the best high-tech startups in China. Most of the entrepreneurs I interviewed graduated from the top universities in China and have advanced degrees. Quite a few of them went to graduate school overseas and worked in Fortune 500 firms. One may worry that their high quality attenuates the effects of social networks, as they may achieve the same outcome independent of costly investment in developing social ties. However, my analysis (see Table 9) suggests that entrepreneurs with an overseas education, high-profile career experiences, and student leadership backgrounds, are among those who most actively mobilize and rely on their network resources. Still, the focus on top science parks (and consequently the best technology firms in China) does not allow me to empirically rule out the possibility that social ties may play a much larger

role in the venture evaluations of less advantaged entrepreneurs. However, adding lower-quality firms should not change the empirical results that I have found in this paper.²¹

The third limitation is that this paper does not directly test how the two network effects (information channel vs. social obligation) in the awareness stage may influence the outcome at the evaluation stage. One interpretation of the non-effect at evaluation can be that those two first-stage effects are carried over and cancel each other out at the second stage. Or put it another way, social ties bring firms of different calibers into the candidate pool: as an information channel, social ties help investors to source high-quality deals; in contrast, social obligation compels investors to receive connected, low-quality entrepreneurs whom they would not have interviewed in the absence of social ties. When VCs make funding decisions based on venture quality, connected firms, given their polarized quality distribution, will not be more likely to receive money than unconnected ones. From this perspective, the non-effect in the evaluation stage could be an artifact of aggregating two network effects of opposite directions. While appealing, this alternative explanation is valid only for models of *cross*-firm comparison and does not apply to conclusions drawn from fixed-effects models that capture *within* entrepreneur variation across startup/VC pairs. In these fixed-effects models, a firm's quality is held constant while its social ties vary. As shown in Table 8, the existence or absence of social ties does not have a significant effect on venture evaluation. Even though the non-effect result at the second stage is robust, it would still be interesting for future research to distinguish between the two mechanisms in the first stage and examine whether and how they affect the second stage.

Last but not least important, caution should be exercised in generalizing the results of this study to other settings. For both institutional and cultural reasons, China serves as a conservative test for the non-effects of social ties in venture evaluation in comparison to Western society. However, the non-effect may not hold in all developing economies, particularly in countries where market-supporting institutions are less developed than in China, and where the VC industry is more controlled by the state. Even though the courts does not function well in China (Michelson 2007), the rule of law has

rapidly been gaining ground in Chinese society (Orts 2001; Peerenboom 2002). In addition, the Chinese VC industry has evolved dramatically since the late 1990s as a result of the withdrawal of direct involvement by the government (White et al. 2005), the entry of Western investment firms (Liu et al. 2006), and the return of Chinese entrepreneurs and investors from the U.S. (Saxenian 2006). Despite its many interesting differences from the West (Ahlstrom et al. 2007), the Chinese VC industry has professionalized itself enormously over the past decade. Even many state-affiliated VC firms have adopted American-style incentive systems for fund managers. Though lagging behind the West, China may be progressing ahead of other transition economies in terms of VC professionalization and the development of market-supporting institutions. Thus, the results drawn from this study are more likely to be replicated in studies of U.S. and Western Europe VC than in the Vietnamese or Eastern European contexts.

Broader Implications

One of the key distinctions between this paper and previous research is its explicit modeling of decision-making as a multi-stage process composed of 1) awareness generation and 2) evaluation for selection. Similar multi-stage models have been developed in the labor market and innovation diffusion literatures. However, each literature draws different conclusions regarding the role of social ties. For instance, the innovation diffusion literature finds that social ties matter mainly in the evaluation stage (Coleman et al., 1966; Lilien and Van den Bulte 2004), while my paper finds their role to be more prominent during the awareness generation stage. The labor market literature falls in the middle—scholars find that network ties matter across the two stages but play a larger role in the first one (Fernandez and Weinberg, 1997; Fernandez et al., 2000). Comparing the three literatures lets us better understand how social ties enter the decision-making process and allows us to draw some general conclusions regarding what type of ties matter. Here, I propose two sets of factors.

First is the number of options available. When a large number of options compete for decision-makers' attention, limitations on their cognitive ability often constrain them

from engaging in optimal search behavior. Rather than ranking all options and selecting the best ones, decision-makers often construct some mental criteria and rely on heuristics or social ties as informational shortcuts (Simon, 1958; Coleman et al., 1966). This holds in the cases of venture financing and labor markets, where the sheer number of business proposals or job applications received and the prohibitive cost of investigating each independently leads VC investors and human resource managers to rely on social ties as an informational cue regarding the quality of the options where ties exist. As long as the observable quality of connected options satisfies the selection criteria, they will be given priority consideration. The drug adoption literature finds contrasting results. The number of new drugs introduced each year (for any particular type of illness) is limited, and they often receive enormous publicity through drug makers' commercial campaigns. As a result, doctors often first become aware of what's new and available on the market through public channels such as mass media or professional magazines (Coleman et al, 1966).

The second factor is the nature of the social ties. When ties are formed endogenously through professional means, they are more likely to convey information based on professional knowledge to help the decision-makers judge the quality of the referred candidates. However, when the ties are more heterogeneous in nature, including ties such as friendship and family that are largely exogenous to the business context, as well as professional ties, decision-makers may be reluctant to rely on these information sources in making their final decisions. In the case of VC investments in China, since many of the referrals are made through social ties with people who are not professional investors or seasoned entrepreneurs, it is understandable that VCs are reluctant to rely on these information sources in investment decisions, particularly since they can collect information independently through due diligence and other means. The labor market context presents similar heterogeneity. Current employees have certain knowledge regarding the features and requirements for jobs available within their own firms. However, they are not professional human resource managers and thus have limited knowledge regarding what types of individuals can best fill these positions. By contrast,

the ties that a doctor consults tend to be other doctors—people who possess the professional knowledge to help judge the quality of the new medicine.

----- Figure 3 about here -----

In summary, the number of options the decision-makers face and the heterogeneity in their social ties jointly influence when and to what extent social ties matter in the decision-making process. When the number of options is large and alternative information mechanisms cannot be used cost-effectively, decision-makers are more likely to rely on social ties as information sources to aid in judging quality. However, once the consideration set becomes small and alternative information mechanisms can be accessed within time and cognitive constraints, decision-makers become less dependent on social ties, particularly when the ties are formed outside the decision-makers' professional domain and their endorsements are relatively uninformative.

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Figure 1: Venture Capital Investment Process

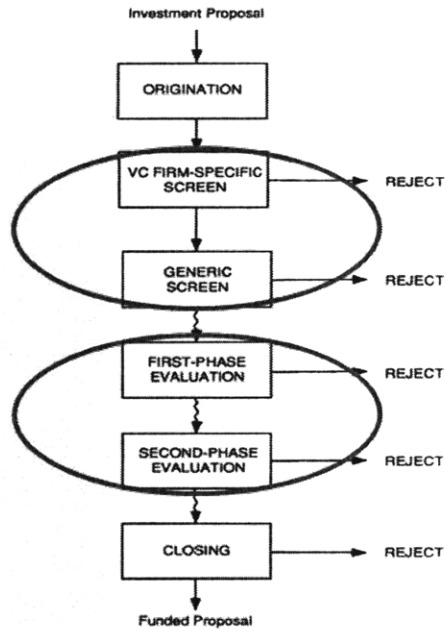
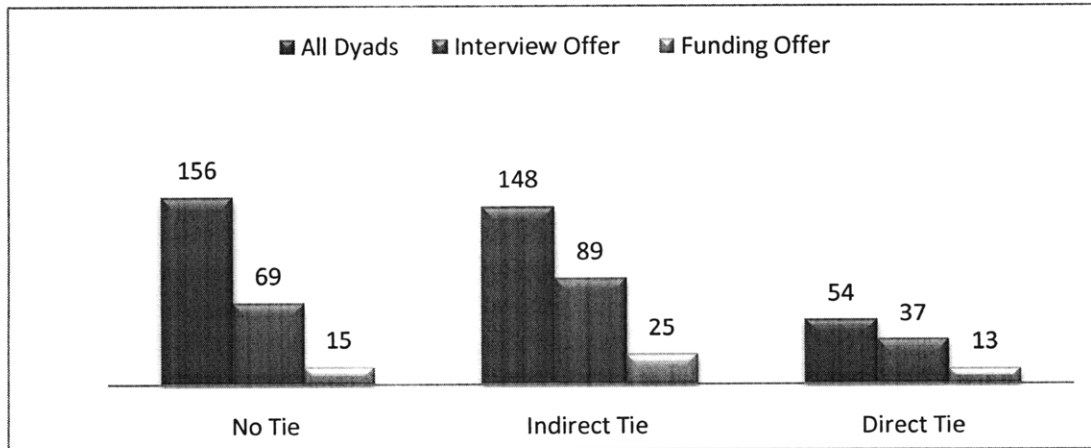
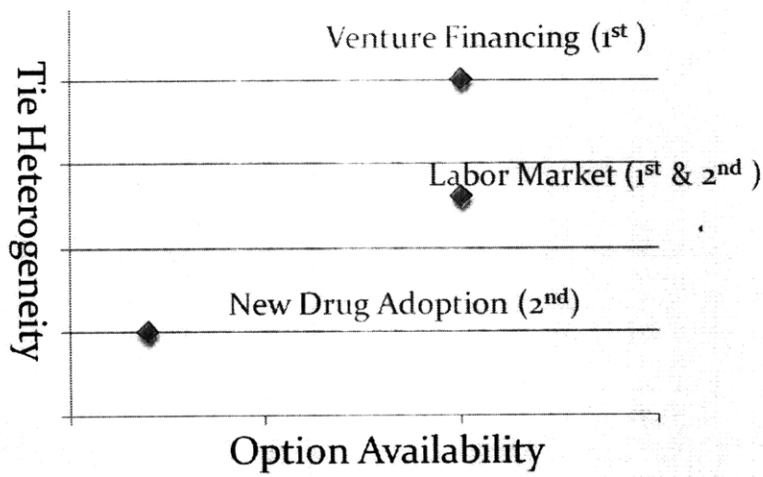


Figure 2: Venture Financing for 72 Startup Firms in Two Chinese University Science Parks (USPs)



Note: The data have 358 funding requests made by 72 startups. 54 funding requests were initiated through entrepreneurs' direct ties with VC firms. In 37 cases, these entrepreneurs received interviews, resulting in 13 funding offers. 148 funding requests were initiated through social referrals, of which 89 were granted with interview opportunities that resulted in 25 funding offers. In contrast, of the 156 funding requests initiated through other means, 68 were granted with interview opportunities and 15 with funding offers.

Figure 3: Comparison of Network Effect across Contexts



Note: Numbers in parenthesis indicate the stage at which social ties may play a salient role in the economic decision-making process. 1st indicates the stage of awareness; 2nd indicates the stage of evaluation.

Table1: Descriptive Statistics and Correlation Matrix (N= 358)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 Funding offer	1.00																	
2 Interview offer	0.41	1.00																
3 Direct ties	0.17	0.22	1.00															
4 Indirect ties	0.06	0.13	-0.37	1.00														
5 Ph.D. degree	0.05	0.00	-0.10	0.04	1.00													
6 Foreign education	0.17	0.19	0.04	0.05	0.13	1.00												
7 High-profile career	0.21	0.15	-0.02	-0.02	0.06	0.18	1.00											
8 Party member	-0.09	-0.05	-0.02	0.01	-0.04	-0.28	-0.22	1.00										
9 Student leader	0.15	0.18	0.08	0.02	0.25	0.09	0.21	0.01	1.00									
10 College cohort	-0.12	-0.04	0.00	-0.12	-0.04	-0.16	-0.18	-0.20	0.08	1.00								
11 Male	-0.05	0.00	0.08	-0.08	0.09	-0.07	-0.28	0.06	-0.09	-0.01	1.00							
12 Located in Beijing	0.20	0.34	0.16	-0.06	-0.10	0.20	0.05	-0.20	0.24	0.30	-0.09	1.00						
13 Founder investment	0.24	0.29	0.16	0.06	0.21	0.30	0.19	-0.01	0.18	-0.25	0.11	-0.03	1.00					
14 Year established	-0.07	-0.16	0.05	-0.09	-0.19	-0.13	0.07	-0.25	-0.07	0.39	0.08	0.20	-0.23	1.00				
15 Telecom	0.14	0.16	0.04	0.03	-0.08	-0.04	-0.09	0.01	-0.09	-0.20	0.08	0.05	0.00	0.16	1.00			
16 e-Commerce	-0.04	-0.06	-0.04	-0.06	-0.03	0.05	-0.04	-0.34	0.08	0.25	-0.09	0.26	-0.21	0.30	-0.14	1.00		
17 VC ranking	-0.18	-0.09	-0.05	-0.14	-0.06	-0.15	-0.10	0.00	-0.01	0.09	0.14	-0.08	-0.09	0.09	0.12	0.02	1.00	
18 Funding requests	-0.05	-0.03	0.04	-0.04	-0.11	0.01	-0.04	-0.06	-0.01	0.13	0.05	0.17	-0.04	0.09	-0.05	0.08	0.50	1.00
Mean	0.16	0.54	0.15	0.43	0.08	0.31	0.10	0.39	0.11	2.87	0.91	0.68	4.36	2004	0.07	0.20	1.76	6.91
Std. Deviation	0.37	0.50	0.36	0.50	0.27	0.46	0.29	0.49	0.31	0.92	0.29	0.47	1.13	2.48	0.25	0.40	0.88	5.86
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.10	2000	0.00	0.00	1.00	1.00
Maximum	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	4.00	1.00	1.00	7.60	2007	1.00	1.00	3.00	16.00

Table 2: Correlations between Funding and Social Ties

	Full Sample	Evaluation Stage only
Direct ties	0.17	0.10
Indirect ties	0.06	0.01

**Table3: Regressions Predicting Funding Offers for USP firms
Selection Effect (of the Attention Stage) not Considered**

	Model 1			Model 2		
	B	S.E.	Exp(B)	B	S.E.	Exp(B)
Direct ties				1.13**	0.59	3.08
Indirect ties				0.58	0.48	1.78
Ph.D. degree	0.12	1.04	1.13	0.35	0.96	1.42
Foreign education	0.09	0.65	1.10	0.07	0.60	1.08
Hi-profile career	1.67**	0.98	5.29	1.86**	0.91	6.43
Party member	-0.10	0.73	0.90	-0.03	0.68	0.97
Student leader	0.06	0.99	1.06	-0.09	0.91	0.91
College cohort	-0.15	0.42	0.86	-0.11	0.39	0.89
Male	-0.34	0.96	0.71	-0.33	0.88	0.72
Located in Beijing	2.07***	0.85	7.94	1.97***	0.80	7.14
Founder investment	0.69***	0.29	1.99	0.59**	0.27	1.81
Year established	-0.18	0.15	0.84	-0.19*	0.14	0.82
Telecom	2.70***	1.12	14.82	2.62***	1.04	13.77
e-Commerce	0.15	0.84	1.16	0.37	0.79	1.45
VC ranking	-0.75**	0.33	0.47	-0.63**	0.33	0.53
Funding Requests	0.02	0.03	1.02	0.01	0.03	1.01
N(Group)	358(72)			358(72)		
Wald chi-squared(d.f.)	25.9(14)**			31.2(16)		
LR chi-square (d.f.)				3.58(2)*		

Note: * $p < .10$; ** $p < .05$; *** $p < .01$ in one-tailed tests.

Models 1 and 2 are entrepreneur-level random-effects logit regressions with entrepreneur-VC pair data. These models predict a startup firm's likelihood of being selected for funding by a VC that the entrepreneur has approached, no matter whether he/she has received an interview offer from the VC firm.

Table4: Regressions Predicting Interview Offers for USP firms

	Model 3			Model 4		
	B	S.E.	Exp(B)	B	S.E.	Exp(B)
Direct ties				1.80***	0.53	6.03
Indirect ties				1.21***	0.36	3.36
Ph.D. degree	-0.87	0.95	0.42	-0.62	0.85	0.54
Foreign education	0.23	0.58	1.26	0.29	0.52	1.33
Hi-profile career	1.40**	0.88	4.05	1.87***	0.81	6.51
Party member	0.07	0.56	1.07	0.14	0.50	1.15
Student leader	0.53	0.87	1.69	0.20	0.78	1.23
College cohort	0.53*	0.35	1.70	0.63**	0.32	1.88
Male	0.68	0.84	1.97	0.79	0.75	2.19
Located in Beijing	2.66***	0.64	14.34	2.51***	0.58	12.34
Founder investment	0.87***	0.26	2.38	0.73***	0.23	2.07
Year established	-0.42***	0.13	0.66	-0.45***	0.12	0.64
Telecom	3.60***	1.25	36.53	3.58***	1.13	35.96
e-Commerce	-0.02	0.65	0.98	0.23	0.59	1.26
VC ranking	-0.06	0.23	0.94	0.10	0.23	1.10
Funding Requests	-0.03*	0.02	0.97	-0.03*	0.02	0.97
N(Group)	358(72)			358(72)		
Wald chi-squared(d.f.)	39.4(14)**			55.21(16)		
LR chi-square (d.f.)				16.65(2)***		

Note: * $p < .10$; ** $p < .05$; *** $p < .01$ in one-tailed tests.

Models 3 and 4 are entrepreneur-level random-effects logit regressions with entrepreneur-VC pair data, predicting an entrepreneur's likelihood of receiving interview offers.

**Table5: Regressions Predicting Funding Offers for USP firms
Selection Effect (of the Attention Stage) Considered**

	Model 5			Model 6		
	B	S.E.	Exp(B)	B	S.E.	Exp(B)
Direct ties				0.58	0.62	1.79
Indirect ties				-0.04	0.52	0.96
Ph.D. degree	0.26	0.95	1.30	0.45	0.97	1.57
Foreign education	0.13	0.58	1.14	0.19	0.59	1.20
Hi-profile career	1.27*	0.93	3.57	1.43*	0.95	4.16
Party member	-0.08	0.67	0.92	0.02	0.68	1.02
Student leader	0.21	0.85	1.23	0.12	0.87	1.12
College cohort	-0.37	0.36	0.69	-0.35	0.37	0.70
Male	-0.48	0.91	0.62	-0.52	0.91	0.59
Located in Beijing	1.00*	0.79	2.71	0.92	0.81	2.52
Founder investment	0.46**	0.25	1.58	0.42**	0.26	1.53
Year established	-0.07	0.13	0.93	-0.08	0.13	0.92
Telecom	1.78**	0.95	5.92	1.90**	0.97	6.67
e-Commerce	0.54	0.78	1.71	0.68	0.79	1.97
VC ranking	-0.85***	0.34	0.43	-0.86***	0.36	0.42
Funding Requests	0.02	0.03	1.02	0.02	0.03	1.02
N(Group)	195(58)			195(58)		
Wald chi-squared(d.f.)	18.9(14)**			19.6(16)		
LR chi-square (d.f.)				1.60(2)		

Note: * $p < .10$; ** $p < .05$; *** $p < .01$ in one-tailed tests.

Models 5 and 6 are entrepreneur-level random-effects logit regressions with entrepreneur-VC pair data, predicting an entrepreneur's likelihood of being selected for funding given that he/she has been interviewed by the VC. The number of groups drops from 72 to 58 due to the fact that 14 firms received no interview offers.

Table 6: Two-Way Clustering Logit Models Predicting Entrepreneur-VC Interactions in Two Chinese USPs

	Model 7 Collapsed Stage		Model 8 Interview Stage		Model 9 Evaluation Stage	
	B.	S.E.	B.	S.E.	B.	S.E.
Direct ties	1.33**	0.70	1.96***	0.50	0.63	0.70
Indirect ties	0.83**	0.49	1.26***	0.34	0.15	0.53
Ph.D. degree	0.41	0.61	-0.53	0.42	0.49	0.67
Foreign education	0.01	0.48	0.22	0.46	0.09	0.48
Hi-profile career	1.50**	0.78	1.79***	0.78	1.03	0.95
Party member	-0.04	0.50	0.07	0.42	0.02	0.48
Student leader	-0.05	0.53	0.18	0.70	0.14	0.63
College cohort	-0.20	0.32	0.61***	0.23	-0.41*	0.27
Male	-0.26	1.06	0.82	0.68	-0.46	1.12
Located in Beijing	1.82***	0.74	2.03***	0.40	0.97	0.82
Founder investment	0.50**	0.26	0.51***	0.20	0.35*	0.24
Year established	-0.14	0.16	-0.40***	0.11	-0.07	0.16
Telecom	1.94***	0.82	3.33***	0.73	1.49**	0.66
e-Commerce	0.44	0.74	0.25	0.52	0.71	0.68
VC ranking	-0.50***	0.21	0.02	0.13	-0.71***	0.19
Funding Requests	0.01	0.02	-0.03***	0.01	0.02	0.02
Constant	282.32	323.89	794.97***	224.07	131.13	319.32
N		358		358		195
Clusters: Entrepreneurs		72		72		58
Clusters: VC firms		67		67		60

Note: * $p < .10$; ** $p < .05$; *** $p < .01$ in one-tailed tests.

Models 7, 8 and 9 are logit regressions with two-dimension clustered standard errors. Model 7 predicts an entrepreneur's likelihood of receiving funding offers no matter whether he/she has received an interview or not; Model 8 predicts an entrepreneur's likelihood of receiving interview offers from VCs he/she approached; Model 9 predicts an entrepreneur's likelihood of receiving funding offers from a VC that has granted him/her interviews. The drop in the numbers of clusters and observations drop between models 8 and 9 is due to the fact that a subset of firms (VCs) received (granted) no interview offers.

Table 7: Results of Bivariate Probit Model Predicting Funding Offer

Evaluation Stage	Model 10		Model 11	
	No Control for Selection		Control for Selection	
	B.	S.E.	B.	S.E.
Direct ties	0.61**	0.30	0.52	0.65
Indirect ties	0.32*	0.26	0.21	0.55
Ph.D. degree	0.19	0.41	0.29	0.49
Foreign education	0.13	0.26	0.12	0.29
Hi-profile career	0.68**	0.33	0.62*	0.47
Party member	0.06	0.32	0.06	0.35
Student leader	0.18	0.37	0.16	0.40
Located in Beijing	0.78***	0.29	0.67	0.82
Founder investment	0.26***	0.09	0.24	0.21
Male	-0.16	0.37	-0.26	0.44
Year established	0.01***	0.00	0.00	0.00
College cohort	-0.21*	0.16	-0.26	0.22
Telecom	0.97***	0.34	0.93*	0.59
e-Commerce	0.17	0.29	0.27	0.40
VC ranking	-0.33**	0.17	-0.40*	0.29
Funding Requests	0.00	0.02	0.01	0.03
Interview Stage				
Direct ties	0.92***	0.26	0.91***	0.27
Indirect ties	0.62***	0.17	0.63***	0.17
Ph.D. degree	0.00	0.33	-0.03	0.34
Foreign education	0.17	0.20	0.18	0.20
Hi-profile career	0.61**	0.34	0.63**	0.34
Party member	0.11	0.20	0.10	0.20
Student leader	0.17	0.29	0.17	0.28
Located in Beijing	1.06***	0.20	1.05***	0.20
Founder investment	0.28***	0.08	0.28***	0.08
Male	0.15	0.34	0.18	0.34
Year established	0.01***	0.00	0.01***	0.00
College cohort	0.03	0.10	0.04***	0.10
Telecom	0.94***	0.40	0.95	0.40
e-Commerce	-0.19	0.23	-0.20	0.23
VC ranking	0.05	0.11	0.06	0.11
Funding Requests	-0.02*	0.01	-0.02*	0.01
Rho	0.99	3.41	0.46	1.94
Log likelihood		-287.165		-286.764
N (group)		358 (72)		358(72)

Note: Note: * $p < .10$; ** $p < .05$; *** $p < .01$ in one-tailed tests.

Models 10 and 11 are bivariate probit regressions predicting funding offer with entrepreneur-VC pair data. Model 11 controls for selection at the interview stage, while Model 10 does not.

Table 8: Fixed-effects Models for USP Firms

	Model 12-Interview		Model 13-Funding	
	B	S.E.	B	S.E.
Direct ties	0.87**	0.52	0.04	0.69
Indirect ties	0.86**	0.40	-0.44	0.55
VC ranking	0.23	0.27	-.97**	0.43
Funding requests	-0.04**	0.03	0.02	0.04
N(group)	195(38)		89 (17)	
Chi-square(d.f.)	19.49(4)***		10.26(4)**	

Note: * p < .10; ** p < .05; *** p < .01 in one-tailed tests.

Models 12 and 13 are entrepreneur-level fixed-effects logit regressions with entrepreneur-VC pair data. Model 12 predicts an entrepreneur's likelihood of receiving interview offers; Model 13 predicts an entrepreneur's likelihood of being selected for funding by a VC that has granted him/her interviews. The number of group drops from 38 to 17 from Model 12 to Model 13 due to the fact that 21 firms have only negative outcomes for funding offers.

Table 9: Tie Mobilization

	Model 14	
	B	S.E.
Student leader	0.73**	0.25
Ph.D. degree	-.54**	0.27
Hi-profile career	0.39	0.36
Foreign education	0.34**	0.19
Located in Beijing	.30**	0.19
Telecom	0.31	0.31
e-Commerce	0.71**	0.21
Chi-square (d.f.)	27.61(7)***	
Pseudo R-square	.03	

Key: *** = p < .01; ** = p < .05; * = p < .10 in one-tailed tests.

Chapter Two

INSTITUTIONAL CONSTRAINTS AND FOREIGN DIRECT INVESTMENT SEEKING BEHAVIORS OF CHINESE ENTREPRENEURUS (with Yasheng Huang)

What strategies can entrepreneurs adopt to overcome hostile institutional environments? Why are firms in certain regions particularly willing to form joint ventures with foreign investors? Could there be any intrinsic linkages between the two issues? By tying the literature of *political economy of institutions* and *international business*, we address these questions by examining the most popular investment destination in the developing world: China. We find that the same set of institutional factors that constrain local firm development also drive Chinese entrepreneurs' eagerness to absorb foreign direct investment (FDI). Particularly, joint-venture-seeking behaviors are most likely to happen in regions where the policy differential toward domestic and foreign enterprises is large. We argue that, although preferential policies toward foreign-invested enterprises put domestic enterprises into a relatively disadvantaged position, they also create opportunities for local entrepreneurs to dodge the otherwise constraining institutional environment. Even though it was not originally designed to serve this purpose, we can see from this perspective that China's FDI policy essentially helps liberalize the domestic economic sector.

I. Introduction

Conventional wisdom suggests that the *vulnerability of foreignness* — when foreign firms suffer from discrimination in the host country because of their alien status — makes it necessary for multinational corporations (MNCs) to possess firm-specific capabilities to compete with the politically-favored local firms. At the same time, the local firms pursue foreign equity partnerships in order to gain MNCs' firm-specific capabilities (Hymer, 1976; Siegel, 2006). We, however, argue that MNCs may benefit from their foreign nationality by receiving preferential treatment from host governments. Moreover, under the existence of "foreign privilege," firms may find it more attractive to conduct cross-border relations through FDI rather than pursuing such alternatives as contract production, even when the bilateral relationship does not involve the transaction of firm-specific assets and can be governed through non-FDI mechanisms with at least equal efficiency.

Our inquiry stems from the observation that many developing countries defy the theory of firm-specific capability. As industrial organization literature has argued, firm-specific capabilities are usually developed in industries characterized by imperfect competition (Hymer, 1976; Knickerbocker, 1973). However, a significant portion of the FDI in the developing world is supplied by a large number of small MNCs that often operate in the labor-intensive sectors (Wells, 1984; Huang, 2003). The involvement of a large number of players makes the market almost perfectly competitive; as a result, it is nearly impossible for firms to develop unique capabilities. So why would a local firm still be motivated to pursue equity partnership with a foreign firm? Indeed, under the condition of perfect competition, according to the logic of transaction cost economics, their bilateral relationship shall be governed through the price mechanism. Even more puzzling to the existent theory is the prevalence of “round-trip” FDI in these countries. It is clear that when domestic capital is funneled abroad and later returns disguised as foreign capital, it should bring to the parent firm no additional benefits, whether tangible or intangible. Indeed, if alien status exposes the firm to discriminatory measure—as the *vulnerability of foreignness* argument claims—why would a firm choose to make local capital travel, only to then face discrimination?

The relationship between MNCs and host countries does not have to be confrontational. Our reasoning for a “foreign privilege” argument is that when a developing country designates FDI as an integral part of its industrialization effort (even when it has low credibility in policy commitment), it has to grant MNCs preferential treatment to compensate for the risks they undertake. This essentially creates a policy bias against domestic firms and renders alternative mechanisms such as contract production less attractive than FDI in governing cross-border economic transactions. When a local firm supplies a foreign firm through contract, it has to carry out the economic activity (such as material import, production, and final good export) under a constrained institutional environment that often causes undue delays, high bribery payments, and a large possibility of future contracts loss. In contrast, foreign equity partnership helps the local firm to convert its status into foreign-invested enterprise and in so doing conduct the same activities with less governmental intrusion. From this

perspective, ownership arrangements like FDI does not arise out of its efficiency in governing bilateral economic transactions; instead, it arises out of its role in transcending institutional boundaries and thereby reducing the costs of dealing with over-regulative governments.

This paper makes contributions to our thinking about FDI in three main areas. First, it explores an often-neglected dimension of FDI dynamics. Since cross-border equity partnership is a matching process, our “pulling” side story (local firms’ pursuit of FDI) complements the existent “pushing” side story (MNCs’ supply of FDI). Second, it demonstrates that the same set of institutional factors that limit a local firm’s development may also drive its pursuit of foreign equity partnership. Large FDI inflows may well indicate local economic weakness rather than economic health, as often claimed. Third, it uses a unique dataset from China—the most popular FDI destination in the developing world—to test this institutional argument. Although there are many policies debated over China’s FDI-driven development model, empirical studies using fine-grained data are lagging. Most of the existent works focus on macro-dynamics while only using provincial- or industrial-level data. For the few firm-level studies, data is either collected from a small geographic space, or contains limited information on firm characteristics. In contrast, our data set is drawn from a nationwide survey and has detailed information on both firm and owner characteristics.

The rest of this paper is organized into five sections. In the next part, we review the established literature to demonstrate that contractual arrangements could be made more efficient in the competitive market. We then develop an institutional argument to explain why a local firm may prefer a foreign equity partnership to the alternatives. The fourth section gives a detailed description of our empirical data and statistical results, and the final section explores theoretical discussions and conclusions.

A. Ownership Arrangement vs. Contractual Arrangement

FDI is essentially an ownership arrangement through which MNCs exercise direct management control over domestic assets (Hymer, 1976). It is one of the many modes by which a domestic firm and a foreign firm can organize their economic relations. Alternatives—including technological licensing, asset renting, and contract supply—are contractual in nature and are coordinated through the price mechanism. Therefore, a theory of FDI has to explain why an ownership arrangement is chosen over the price mechanism (Buckley and Casson, 1975). According to the logic of transaction cost economics, when choosing among alternative modes of organizing economic activities, firms choose the one that minimizes transaction costs (Williamson, 1975). Empirical studies have also demonstrated that unilateral contract is the de facto governance mode unless the external market is imperfect, in which case “contractual hazards” are generated (Oxley, 1997).

Market imperfections arise from many sources, one of which is known as the *small-numbers bargaining problem*. When there is horizontal or bilateral monopoly or oligopoly, some form of collusion will be profitable. One form is for the various enterprises to be owned and controlled by one (Hymer, 1976). Firms can also collude through cross-investment, thus holding each other hostage (Buckley and Casson, 1976). Another type of market imperfection is the absence of the market for intermediate goods, such as firm-specific capabilities. When such a market is well developed, an MNC can rent or sell its skills to a local firm rather than undertaking its own foreign operation. However, when there is information inequality between seller and buyer, it is difficult for the two sides to write a contract to complete the transaction. Under such a situation, the MNC may “not be able to appropriate fully the returns of the ability unless it controls its use” (Hymer, 1976: 26).

As mentioned before, a significant proportion of FDI in developing countries is supplied by small MNCs operating in the competitive market. As McManus notes, in perfectly competitive markets all economic interdependences can be organized through external market mechanisms where a large number of players react to prices (1972). Hymer makes a similar point, arguing that “[i]t is important to stress that both of these

reasons for not licensing disappear if there are many buyers of the advantage. It is the market impurity which leads to the possessor of the advantage to choose to supersede the market for his advantage”(Hymer, 1976: 49). Even though we cannot deny the existence of small-bargaining problems in the relationship between some large multinational firms and local entrepreneurs, there are no theoretical reasons for us to believe these small-bargaining problems play a significant role in inducing local entrepreneurs to embrace an ownership arrangement with small MNCs that are often prevalent in the host country.

It is often argued that MNCs invest in developing countries for specific advantages, such as cheap labor costs. If exploitation of local factor endowments is the motivation, an investor will do well to contract production to local producers, but there is no logical necessity for him to control the enterprise from which he buys the final products (Huang, 2006). In such a market, labor-intensive industries are perfectly competitive where the terms of trade are automatically revealed. If any seller tries to bluff about the price, buyers will turn to someone else. Trust is not an issue, either. Given the large number of suppliers/buyers available, contracts can be broken with short notice, and the switching costs are kept to a minimum. As a result of low switching costs, the market can quickly adjust to more efficient levels depending upon supply and demand. Finally, monitoring is not a serious problem, as industry standards are well established and quality control is easily enforced.

In competitive industries, there is no profit to be derived from substituting contract manufacturing with direct control of foreign production. According to Hymer, one shall not observe direct investment in industries with many small firms, “for if there are many firms, entry is probably easy, and local firms with the special advantages of their nationality will predominate” (Hymer, 1976: 49). Yet, for some reason, certain developing countries attract equity investment from a large number of small MNCs that operate in the competitive market (Wells, 1984; Huang, 2003; UNCTA, 2006). This phenomenon has not been appropriately investigated. Specifically, it may be the case that even though equity investment is not superior to governing *economic transactions* between a domestic firm and a foreign firm, it conveys *institutional benefits* to the

domestic firm that a contractual arrangement does not. In the following section, we will further explain the theoretical basis for this argument.

B. An Institutional Story of Local Firms' FDI-Seeking Behaviors

There is a long tradition of studying the relationship between MNCs and host country governments (Vernon, 1971; Kobrin, 1987). One central theme is that MNCs suffer from discriminations that their local counterparts do not bear. These discriminations may take many forms but are nationality-based: because of their alien status, foreign firms are often denied access to the local capital market, export/import licenses, and special subsidiary programs (Hennart, 1982).¹ According to Hymer, the “vulnerability of foreignness” makes the possession of firm-specific capabilities a prerequisite for an MNC’s successful overseas operations (Hymer, 1976).

The recent literature has particularly focused on the host country’s institutional structure and its capability in credibly committing itself. In a country with weak institutional checks and balances, the government may change policies unilaterally at the cost of foreign investors (Henisz, 1999). To reduce the hazards, MNCs are often willing to exchange their firm-specific assets with local firms for their relational assets, especially influence on governmental behaviors. Studies in weak institutional contexts such as South Korea and Indonesia show that MNCs are much more likely to form joint ventures with politically connected local firms than with unconnected local firms (Siegel, 2006; Purbasari and Mobarak, 2006). However, this asset-exchange story does not explain why a local firm and a foreign firm would want to substitute contract production with equity partnership in the competitive market. Indeed, contractual arrangement has advantages particularly when foreign ownership invites significant political discrimination, as it doesn’t require the foreign firms to make any investment in fixed assets locally, which leaves the government unable to expropriate anything.

¹ As Vernon remarks, “governments are gradually extending and solidifying the principle that local corporations...have rights and privileges that are determined in considerable measure by the identity of their stockholders” (1971: 244).

The relationship between MNCs and host governments does not have to be confrontational, as often argued. In recent years, many countries have begun to perceive FDI as an integral part of their economic development. Some developing countries that were traditionally discriminatory have recently been particularly aggressive in attracting FDI. This is caused in part by their institutional weakness, which leads to low commitment credibility. To compensate for the risks, MNCs need to be offered large policy concessions in order to enter these countries². The United Nations Conference on Trade and Development (UNCTAD) publishes annual data on “changes in national regulations of FDI.” It reports that from 1991 to 2002, “the use of locational incentives to attract FDI has considerably expanded in frequency and value” (UNCTAD, 2003: 124). The report also shows that most of these preferences are offered by developing countries that have yet to build policy credentials.

Rulers of authoritarian regimes may also promote FDI for political reasons. If general economic liberalization unleashes the economic power of those who are politically discontent, partially liberalizing the economy to foreign investors may seem attractive for a ruler³. Given their alien status, foreign investors may help the national economy grow but not make political demands, such as democratization, that threaten the ruler’s control. Studies of China suggest that FDI has helped the ruling party continue channeling precious financial resources to the socialist economic sector (Huang, 2003) to suppress labor movements and tighten general control over society (Gallagher, 2002). Evans’ finds that in some Latin American countries, MNCs formed alliances with military leaders and large, conservative private capital at the cost of small local firms, which were perceived to breed democratic movements (1979). In summary, even a repressive regime may not be hostile to foreign investors, depending on its industrial policy and domestic political dynamics.

² Hereafter, we shall call policy concessions to foreign investors as FDI concessions.

³ As remarked by Huntington, one of the leading political scientists of the 20th century, the main threat to an authoritarian regime is the “diversification of the elite resulting from the rise of new groups controlling autonomous sources of economic power, that is, from the development of an independently wealthy business and industrial middle class” (1970:20).

The most common incentive to attract MNCs is the grant of some kind of income tax exemption or reduction. However, policy concessions to foreign investors do not stop here. Using data from the World Business Environment Survey on more than 10,000 firms across 81 countries, Huang found that foreign firms enjoy significant regulatory advantages over domestic firms in a broad range of issues, including loosened environment and labor regulations, streamlined administrative procedures, and privileged access to export and import licenses (Huang, 2004). In some cases, concessions made to foreign firms are so large that scholars have expressed fear that host countries are losing sovereign control (Strange, 1996) and that local enterprises are being “crowded out” by the MNCs (De Backer and Sleuwaegen, 2004).

Even though FDI concessions are often off-limits to domestic firms, they provide a channel for the latter to evade institutional constraints. In many countries, joint ventures of equity partnership are categorized as foreign invested enterprises, as long as the foreign shares reach a certain government-specified level. These joint ventures are fully eligible to FDI concessions. Simply put, the absorption of FDI helps a domestic firm to transform its legal status from domestic to foreign and thus opens the door for it to cross institutional boundaries and gain access better treatment. In contrast, alternative arrangements such as contract production do not involve ownership change and cannot aid in status conversion, even though they may be technically superior in terms of governing the economic transactions.

Equity partnership with foreign investors is not costly for domestic firms. It takes time and money to find a foreign partner who is willing to make investments in the local firm. Also, equity partnership makes the two sides share control and residual claims rights. Since each partner can only claim a fraction of the residual, it may find it advantageous to maximize its own gain at the expense of the venture. This fraction could be most severe when the foreign firm’s parent organization wants to use the joint venture as a tool for the benefit of worldwide tax planning (Desai, Foley, and Hines, 2004). Devoid of institutional bias, a domestic firm would not harvest any benefit from this status transformation, particularly when it is operating in a competitive market; however,

its calculation would be different when the local institution is restrictive. In many developing countries, a local firm often finds that the morass of licenses, approvals, and permits requires high bribery payment and causes undue delays. In contract production, any failure to supply foreign buyers on schedule would make a local firm face significant loss, not only fines for contract breach but also the loss of future orders. When foreign status reduces regulative harassment, the transaction partners will find it attractive to make an ownership arrangement rather than transacting through the market. From this perspective, the pursuit of FDI is essentially to dodge institutional constraints.

FDI-seeking behaviors could vary substantially within a given country, particularly when local governments retain certain authorities for policy initiation. Empirical studies have demonstrated the importance of this regional difference in both the FDI context and others. For instance, Berkowitz and DeJong (2002) find that new firm formation varies across regions in transitional Russia and highly correlates with the local support for political and economic reforms. Huang and Di's comparison (2005) of two neighboring Chinese provinces finds that firms located in the private enterprise-friendly region are less likely to seek out FDIs.

Hypothesis 1: A local firm's probability of engaging in FDI-seeking behavior increases in proportion to the level of institutional constraints imposed upon domestic firms.

Hypothesis 2: A local firm's probability of engaging in FDI-seeking behavior increases in proportion to the level of preferential policies granted to foreign-invested enterprises.

The institutional incentives for FDI-seeking behaviors may also depend on a local firm's political status. In institutionally weak countries, governments do not treat all types of firms equally. While politically connected firms are often granted regulatory exemptions, exclusive licenses, and governmental subsidies, those unconnected ones have to suffer from poor property rights protection, pay higher taxes, and go through onerous regulatory procedures to operate a business (Siegel, 2006; Mobarak and Purbasari, 2006). The work of Fisman (2001) concludes that, in Indonesia, a considerable

percentage of well-connected firms' value comes from political connections with the then-president Suharto. Qualitative studies by Huang (2003) of China and Jones and Gomez (1997) of Malaysia also demonstrate that government may design FDI policy in such a way to protect the politically favored firms and expose those disfavored ones to greater foreign competition.

Hypothesis 3: A local firm's probability of engaging in FDI-seeking behavior increases in proportion to the level of political discrimination that it faces.

MNCs are not privileged over local enterprises across the world. Some countries, such as North Korea, hold strong anti-FDI stances. In these countries, FDI is not perceived to be part of the national industrialization plan and MNCs are even prohibited from entering their borders. One may not observe large FDI concessions in mature democratic countries, either. When a country's electoral system functions well, politicians have to court their local constituencies. Any concession to foreign investors that exclude domestic firms will invite political backlash and be punished when the election comes. Indeed, the World Bank's Investment Climate data consistently show that in mature democracies such as Germany, Greece, and Portugal, domestic firms consistently receive better treatment from politicians. For instance, they pay fewer bribes to "get things done," experience shorter delays in getting utility suppliers, and spend less time dealing with tax bureaus than foreign firms. In contrast, foreign firms are much more advantaged in less democratic countries, such as Indonesia, China, and Malaysia.

To summarize, we think that a domestic firm is more likely to use foreign equity partnership to avoid institutional constraints in the following context. First, the regime has low credibility in terms of making policy commitment. This condition makes it necessary for the regime to make FDI concessions if it wants to attract MNCs. Second, the regime's leaders have high discretionary powers and their political careers are not determined by citizens' ballots. This condition makes it possible for the leaders to make FDI concessions without fear of being punished by domestic investors. Third, the regime needs to perceive FDI as an integral part of its industrialization plan; otherwise, it would

have no incentives to make concessions to MNCs. In sum, FDI-seeking behaviors are more likely to be present in countries with weak institutional checks and balances but that are willing to embrace foreign investors.

III. Empirical Setting

In this section, we shall describe how we plan to test our hypotheses. We have chosen to examine FDI in the context of China, as this country provides an appropriate setting to test our argument for institutional weakness. There are several additional advantages to examining China, especially considering China's FDI-driven development model.

A. Institutions in China: One Country, Two Systems

Most scholars perceive institutional checks and balances to be missing in China. For instance, the country is consistently ranked among the worst countries in judicial independence and political and economic freedoms (La Porta, Lopez-de-Silanes, Pop-Eleches, and Shleifer, 2004; Heritage Foundation, 2002).⁴ Nevertheless, institutional weakness does not prevent China from embracing an "Open Door" policy. The nation has been the most popular FDI destiny in the developing world since 1993. By the end of 2003, it had received more than \$500 billion in utilized FDI, second only to the United States (UNCTAD, 2005).⁵

How exactly did China manage to draw so much FDI? To attract FDI, China offered foreign investors a wide range of preferential policies that were off-limits to domestic investors, particularly domestic private investors. This policy bias essentially

⁴ China also scores the lowest grade in Henisz's (2002) political constraint measurement in terms of the existence of veto players in the institutional process. When informal "accounting groups" are taken into consideration, it scores a bit better, receiving a modest 3 in the scale of 7. Among the 160 countries measured, only 36 are ranked worse (Marshall and Jaggars, 2003).

⁵ Interestingly, regional governments in China do not hold the same level of enthusiasm toward foreign investors as the central government. In the past two decades, the central government has been delegating authorities to the regional governments. While some regions prioritize MNCs over domestic investors, others hold more encouraging attitudes toward local firms. Institutional differences across regions make it possible for us to test our argument using a dataset collected in a single country.

creates two economic systems within the country: one foreign with favorable treatments, another domestic with excessive constraints. One can only grasp the dichotomy between the two economic systems by comparing the government's treatment across three dimensions—property rights, finance, and regulation.

Property Rights

Domestic firms and foreign firms faced very different legal treatments, with foreign firms being vastly favored. The Chinese government did not grant domestic non-state enterprises legal recognition until very recently. In contrast, from the very beginning of the reform, the government has taken comprehensive procedures to protect foreign investors' property rights. In 1979, the National Congress promulgated the Equity Joint Venture Law, making an explicit commitment not to nationalize or expropriate the assets of foreign investors without “due cause and compensation.” This provision was subsequently written into the 1982 National Constitution. The treatment of foreign invested enterprises became further codified with the passage of the “Wholly Foreign-Owned Enterprise Law” in 1986 and the “Sino-Foreign Cooperative Joint Venture Law” in 1988. In contrast, legal protection of domestic firms, particularly private firms, was much weaker and lagged far behind. For most of the 1980s, there was barely any legal clause in the National Constitution specifying the legal status of domestic private enterprises.⁶ It was not until 1999 that the Chinese government recognized private enterprise as a “component” of the Chinese economy. This meant, at least nominally, that private firms and state-owned enterprises (SOEs) were to have an equal status. And it was not until 2004 that the government pledged protection of property rights to private businesses, a right the foreign firms investing in China have enjoyed since 1982.

Finance

⁶ The 1982 Constitution acknowledged the property rights of self-employed private businesses but not of other types of private firms. The 1988 constitutional amendment added a clause, claiming to “permit” private firms and to protect their “lawful rights and interests.” But the same amendment also subordinated the private sector to “a complement to the socialist public economy,” which meant that private firms were allowed entry only in industries where they did not pose a competitive threat to the SOEs.

Domestic private firms have difficulty in accessing bank loans. This condition is partially caused by their low position in the regime's political pecking order, as the state-owned banks typically allocate credits based on political favoritism (Huang, 2003). This condition is also due to the firms' legal status: Lacking legal recognition of their property rights, domestic private firms cannot use their assets as collaterals for bank credits. Until recently, lending to private firms was a miniscule proportion of Chinese bank loan portfolios. For instance, in 1996, only 0.1% of the new loans went to purely private enterprises. In comparison, foreign-invested enterprises accounted for about 3% of new lending and the loss-making SOEs got the lion's share. The Chinese government even designated special policies to ease foreign investors' credit constraints. The 1986 "Regulations to Encourage Foreign Investments" issued by the State Council explicitly required the Bank of China to give loan priority to qualified foreign firms. However, the same treatment was never granted to domestic private firms. Equity financing was also difficult for private firms. In the 1990s, China's two stock exchanges primarily served as fund-raising vehicles for the SOEs and non-state listed companies accounted for around 3% of all domestically listed companies (So, 2000; Walter and Howie, 2003).⁷

Regulations

Not surprisingly, China's regulatory institutions also treat domestic and foreign enterprises differently. To attract FDI, the government has adopted several approaches to streamline bureaucratic procedures for MNCs. For instance, the State Council issued "Regulations to Encourage Foreign Investments" in 1986 that stipulated a three-month period for a foreign investment project to be notified of the approval result. It took about ten years of reforms for domestic entrepreneurs to receive similar treatment.⁸ Domestic

⁷ To finance firm development, Chinese entrepreneurs rely heavily on informal channels, such as borrowing from family, friends, and private (often illegal) credit agencies (Tsai, 2002). Although it is argued that informal mechanisms are quite effective in financing firm growth in China (Allen, Qian and Qian 2005), household data has demonstrated that they are not good substitutes for formal credit (Feder, Lau, Lin and Luo, 1990). Anecdotal evidence shows that, compared with official banking, firms borrowing through alternative channels often suffer from higher interest rates and shorter loan durations (Tsai, 2004).

⁸ The 1999 data shows that, to operate a business, domestic entrepreneurs spent on average 92 days to get various licenses (Djankov et al, 2001).

entrepreneurs also face more restriction than foreign enterprises in terms of entry permit and export and import rights. By 2002, China had opened more than 80 industrial sectors to FDI but only 40 sectors to domestic private investment (Huang, 2003). When it came to international transactions, while foreign invested firms could directly export and import products within their business lines, most private firms were required to go through official state-owned trading corporations. This situation lasted until at least 1999.

To say that domestic and foreign invested firms have not played on a level field in China during the reform era is an understatement. In Table 1, we show the results from a business survey conducted by the World Bank. Notice how most of the indicators measuring investments' institutional climates show that domestic firms score lower than foreign enterprises, despite domestic firms' superior familiarity of the institutional system. We want to explore how this institutional bias renders fewer alternative modes than foreign equity partnership in governing Chinese firms' cross-border relationships.

B. Data

The data used in this study come from a nationwide survey of non-state domestic enterprises. The survey was jointly conducted in 1995 by the All China Federation of Industry and Commerce (ACFIC) and the United Front Work Department of the Chinese Communist Party's Central Committee (CCPCC). The questionnaire was designed by a panel of scholars from the Research Division of ACFIC, the Policy Research Office of CCPCC, People's University of China, China Academy of Social Sciences, and Beijing Academy of Social Sciences. The dataset is by far the best available for studying non-state enterprises in China. Firms were selected from the population of all registered non-state enterprises in the country's 30 provincial-level administrative regions using a staged sampling method.⁹ Out of 3,635 firms sampled (about 0.5% of the population), 2,948 firms were still in operation and their owners were interviewed.¹⁰

⁹ In the year of 1994, a national level conference was held in Hainan Province to determine the number of enterprises to be surveyed in each province based on a .5 percentage sample. For instance, if Province A had 20,000 non-state enterprises, 100 firms would be the sample size in the region, as $20,000 \times .5\% = 100$. In the second stage, based on enterprise registration data from each province's Bureau of Industry and Commerce, the number of urban and rural enterprises to be survey was calculated. For instance, if 12,000 out of the 20,000 non-state enterprises in province A

Face-to-face interviews were conducted with the firms' owners, the questions covering many aspects including the firm's size, history, and basic financial, technological, and human resource information, together with the owners' demographic information, educational background, and working experiences. The survey asked owners to subjectively evaluate various institutional environments. These questions were asked in particular ways to reduce political sensitivity. For instance, rather than directly asking the owner whether her firm experienced governmental discrimination, the survey asked whether she perceives that the government could build a better relationship with non-state enterprises through reducing political and economic discrimination. Other studies have shown that such positive framing helps to solicit genuine opinions.

A preliminary analysis of the data shows that Chinese non-state enterprises are eager to absorb foreign equity investment. Out of the 2,869 firms with relevant data, 1,254 (43.7 %) are either in the process of forming joint ventures with foreign investors or plan to do it in the next three to five years.¹¹ Table 2 shows mean values of the characteristic metrics for the two groups of firms with different FDI-seeking attitudes. It seems that FDI-seeking entrepreneurs are on average younger and better educated than the non FDI-seeking entrepreneurs. However, the differences are not substantively large. With respect to age, the first group is only 8 months younger than the second group (41.57 years vs. 42.24 years). With roughly the same length of establishment (5.7 years), FDI-seeking firms are much larger in terms of employee size (144.7 vs. 54.25) and the number of technicians (14.24 vs. 5.34). However, the two firm types are not different from each other in terms of technological complexity, measured by the number of technicians as percentage of employee size—both are around 14%. FDI-seeking firms do not seem to have higher liquidity constraints than non-seeking firms, either. Although the

were located in an urban area, then 60 of them needed to be surveyed as $100 \times (12,000/20,000) = 60$. The number of firms in each industry to be surveyed in each region was calculated in the same way. For each firm surveyed, the owner was also interviewed. In the case of cooperate enterprises, the largest investor was interviewed.

¹⁰ To examine the representativeness of the data, we checked the data with various Chinese statistical yearbooks, discovering that the survey under-sampled small firms, particularly those household enterprises with less than seven employees. This may reflect that small firms are more likely to fail under competition and that the missing observations may come disproportionately from this subgroup. We do not think this will influence our results in any meaningful way.

¹¹ Even though the "three to five years" framing with regard to future behavior is a bit long in terms of time duration, it at least helps to distinguish firms with the pursuit of foreign equity partnership in mind from those never having thought of this option.

mean net profit of FDI-seeking firms in 1994 is lower than the non-seekers, a two-sample T-test shows the difference is not statistically significant due to the wide range of variation within groups. The last three rows of Table 2 show that FDI-seeking firms, as expected, are more integrated with the world economy: They are oftentimes located in the coastal region and have both foreign sales and international suppliers.

C. Variables: Definition and Measurement

Our outcome variable is FOR_INT, an ordinal variable that measures domestic non-state enterprise's FDI-seeking behaviors. The survey asks local entrepreneurs whether 1) they do not plan or have not thought of forming joint ventures with foreign investors, 2) they plan to form joint ventures with foreign investors in the next three to five years, or 3) they are in the process of forming joint ventures at the current moment. FOR_INT takes on values from 1 to 3, with larger values indicating that the firm is more willing to form joint ventures with foreign investors.¹² Looking at the FDI-seeking disposition allows us to test how perceived institutional environments influence domestic enterprises differently. Direct comparison of international joint ventures with domestic firms could draw misleading conclusions, as firms operating in the foreign sectors tend to face less restriction.

Our explanatory variables are formed by a battery of metrics geared toward determining institutional heterogeneity across regions. They are the *aggregation* of local entrepreneurs' opinions within each province. Guided by previous works on institutions and economic development (North, 1981; Levine, 1997; Acemoglu and Johnson, 2003; Huang, 2003), we focus on the security of property rights, access to bank credit, and political discrimination.

¹² The survey also asks the local entrepreneur whether her firm is a joint venture already. There are 79 joint venture firms in the original dataset. For our main statistical analysis, we deleted these firms but reincorporated them for a robustness check. As discussed later, incorporating them in regression analysis gives our arguments stronger statistical support.

Like all other survey-based research, our measurement may suffer from subjectivity. Three factors make us believe this does not pose a serious problem to the research at hand. First, entrepreneurs behave on their subjectively perceived environment, as demonstrated by previous researchers (Johnson, McMillan, and Woodruff, 2002; Cull and Xu, 2005). Second, the survey questions are designed to solicit owners' genuine evaluation of the institutions. To reduce political sensitivity, many of the institutional questions are set in a positive tone. Third, even if individual entrepreneurs could make errors in evaluating the environment, the aggregation can still be unbiased because our sample is representative, surveying 0.5 percent of non-state enterprises in each province; thereby "noises" are cancelled out.

Three measures of property right regime are constructed. The first variable measures the extent to which the government expropriates local firms' revenues (GOVT_EXPROPRIATE). It is the provincial aggregation of entrepreneurs' response to the question: "What percentage of your firm's revenue in the year of 1994 was made to the government as 'extra-tax financial contributions'?"¹³ These "extra-tax" burdens vary across regions and in some cases are very substantial. Our data shows that, in some regions an average firm "contributes" up to 4% of its revenue to the local government. Even though firms in those business-friendly regions are not exempt from the expropriation, their payment is much lower. For instance, in Zhejiang, a province well known for being friendly to domestic private enterprises, an average firm "contributes" only 0.8% of revenue to government (see Table 3 for comparisons with other provinces). Some Chinese scholars have argued that this factor best captures regional variations in the investment environment (Li, Meng, and Zhang, 2005).

The second measure is designed to capture the owners' perception of the insufficiency of property rights legislation (PRLAW_ABSENT).¹⁴ Given that property

¹³ These "contributions" could come under various covers, such as mandatory magazine subscription, "administrative fees," and arbitrarily required "donations". Although local government often justifies these "donation" requests in terms of corporate social responsibility, these extra-tax financial burdens are not subscribed by any law or official policies but are essentially governmental expropriations that blandly violate private property rights.

¹⁴ Entrepreneurs were asked: "Which one of the following factors hinders the development of your firm most severely?"

rights legislation is carried out at the national level, one might expect little variation in survey responses in a relatively authoritarian country such as China. However, the means and standard deviation reported in Table 4 indicate a moderate variation in the responses across regions. Once again, the renowned entrepreneurial province, Zhejiang, has one of the lowest scores, indicating better property rights protections.

The third variable measures the extent of property rights insecurity caused by social actors (SOCIAL_EXPROPRIATE). Entrepreneurs were asked to evaluate whether they feel the government has done enough to help protect their own safety and that of family members on the scale of 1 to 3, with higher values indicating insufficiency. More than 86% firms chose either the value of 1 (sufficient) or 2 (okay); the mean is 1.80 but the standard deviation is only 0.14.

Even though this variable directly measures law and order in the society, the China context makes us believe that it can approximate the social infringement of property rights. It has been widely published that Chinese entrepreneurs and family members are often the targets of abductions for ransom by gangsters and unorganized criminals (The Standard, 2006). As the demand piled up, China Pacific Insurance Group recently introduced a new insurance policy—Abduction Insurance—primarily targeting managers and private entrepreneurs (China Insurance, 2004).

Two measures of the financial institution faced by non-state enterprises are constructed. The first variable asks entrepreneurs whether they have difficulty in getting access to external financing (FINANCE_DIFFICULTY). One concern for this measurement is that, denied credit for an individual firm may reflect either policy restrictions or the firm's heterogeneity, such as bad reputations, inferior market performance, or the lack of collaterals. However, given that FINANCE_DIFFICULTY is

1) Property rights legislation; 2) newspaper propaganda; 3) taxation policy; 4) credit policy; 5) macroeconomic policy; 6) industry and commerce administration; 7) labor market regulation; 8) household registration system; 9) social security; and 10) ownership issues." We are interested in the percentage of firms within a region choosing the property rights legislation as the answer.

a provincial-level aggregate measurement, it is more likely to capture the general financial environment that an average enterprise faces rather than firm idiosyncrasy.

The second variable directly asks entrepreneurs what factors contribute to their financial difficulty (FINANCE_POLICY_CONSTRAINT), be it “policy restriction,” “governmental heckling,” “market competition,” or “factors within the firm.” The last two factors are more likely to capture individualistic causes of financial constraint. In contrast, the first two factors are more likely to capture the institutional causes. Table 4 shows that non-state enterprises consistently face high financial constraints in China—only around 30% of firms claim not to have difficulty in external financing and more than 60% of firms contribute the difficulty to institutional or policy factors.

We also constructed two variables to measure preferential treatments granted to foreign invested enterprises. Following the established literature, we use the number and history of each province’s “Open Economic Zones” as the policy index (Cheng and Kwan, 2000; Demurger et al., 2002). Although foreign investors are welcomed all across China, certain regions were opened up much earlier and designated with more open zones. The variable FDI_POLICY measures the average number of zones a province had during the period of 1982 to 1994 (see Appendix III for details).¹⁵ Within a province, there could also be policy differences, as not all municipalities are designated as open zones. Even for joint ventures in a zone-rich province, they may have difficulties in getting zone-specific preferential treatments if they are located in a non-zone region. To capture this variation, we construct a dummy variable ZONE_CITY to measure whether the firm is located in a city/region with open-zone status, with the value 1 indicating “yes.”

¹⁵ The reason we used a chronically weighted number of zones rather than simple count is to take into consideration that policy implementation and improvement take time. The granting of a zone status does not mean preferential policies would be put into service instantly. Instead, it involved delays. For two regions with the same number of zones in 1994, we assume that the ones that were opened up earlier and had a higher average number of zones for the period would be better enforcers of FDI preferential policies. We also construct a variable FDI_ZONE counting each province’s number of zones in the year of 1994. It turns out that FDI_ZONE and FDI_POLICY highly correlate with each other (correlation > .83) and our analytical results do not change in any substantive way when we replace one variable with another. Thus, we only report the coefficient for FDI_POLICY in our regression tables.

Last, two variables are constructed to measure discrimination. The first one is DISCRIMINATION, a provincial level aggregation of entrepreneurs' perception of political and/or economic unfair treatment.¹⁶ Our second variable is PRIVATE_ENTERPRISE, a dummy variable measuring firms' ownership type. Firms in the same region may face different levels of institutional constraint, and the government often ranks firms according to standards other than economic efficiency. In other developing country contexts, it has been demonstrated that an entrepreneur's political affiliations (Siegel, 2005), ethnicity (Macintyre, 1994; Folk and Jomo, 2003), and even religious affiliation influence his or her access to government-regulated resources. China has been shown to have a political pecking order based on the ownership type of firms, in which domestic private firms are ranked at the bottom and face the most extreme constraints in terms of business opportunities, political support and even legal protections (Huang, 2003). We code private firms as 1 for this variable, indexing a high level of discrimination.

While none of these measures can capture the institutional environment accurately, together they do provide us with a richer picture than we would have if only one of the indicators was utilized. Table 3 lists values of key institutional variables for each province. The data seem to show two patterns. First, institutions vary quite dramatically within China. This resonates well with the view that decentralization of authority during the reform era has generated institutional heterogeneity within the country (Naughton and Yang, 2004). Second, the ranks of each province across institutional measures vary but certain provinces do score better than others across the board. To ensure an easy interpretation of our analytical results, we have coded all the institutional variables in such a way that a higher score indexes a more constraining/favorable environment for domestic/foreign enterprises.

IV. Empirical Estimation and Findings

¹⁶ Rather than asking directly whether the entrepreneur feels the government discriminates against her enterprise, the survey puts a positive spin on the question. It asks the entrepreneur whether the government could build a better corporate-government relationship through the reduction of political and economic discrimination against non-state enterprises. This framing helps to solicit genuine views from the interviewee by reducing political sensitivity to a minimum.

Given that our outcome variable FOR_INT is an ordinal outcome, we use an ordered logit model to empirically estimate the likelihood of non-state enterprises' FDI-seeking behavior.¹⁷ As our data are clustered by region, robust standard errors are reported. Analytical results are presented in Tables 5-8, *which all consistently show strong evidence that Chinese firms' FDI-seeking behaviors correlate with the local institutional environment and the firm's position in the political ranking*. Table 9 shows some weak evidence of interaction effects between preferential policy to foreign firms and institutional bias against domestic firms. All these results indicate that one major motivation for the FDI-seeking behavior of Chinese non-state enterprise is a desire to dodge institutional constraints that hinder their own development.

In our baseline specification, FOR_INT is regressed on institutional factors, while controlling industrial sectors.¹⁸ Table 5 shows that most of the coefficients pertaining to the institutional environment are positive and statistically significant at the 5% level. Firms in regions of higher political discrimination (columns 6 and 7), harsher governmental predations (column 3), and denied bank access (columns 4 and 5), are more likely to seek out foreign partners. Columns 8 and 9 further show that firms in regions providing foreign firms with more preferential policies have higher incentives to seek out FDI. Table 6 shows that these results are substantially significant. For instance, one standard deviation increase in the value of "extra financial burden" imposed by the government would lead the odds for a firm to engage in FDI-seeking behavior to be 1.19 times greater, holding all the other variables constant. We also regress the outcome variable FOR_INT on all the institutional variables together. Due to the relatively high correlation between certain institutional variables (see Table 4), even though most coefficient signs remain in the same direction, their statistical significances are reduced (Column 10, Table 5). This is probably suggesting one variable has picked up some effects of another variable.

¹⁷ One thing to note is that, simply because the values of a variable can be ordered does not imply that the variable should be analyzed as ordinal. Besides substantive issues, the appropriateness of an ordered logit model depends on the parallel regression assumption or the proportional odds assumption (Long and Freese, 2003). Brant tests show that the assumption of parallel regression is not violated.

¹⁸ To avoid multicollinearity, we first employ one institutional index at a time.

A series of control variables are added for sensitivity testing. Our results remain robust. For models in Table 7, we add variables measuring firms' foreign linkages. The international business literature has repeatedly pointed out that FDI helps the local firms' integration with the global market (Markusen, 2002). Firms with international linkages have a greater opportunity to be exposed to the business-friendly environment in the outside world. This might simultaneously cause them to have a negative perception about local institutions as well a positive propensity to form joint ventures. To control this, we add four variables to our regression. Both FOR_SALE and FOR_SUPPLY are firm-level characteristics measuring whether a firm has foreign supplier relationships or foreign sales in the year 1994. COAST is a dummy variable indexing whether the firm is located in a coastal province. Firms in coastal areas are better positioned for integration in the global market (Krugman, 1992). Their geographical proximity to the major export destinies such as the United States and Japan reduces the information and transportation costs (Demurger et al., 2002). We also take into consideration the integration of each region's economy with the outside world, as measured by the sum of export and import as percentage of regional GDP. In Table 7¹⁹, just as expected, each measure of foreign linkage is positively correlated with firms' joint-venture-seeking behavior. Adding these variables does not change our findings on institutions in any substantive way. The only exception is FDI_POLICY, which no longer has statistical significance. We also find that coastal location per se does not increase firms' joint-venture-seeking behavior in any statistically significant way. These two results may be caused by the high correlation (>.70 pair-wise) between the three variables COAST, FDI_POLICY and (IMP+EXP)/GDP. To better test the influence of provincial-level FDI preferential treatment, we need more fine-tuned data measuring these treatments directly. As aforementioned, FDI policies in an "Open Economic Zone" do not automatically apply to regions outside the province's "zones." Firms that are located in the non-zone region of a province with more zones do not have better opportunities to tap into preferential FDI policies than firms that are located within a zone in a province with fewer zones. This argument is confirmed by the columns 9 and 10, which show that firms located in cities with zone status have a higher propensity to form joint ventures with foreign investors.

¹⁹ Due to space limitation, I cut this table off for this version.

We also take into account individual firm's characteristics. Firms in the same location may feel environmental pressures differently because of heterogeneity in their capability. As aforementioned, denied loan access could be a function of the firm's ranking in the Chinese political pecking order, as well as of idiosyncratic characteristics such as manager's capability, corporate cash flow, and collateral availability. Additionally, some entrepreneurs could be more metropolitan in business orientations. All these factors might influence an entrepreneur's perception of institutional environment as well as attitudes toward joint venture. To parse these effects, we add a set of variables, measuring both the entrepreneur's personal characteristics (age, gender, and education) and the firm's organizational characteristics (firm age, earnings, number of employees, technological complexity, and sales scope). As Table 8 shows, both entrepreneurs' educational levels and the size of the firm (measured by the number of employees) are positively correlated with our outcome variable. Table 8 also shows that, after controlling for industrial dummies, a region's international linkages and firm level characteristics (including firms' international linkages), such institutional variables as governmental expropriations, political and economic discriminations, private status, and location in economic zones continue to be positively correlated with firms' joint-venture-seeking behaviors.

We include sector dummies for all the regressions. This helps control industry-specific differences in firms' penchants for FDI. Sectors vary in terms of their international linkage, the requirement of scale economy, and technological complexity. Firms in certain industries may find FDI more important than those in other industries. Additionally, national industrial policies may vary across sectors. Industries such as those related to national defense are highly regulated, and foreign-invested enterprises may not be permitted to enter. This will presumably discourage the local firm from seeking out foreign investment partners.

To rule out the possibility that our results are driven by certain provinces whose firms are particularly likely to form joint ventures for unobservable reasons, we re-run all

the regressions by dropping all observations from one province each time for the following regions—Guangdong, Fujian, Zhejiang, Jiangsu (for their coastal location and large diasporal population); Beijing, Shanghai, and Tianjin (for their metropolitan status). But this provincial-level piece-wise deletion does not change our statistical results in any substantive way, either.

We conduct another robustness test by including the 79 firms that are already joint ventures into our regression by adding a fourth category, indicating the highest propensity of joint venture seeking. This only raises the statistical significance of our institutional findings, for the expanded number of observations and consequentially gained information efficiency.

We also construct variables that interact institutional constraints (for domestic firms) with preferential treatment (for foreign invested firms). This allows us to see whether institutional constraints and preferential treatment enhance each other in shaping domestic firms' joint-venture-seeking behavior. We find some evidence that the interaction effect exists between `ZONE_STATUS` and such institutional variables as financial policy constraint, governmental extra-tax financial burdens, and the private enterprise status of firms. As shown in Table 10, these interaction terms are significant at the 0.10 level and of positive signs, suggesting that firms have the strongest motivation to find a foreign partner if they are located in regions where the institutional constraint to domestic firms and preferential policies granted to foreign firms are both high. Or, to put it another way, firms are most likely to seek out joint ventures when the treatment gap between domestic- and foreign-invested enterprises is the largest. However, caution needs to be exercised in interpreting this result, as the individual components of the interaction effect are barely significant. A Wald test also shows that the interaction effect does not add explanatory power to the regressions, as the value of Chi-squares only increases slightly. To draw conclusions about the role of policy differential on firm behaviors, we need fine-tuned and direct measurements of treatment differentials faced by the two types of firms. However, our data does not allow us to do this, as foreign-

invested firms are barely sampled in the survey and counting the number of “Open Economic Zones” is a rough proxy for FDI treatment preferences.

We find that some measures of property rights security are not statistically significant. Across the models, only the measurement of governmental expropriation has consistently positive and statistically significant correlations with firms’ joint-venture-seeking behaviors. Formal property right legislation and social impingement of property rights do not seem to influence domestic entrepreneurs’ FDI seeking propensity. This not only reflects the relatively little cross-regional variation in these two variables but also corroborates well with the argument that extra-tax financial burdens best capture the “grabbing hand” nature of local governments in China (Li, Meng, and Zhang; 2005).

We also find that financial institutions do not seem to matter. Does this imply that financial constraints have no impact on Chinese firms’ FDI seeking behaviors? Not necessarily. As shown in Tables 3 and 4, the majority of domestic non-state enterprises answered that they have difficulty in getting external financing and that the pattern is consistent across regions. The insignificant results in our regressions thus tell that the lack of variation in financial institutions across regions cannot capture cross-regional differences in firms’ joint-venture-seeking behaviors.

V. Discussion and Conclusion

A joint venture is an organizational form wherein domestic and foreign firms pool resources together to form a separate corporate entity (Friedman and Kalmanoff, 1961; Tomlinson 1970). Although one partner’s influence may truncate that of the others, no joint venture can be tailored to serve only one side’s interests. Unlike the established literature, which focuses on the strategic calculations of the foreign firms who supply FDI, we look at domestic firms who are the candidate receivers of FDI. Although we are not trying to build a universal theory about FDI flow, our effort does reveal the flip side of the current theories and underlines the complexity of the phenomenon. We find that, along with the liability of foreignness, a liability of domesticity may also exist. To attract

FDI, the Chinese government offers foreign investors various policy concessions that are often exclusive. Being native brings a firm “second-class citizen” status.

Our institutional argument is also consistent with the observation that FDI’s spillover effects in developing countries are often contained within the joint venture entity but do not extend to neighboring firms (Aitkin and Harrison, 1999). If foreign equity partnership helps a local firm to operate under friendlier institutions, its higher productivity may not be a result of knowledge spillover as traditionally understood. Instead, the productivity gain could be a result of institutional constraint relaxation. Or, put another way, performance differences between firms with foreign investment partners and purely domestic firms can be explained by political rather than economic factors. From this perspective, even when liberalization policies regarding FDI were not directly extended to domestic firms, they can still partially liberalize the domestic sector, as local firms may tap into these policies by forming equity partnership with foreign investors.

Competing interpretations of our findings exist. One holds that firms located in “bad” institutional environments seek out joint ventures to upgrade their capability rather than dodge institutional constraints. As firms fail to develop by themselves, they would see outside support via joint venture, an attractive choice. This argument is consistent with the “spillover” literature, which emphasizes the positive effect of FDI on local firms’ capital flow, technological upgrading, and management development. While this remains a possible explanation, it is worth noting that we have extensively controlled for firm-level variables. Thus, if firms’ joint-venture-seeking behavior is simply a function of its capacity, they must do so in a way that is neither observable to us nor captured by our firm-level controls.

In conclusion, we find consistently strong evidence that the same set of institutional factors that hinder firm development have been motivating Chinese firms’ FDI-seeking behaviors. Even though substituting contractual arrangement with equity partnership may not be the most efficient mode of governing a domestic firm’s tractions with a foreign firm, it does help the domestic firm to evade institutional bias. From this

perspective, a large flow of FDI into a developing country may not necessarily indicate the country's economic health. Rather, it may suggest that the country's growing local enterprises face considerable institutional constraints that motivate them to seek out foreign partners through joint ventures.

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Table 1: Investment Environment In China: Domestic Enterprises vs. Foreign Invested Enterprises

Institutional Environment	China	Domestic	Foreign
Bureaucracy			
Senior management time spent in dealing with requirements of government regulation (%)	18.52	19.11	16.75
Average time firms spent in meetings with tax officials (days)	12.03	12.21	11.7
Consistency/predictability of officials' interpretations of regulations affecting the firm	66.31	68.43	61.71
Own firm influences laws & regulations that affect firm (%)	3.13	3.33	2.73
Others with cronies influence laws & regulations that affect firm (%)	11.95	13.39	9.13
Corruption			
Unofficial payments for typical firm to get things done (% of sales)	1.62	1.77	1.14
Firms expected to give gifts in meetings with tax inspectors (%)	38.74	45.93	22.47
Value of gift expected to secure government contract (% of contract)	1.83	1.92	1.56
Pays Bribes to get things done (% firms)	72.57	76.27	60.9
Firms expected to give gifts to get a phone connection (%)	5.51	4.78	6.52
Firms expected to give gifts to get an electrical connection (%)	5.61	6.57	4.35
Firms expected to give gifts to get an operating license (%)	100	100	100
Firms expected to give gifts in meetings with labor inspector (%)	27.99	32.44	19.13
Finance			
Bank financing (%)	26.42	26.28	27.3
Informal financing (%)	7.58	8.25	3.12
Infrastructure			
Delay in obtaining an electrical connection (days)	10.45	8.06	15.14
Delay in obtaining a mainline telephone connection (days)	6.02	5.88	6.48
Trade			
Average time to clear direct exports through customs (days)	6.16	7.31	4.11
Longest time to clear direct exports through customs (days)	5.78	6.62	5.26
Average time to claim imports from customs (days)	7.6	8.96	5.39
Longest time to claim imports from customs (days)	10.48	12.61	9.37
Firm Ages (years)	China	Domestic	Foreign
	15.8	17.31	9.55

Data Source: World Bank Business Environment Survey China (2003).

Table 2: Non-State Enterprise and Joint-venture-seeking behavior in China

Variable	Whole Sample		FDI-Seeking Firms		Not FDI-Seeking Firms	
	Obs	Mean	Obs	Mean	Obs	Mean
Owner Age	2839	41.95	1239	41.57	1600	42.24**
Owner Gender†	2861	1.104	1251	1.08	1610	1.12***
Owner Education††	2863	4.22	1252	4.30	1611	3.72***
Firm Age	2798	5.67	1226	5.69	1572	5.65
Firm Size †	2791	94.11	1229	144.77	1562	54.25***
# of Technicians	2529	9.48	1177	14.24	1352	5.34***
Tech Ratio††	2515	.138	1168	.136	1347	.139
Net Profit‡	2650	1491.14	1155	1446.90	1495	1525.32
Foreign Sale‡‡	2869	.060	1254	.111	1615	.021***
Foreign Supplier‡	2869	.021	1254	.037	1615	.009***
Coastal Region‡‡	2869	.627	1254	.658	1615	.602***

Note: Two sample t-test, significance levels of .1, .05 and .01 are noted by *, **, and ***.

FDI-seeking firms refer to firms that are in the process of forming international joint ventures or plan to do it in the next 3 to 5 years.

† Owner Gender: 1 - male; 2 - female.

†† Owner Education: 1 - illiterate; 2 - elementary school; 3 - junior high school; 4 - high school; 5 - professional training school; 6 - advanced professional training school; 7 - college; and 8 - graduate school.

† Firm Size: the number of employees at the end of 1994

†† Tech Ratio: the number of technicians as a percentage of total employees in 1994.

‡ Net profit: the firm's net profit in 1994; unit = 1,000 Yuan.

‡‡ Foreign Sale: 1 - the firm had foreign sale in 1994; 0 - the firm had no foreign sale in 1994.

‡ Foreign Supplier: 1 - the firm had foreign suppliers in 1994; 0 - the firm had no foreign suppliers in 1994.

‡‡ Coastal Region: 1 - the firm was located in a coastal region; 0 - the firm was not located in a coastal region

Table 3: Institutional Environment for Domestic Firms

Province	PRLAW_A BSERNCE	GOVT_ EXPRO PRIATE	SOC_EXP ROPRIAT E	FINANCE _DIFFICU LTY	FINANC_ POL_DIF FICULTY	FDI_ POLICY	DISCRIMI NATION
Anhui	0.43	0.82	0.035	0.68	0.69	0.37	0.43
Beijing	0.27	1.33	0.089	0.63	0.79	0.36	0.49
Fujian	0.4	1.71	0.068	0.61	0.53	2.67	0.31
Gansu	0.38	1.55	0.167	0.81	0.67	0.2	0.39
Guangdong	0.33	2.46	0.075	0.78	0.66	2.84	0.44
Guangxi	0.42	0.52	0.028	0.69	0.39	1.07	0.32
Guizhou	0.59	1.19	0.048	0.77	0.5	0.19	0.33
Hainan	0.2	4.14	0.073	0.92	0.54	1.26	0.34
Hebei	0.49	2.07	0.061	0.76	0.61	1.13	0.4
Heilongjiag	0.5	2.36	0.122	0.76	0.51	0.43	0.45
Henan	0.51	3.22	0.052	0.75	0.59	0.34	0.46
Hubei	0.46	2.32	0.079	0.68	0.53	0.36	0.38
Hunan	0.38	2.63	0.073	0.7	0.59	0.25	0.27
Jiangsu	0.41	2.72	0.047	0.74	0.74	1.45	0.4
Jiangxi	0.5	2.22	0.073	0.71	0.74	0.2	0.25
Jilin	0.38	1.42	0.033	0.54	0.6	0.44	0.34
Liaoning	0.4	1.62	0.057	0.59	0.61	1.15	0.34
Neimenggu	0.35	2.24	0.026	0.81	0.39	0.38	0.42
Ningxia	0.3	2	0.3	0.33	0	0.18	0.5
Shan1xi	0.51	1.39	0.046	0.78	0.63	0.2	0.27
Shan3xi	0.4	1.23	0.138	0.65	0.5	0.19	0.35
Shandong	0.48	2.24	0.071	0.86	0.67	1.31	0.39
Shanghai	0.29	1.56	0.022	0.88	0.88	1.49	0.58
Sichuan	0.39	2.33	0.088	0.78	0.74	0.31	0.38
Tianjin	0.3	1.84	0.089	0.65	0.48	1.32	0.41
Xinjiang	0.44	0.79	0.031	0.78	0.71	0.35	0.55
Xizang	0.67	1.67	0	0	n/a*	0.19	0.5
Yunnan	0.28	3.08	0.053	0.78	0.77	0.36	0.56
Zhejiang	0.25	0.87	0.062	0.64	0.71	1.31	0.36

Note: No firm in the region answered

Table 4: Correlations of Key Variables (N= 2,869)

Variable Names	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1. FOR_INT_RANK	.437	.496	1.000									
2. PR_LAW_ABSENCE	.485	.215	.017	1.000								
3. GOVT_EXPROPRIATE	1.937	.701	.081	.056	1.000							
4. SOCIAL_EXPROPRIATE	1.795	.140	.004	.014	.158	1.000						
5. FINANCE_DIFFICULTY	.704	.100	.063	-.017	.302	-.076	1.000					
6. FINANCE_POL_CONSTR	.639	.104	.051	.018	.247	.010	.237	1.000				
7. FDI_POLICY	1.244	.886	.010	.017	.198	-.016	.336	.095	1.000			
8. ZONE_STATUS	.566	.496	.105	.012	.123	.043	-.001	-.027	.173	1.000		
9. DISCRIMINATION	.391	.068	.124	-.005	.212	.002	.126	.433	.217	-.047	1.000	
10. PRIVATE_ENTERPRISE	.783	.412	.022	.003	-.017	-.021	-.001	.003	-.009	.007	.078	1.000

Table 5 --- Institutional Constrains, FDI Policy and Joint-venture-seeking behaviors of Domestic Firms

Institutional Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Property rights regime weakness										
PRLAW_ABSENCE	.069 (.172)									.035 (.175)
SOCIAL_EXPROPRIATE		-.052 (1.334)								-.435 (1.343)
GOVT_EXPROPRIATE			.244 (.053)							.161 (.058)
2. Financial constraint										
FINANCE_DIFFICULTY				1.12 (.372)						.008 (.441)
FINANCE_POL_CONSTRAINT					1.374 (.640)					-.259 (.854)
3. Political pecking orders										
DISCRIMINATION						3.584 (.547)				2.144 (.674)
PRIVATE_ENTERPRISE							.460 (.107)			.412 (.109)
4. FDI preferences										
FDI_POLICY (provincial level)								.217 (.042)		.124 (.054)
ZONE_STATUS (city level)									.544 (.076)	.385 (.080)
Industry dummies included	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Number of observations	2869	2869	2869	2869	2869	2869	2869	2869	2869	2869
Wald Chi-square	124.70	124.20	145.58	133.36	134.38	167.74	143.25	195.95	146.72	212.79
Degree of freedom	14	14	14	14	14	14	14	14	14	20
Probability	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
Brent test (p>chi-square)	.625	.623	.609	.368	.527	.436	.530	.022	.620	**

Note: All regressions are ordinal logit regressions. The dependent variable is FOR_INT_RANK, an ordinal variable on the scale of 1 to 3 measuring a local firm's joint-venture-seeking behavior. A value of 3 indicates that the firm is in the process of forming a joint venture with foreign investors. A value of 2 indicates that the firm has a plan to form a joint venture with foreign investors in the next three to five years. A value of 1 indicates that the firm has no plan or does not want to form a joint venture with foreign investors

Numbers in parentheses are robust standard errors. ** This calculation puts high demand on memory. The author allocated 1 gigabyte memory (the maximum allowed by his computer) for the STATA program and find the matsize is still too small..

Table 6: Probability of Engagement in Joint-venture-seeking behaviors:

Independent Variables	Raw Coefficient	p-value	Odds Ratio Change I	Odds Ratio Change II
Protection of Rights:				
PRLAW_ABSENCE	.069	.685	1.072	1.015
SOC_EXPROPRIATE	-.052	.462	.949	.999
GOVT_EXPROPRIATE	.244	.000	1.276	1.186
Financial Constraints:				
FINANCE_DIFF	1.122	.003	3.071	1.119
FINANCE_POL_CONSTRAINT	1.374	.032	3.952	1.082
Discriminations:				
DISCRIMINATE	3.585	.000	36.037	1.278
PRIVATE_ENTERPRISE	.460	.000	1.583	1.183
Preferential Policies to FDI:				
FDI_POLICY	.217	.000	1.242	1.212
ZONE_STATUS	.544	.000	1.723	1.308

Note: * Odds ratio change I refers to factor change in odds for unit increase in independent variable.
 ** Odds ratio change II refers to change in odds ratio for standard deviation increase in independent variables.

Table 7 --- Institutions, International Linkages and Joint Venture-Seeking Behaviors of Domestic Firms

Institutional Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Property rights regime weakness										
PRLAW_ABSENCE	.032 (.174)									.014 (.178)
SOCIAL_EXPROPRIATE		-1.239 (1.401)								-970 (1.339)
GOVT_EXPROPRIATE			.204 (.055)							.188 (.059)
2. Financial constraint										
FINANCE_DIFFICULTY				.658 (.434)						.008 (.502)
FINANCE_POL_CONSTRAINT					2.413 (.760)					-.445 (.858)
3. Political pecking orders										
DISCRIMINATION						3.277 (.679)				2.193 (.690)
PRIVATE_ENTERPRISE							.486 (.111)			.388 (.110)
4. FDI preferences										
FDI_POLICY								.031 (.099)		.075 (.083)
ZONE_STATUS									.470 (.081)	.389 (.080)
5. International linkages										
FOR_SALE	1.460 (.157)	1.464 (.155)	1.491 (.155)	1.463 (.155)	1.460 (.155)	1.463 (.155)	1.454 (.157)	1.445 (.158)	1.472 (.161)	1.481 (.161)
FOR_SUPPLY	.844 (.258)	.856 (.258)	.787 (.259)	.798 (.259)	.850 (.258)	.805 (.260)	.823 (.274)	.770 (.288)	.679 (.290)	.645 (.283)
COAST	.005 (.078)	-.002 (.088)	-.006 (.088)	.045 (.079)	.137 (.086)	.143 (.078)	.007 (.087)	-.035 (.129)	-.017 (.078)	-.029 (.138)
(IMPORT+EXPORT)/GDP	4.073 (.906)	4.109 (.906)	3.279 (.921)	3.414 (.986)	3.900 (.904)	1.824 (1.008)	4.506 (.952)	3.664 (1.501)	3.106 (.948)	2.350 (1.702)
Industry dummies included	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Number of observations	2862	2862	2862	2862	2862	2862	2862	2862	2862	2862
Wald Chi-square	261.89	265.11	277.86	266.62	274.35	267.52	242.81	227.67	262.23	291.70
Degree of freedom	18	18	18	18	18	18	18	18	18	26
Probability	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
Brent test (p>Chi-square)	.430	.394	.388	.178	.380	.277	.316	.113	.361	

Note: All regressions are ologit regressions. The dependent variable is FOR_INT_RANK, an ordinal variable on the scale of 1 to 3 measuring a local firm's joint venture seeking behavior. A value of 3 indicates that the firm is in the process of forming a joint venture with foreign investors. A value of 2 indicates that the firm has a plan to form a joint venture with foreign investors in the next three to five years. A value of 1 indicates that the firm has no plan or does not want to form a joint venture with foreign investors. Numbers in parentheses are robust standard errors.

Table 8 --- Institutional Constrains, Firm Characteristics and Joint-venture-seeking behaviors of Domestic Firms

Institutional Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Property rights regime weakness										
PR_LAW_ABSENCE	-.120 (.207)									-.016 (.789)
SOCIAL_EXPROPRIATION		-.711 (1.654)								-.761 (1.662)
GOVT_EXPROPRIATION			.124 (.064)							.133 (.073)
2. Financial constraint										
LOAN_DIFFICULTY				.769 (.510)						.411 (.702)
CRDT_POL_CONSTRAINT					1.428 (.887)					-.860 (1.419)
3. Political pecking orders										
DISCRIMINATION						2.305 (.794)				2.240 (1.170)
PRIVATE_ENTERPRISE							.391 (.134)			.349 (.132)
4. FDI preferences										
FDI_POLICY								.184 (.115)		.129 (.144)
ZONE_STATUS									.388 (.094)	.252 (.097)
5. Firm Owner Characteristics										
AGE	-.005 (.005)	-.005 (.005)	-.005 (.005)	-.004 (.005)	-.005 (.005)	-.005 (.005)	0.005 (.005)	-.004 (.005)	-.005 (.005)	-.005 (.011)
MALE	-.089 (.162)	-.099 (.160)	-.104 (.160)	-.101 (.160)	-.105 (.160)	-.110 (.160)	-.095 (.159)	-.099 (.160)	-.097 (.160)	-.072 (.170)

EDUCATION LEVEL	.235 (.027)	.235 (.027)	.233 (.027)	.234 (.027)	.232 (.027)	.229 (.027)	.235 (.027)	.236 (.027)	.230 (.027)	.223 (.028)
6. Firm characteristics										
FIRM AGE	.002 (.011)	.001 (.011)	.001 (.011)	.001 (.011)	.001 (.011)	.001 (.011)	.005 (.011)	.001 (.011)	.003 (.011)	.005 (.011)
TECHNOLOGY_LEVEL	.347 (.226)	.368 (.225)	.353 (.226)	.369 (.225)	.353 (.226)	.338 (.226)	.388 (.227)	.372 (.225)	.345 (.227)	.360 (.231)
FIRM_SIZE	.521 (.042)	.528 (.042)	.531 (.042)	.531 (.042)	.527 (.042)	.530 (.042)	.526 (.042)	.531 (.042)	.524 (.042)	.532 (.044)
PROFIT_LEVEL	.003 (.007)	.003 (.007)	.003 (.007)	.002 (.007)	.002 (.007)	.003 (.007)	.004 (.007)	.003 (.007)	.002 (.007)	.002 (.007)
Industry dummies included	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
International linkages included	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Number of observations	2232	2232	2232	2232	2232	2232	2232	2232	2232	2232
Wald Chi-square	430.88	450.84	443.08	442.40	441.87	443.09	438.83	443.13	444.82	433.71
Degree of freedom	25	25	25	25	25	25	26	26	26	33
Probability	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
Numbers in parentheses are robust standard errors.										

Table 9 --- Institutional Environment Gap and Joint-venture-seeking behaviors of Domestic Firms

Institutional Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1. Property rights regime weakness														
PR_LAW_ABSENCE	-.108	-.418 (.212)	(.339)											
SOCIAL_EXPROPRIATION				-.843 (2.525)	-1.683									
GOVT_EXPROPRIATION					.111 (.064)	.071 (.073)								
2. Financial constraint														
FINANCE_DIFFICULTY								.662 (.505)	.489 (.514)					
FINANCE_POL_CONSTRAINT										1.337 (.905)	.796			
3. Political pecking orders														
DISCRIMINATION											2.302 (.758)	2.029 (.899)		
PRIVATE_ENTERPRISE													.345 (.130)	.243 (.147)
4. FDI preferences														
ZONE_STATUS	.311 (.099)	.290 (.100)	.388 (.104)	.322 (.153)	.316 (.099)	.095 (.124)	.319 (.098)	.113 (.157)	.324 (.098)	.084 (.121)	.288 (.093)	.234 (.127)	255 (.092)	.157 (.111)
5. Interaction effects														
INSTITUTIONAL CONSTRAINTS x ZONE STATUS		.505 (.432)		1.240 (2.151)		.114 (.061)		.363 (.215)		.893 (.391)		.211 (.337)		.191 (.118)
Industry dummies included	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
International linkages included	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm owner characteristics included	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm characteristics	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Number of observations	2232	2232	2232	2232	2232	2232	2232	2232	2232	2232	2232	2232	2232	2232
Wald Chi-square	434.06	433.45	456.82	457.15	445.51	448.31	445.34	446.53	444.67	444.82	446.36	446.26	446.36	446.46
Degree of freedom	26	27	26	27	26	27	26	27	26	27	26	27	26	27
Probability	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001

Table 10: Correlation of Constructed Interaction Terms

	1	2	3	4	5	6	7
1. FDI x PR_LAW_ABSENCE	1.000						
2. FDI x SOC_EXPROPRIATE	.908	1.000					
3. FDI x GOVT_EXPROPRIATE	.906	.921	1.000				
4. FDI x FINANCE_DIFF	.938	.941	.930	1.000			
5. FDI x FIN_POL_CONS	.916	.909	.916	.963	1.000		
6. FDI x DISCRIMINATE	.894	.923	.923	.961	.986	1.000	
7. FDI x PRIVATE	.731	.706	.681	.749	.738	.725	1.000

Chapter Three

THE PERPETUATION OF OBESITY: BUREAUCRACY AND ENTREPRENEURSHIP UNDER MARKET TRANSITION

Prior research in western countries has suggested that work experience in bureaucratic organizations has a detrimental effect on individuals' growth of entrepreneurial competence. However, research focusing on developing country context consistently finds that bureaucrats-turned-entrepreneurs convert their political powers into economic advantages. This paper reconciles these two perspectives, arguing that bureaucratic legacy may serve as a double-edged sword to entrepreneurship: On the one hand, it positions entrepreneurs well to access state controlled resources; on the other hand, it transfers the organizational blueprints of the state sector into startups and constrains the latter from utilizing resources efficiently. Analysis of a nationally representative survey of private entrepreneurs in China finds supports for these arguments.

INTRODUCTION

New organizations emerge directly or indirectly from established ones (Freeman, 1986). While new ventures advance technologies, redefine products and services, and in some cases create entirely new industries (Schumpeter, 1934), their emergence and development are greatly shaped by the social structure that is defined by the existing organizations (Aldrich, 1992; Sorenson and Audia, 2000). As Freeman (1986:39) describes, "Organizations create their own competition by providing the skills and background that provide credibility for the entrepreneur. They provide the knowledge of opportunity by placing that person in a position to know about unserved or badly served markets." Career history serves as a natural conceptual linkage between individuals' entrepreneurial behaviors and the existing organizations. Studies have suggested that prior employers influence individuals' recognition of entrepreneurial opportunities (Roberts, 1991, pp. 100-123; Shane, 2000), their willingness to embrace new ventures (Stuart and Ding, 2006; Sorensen, 2007), and eventually their performance and commitment as entrepreneurs (Burton, Beckman and Sorensen, 2002; Sorensen and Philips, 2008).

While a wealth of workplace characteristics are potentially relevant to individuals' transition into entrepreneurship, the recent literature has particularly focused on how bureaucracy and bureaucratization influences the development of entrepreneurial competence (Sorensen, 2007; Sorensen and Philips, 2008; Ozcan and Reichstein, 2009). The core features of bureaucratic organization- specialization, a hierarchy of authority, a system of rules, and impersonality – are generally perceived to be incompatible with the creation of dynamic and viable new ventures. First, bureaucracies influence the attitudes and mental dispositions of their employees in ways that make them less likely to make initiatives or embrace risks (Sorensen 2007); Second, work in bureaucracies hinder the development of skills necessary for successful entrepreneurship, as task specialization insulates employees from learning a wide range of knowledge that is required for entrepreneurship (Sorensen 2007; Sorensen and Philips 2008); Finally, bureaucracies direct employee attentions towards internal tasks and governmental regulators and isolate them from interacting with outside (market) players to build broad social networks (Gompers et al., 2002; Ozcan and Reichstein, 2009) . As Sorensen (2007) summarizes, “The realities of bureaucratic life are fundamentally incompatible with the development of entrepreneurial initiative”.

While the literature has generated enormous evidence that bureaucracy is detrimental to individual's development of entrepreneurial capability, there are also good reasons to believe that work experience in bureaucratic organizations may generate certain benefits for entrepreneurial endeavors. Otherwise, one has to wonder why many people who work in bureaucratic organizations such as a large and established private sector firm like IBM or a public sector organization like the all-powerful governmental agencies in China leave to set up their own ventures. Indeed, an impressive amount of evidence has been generated suggesting that bureaucratic experience can provide entrepreneurs with competitive advantages in the market place, helping them access key external resources and pursuing strategies with high return prospects. For instance, Burton, Sorensen and Beckman (2002) find that large and established organizations can be “entrepreneurially prominent” and their spinoffs face lower hurdles in receiving venture capital financing. In addition, many studies have suggested that endorsement

from large and established organizations instantly boost startup firms' chance of survival and opportunity of growth (Stuart et al. 1999; Higgins and Gulati, 2001; Baum and Silverman, 2004). Among these established organizations, the most bureaucratic is the state (Wilson, 1989) that has the regulative power in the market, defining the "appropriateness" of organizational behaviors (Scott, 1995) and exercising coercive power to punish deviants (North, 1990). Studies have found connections with the state help young organizations gain legitimacy and access key external resources (Baum and Oliver, 1991; Siegel, 2007). Studies in the context of developing countries have particularly emphasized the impact of state on firm competitiveness through the allocation of state contracts, license and the provision of finance (Roy, 1981; Siegel, 2007; Fan, 2007). As individuals rarely sever connections with their former colleagues when leaving their former employers, and personal ties help build trust and alliance formation (Gulati, 1995), there are no reasons to completely rule out that individuals with bureaucratic legacies may have certain advantages when setting up their own firms.

While bureaucracy may have both positive and negative effects on entrepreneurship, the prior literature has categorically defined bureaucracy as either being good or bad for entrepreneurial endeavors and rarely explored how bureaucracy may influence individuals' development of entrepreneurial competence both positively and negatively.²⁰ This study makes the first attempt to integrate these seemingly incompatible perspectives. Rather than being all of one piece, a bureaucratic organization is a career location with a multiplicity of factors influencing entrepreneurial opportunity and competence. From this perspective, bureaucracy can have very different implications for individuals' willingness to embrace new ventures, their commitment as entrepreneurs, and their ventures' performance in terms of access and utilization of resources. While bureaucracy constrains people from developing entrepreneurial mindset and skills (Sorensen, 2007; Sorensen and Philips, 2008), this does not necessarily deny that

²⁰ This is not to deny that some of the most sophisticated studies acknowledge the duality. Sorensen (2002), for instance, suggests bureaucratic organizations may provide individuals with entrepreneurial opportunities. As large and established organizations often fail to commercialize technologies that are developed in house, leaving opportunities for entrepreneurial employees to set up outside ventures to explore these technologies (Gompers et al. 2005).

bureaucracy can help entrepreneurs gain legitimacy and access external resources (Baum and Oliver, 1991; Malesky and Taussig, 2008).

In this study, I argue that bureaucracy presents entrepreneurs with a double-edged sword: On the one hand, affiliation with established players helps firms build legitimacy and access external resources. Given their size and prominence, bureaucratic organizations tend to occupy central positions within an organizational ecosystem. Affiliation with such organizations may serve as a social capital, helping certify entrepreneurs as legitimate players and connect them directly or indirectly to key resource holders that might otherwise have hesitate to collaborate with these entrepreneurs. On the other hand, bureaucratic work environment exposes employees to inefficient organizational routines, and influence employees to learn sluggish organizational culture. When these factors are transferred to a new organization through employee turnover, the progeny organization suffers in performance. Thus, the issue is not to measure the net positive or negative effects of bureaucracy but rather the mechanisms that produce these negative and positive effects and to highlight the role of institutional context.

In addressing how a bureaucratic legacy influences entrepreneurship, I study the access and utilization of financial capital of Chinese entrepreneurs, with a particular focus on the role of entrepreneurs' work experience in the public sector such as governmental agencies and state owned enterprises. This is a fortuitous setting for several reasons. First, the public sector helps build a tight and direct linkage between bureaucracy and entrepreneurship. An organization's level of bureaucratization is not directly observable (Sorensen 2007:395). While organizational characteristics such as firm size and age have well-established implications for the degree of bureaucratization (Blau and Schoenherr 1971; Dobrev and Barnett 2005; Sorensen 2007), these characteristics may well capture other mechanisms that may well affect individual rate and success of entrepreneurial activity (Freeman et al. 1983; Aldrich and Auster 1986). As the public sector is "the most bureaucratic among all bureaucratic organizations" (Wilson, 1989), the focus of public sector work experience helps to spotlight the staying

power of bureaucratic organizational style. Second, finance is among the most crucial resources that organizations need for survival and growth. Building a linkage between an entrepreneur's bureaucratic legacy and his access and utilization of financial capital helps understand how the social structure and organizational routines defined by the established organizations influence the dynamics of new organizations. Third, China as a setting extends the literature to transitional economies, an institutional environment different from the western countries. Past studies have mainly focused on stable and developed economies like Denmark and the United States. Few studies have explored how bureaucratic work experience may influence entrepreneurship under different institutional contexts. Given that institutions play the most important role in moderating the way organizations function and individuals behave (North, 1990), such an effort is needed in order to better understand the boundary conditions of various theories (Bian, 1993). As a former socialist country, China shares many characteristics with other transition economies in the world. While the nation strives to build a market-based economy, the state continues to play an important role in the process of resource allocation. Many studies have shown that firm owners who used to work in the state sector enjoyed great advantages over their counterpart who did not have such experiences (Zhou, 2000; Walder, 2002). However, none of the previous research has revealed how bureaucratic experiences may have detrimental effects on entrepreneurial ventures.

This study empirically tests the relationship between bureaucracy and entrepreneurship using a nationally representative survey of private enterprises in China. It finds that bureaucratic work experience influences entrepreneurial competence in a complex way. Compared with their counterparts without work experience in the public sector, bureaucrats-turned-entrepreneurs are advantaged in obtaining resources, particularly state controlled resources such as bank credits. However, this advantage is accompanied by a detrimental effect. Partly due to their persisting bureaucratic legacy, entrepreneurs from the public sector tend to utilize resources less efficiently and their ventures suffer from lower productivity than those founded by people without such legacy. I also find weak evidences that entrepreneurs out of China's quasi-public, collective sector tend to perform well on both dimensions, as the collective sector not

only helps these entrepreneurs to develop connections with the state, but also exposes them to the discipline of market competition and better organizational blueprints. Thus, this paper offers a unique sociological approach that allows us to explore how some individuals, due to their location in the social structure of existing organization, are better able to explore entrepreneurial opportunities through access to key external resources, but are constrained in efficiently utilizing these resources due to the transfer of organizational mindset and routines that are detrimental to entrepreneurial endeavors.

The rest of the paper is organized as follows: Section II reviews the literature on the role of bureaucracy to develop theoretical predictions regarding how public sector work experience influences entrepreneurial performances. Section III describes the empirical setting and data, and Section IV presents the empirical analysis. I use a variety of empirical methods to test the theory, in order to ensure the robustness of the statistical results. The last section of the paper discusses the empirical results and explores how the conclusions drawn from the China may be generalized to other countries.

BUREAUCRACY AND ENTREPRENEURSHIP

New organizations face at least two hurdles to survive and their prior organizational affiliation influences their capability to overcome these hurdles. On the one hand, the start of a new venture requires the mobilization of substantial array of social and material resources (Stinchcombe, 1965). Endowed with little legitimacy and track record of performance (Aldrich and Auster, 1986), new ventures have to seek the endorsement of other organizations for resources directly or indirectly (Stuart et al., 1997). These endorsement opportunities are differently available to individuals, as they occupy different positions in the social structure (Burt, 1992), that to a great extent is determined by the individual's career history, particularly his or her affiliation with different employers (Burton et al., 2002; Gompers et al., 2005). On the other hand, new organizations generally require that a person learn new roles, settle on operating procedures and create a culture in order to efficiently utilize the assembled resources (Stinchcombe, 1965). High costs are associated with inventing roles and structuring

relations in order to deliver reliable performances. Organizational routines, role relationships and corporate culture are often tacit knowledge that is difficult for an outsider to replicate (Nelson and Winter, 1985). Instead, they are embodied in employees (McKelvey, 1982) and are transferred across organizations through employee turnovers (Philips, 2002). The following section elaborates on how bureaucratic work experience may influence individuals' development of entrepreneurial competence.

CAREER HISTORY AND RESOURCE ACCESS

Organizations, whether established or startup, cover only part of their value chain and depends critically on their environment (Pfeffer and Salancik, 1978). New organizations are particularly truncated in their resource endowment. Important resource and informational benefits are affiliated with prominent organizations. First, these organizations often hold key resources such as distribution, manufacturing, marketing and financial capital that startups need to commercialize their technologies and services. One key survival strategy for startups is to build strategic alliance with the big and established organizations. Such an alliance serves as an inter-organizational endorsement that can instantly improve the economic prospects of an entrepreneurial firm (Stuart et al., 1997). In comparison with startups, public sector organizations are often endowed with slack resource. Encountering difficulties in innovating by themselves, these organizations often sponsor outside R&D activities in hope of harvesting part of the benefits (Arora and Gambardella, 1990). Work experience in these established organizations should provide entrepreneurs with an advantage in building alliances with these organizations (Gulati, 1995), as familiarity facilitates information transfer and trust building between potential partners and helps them to establish mutually beneficial relationships (Uzzi, 1996). For instance, Gulati and Higgins (2003) find that a startup is most likely to gain endorsement from its upward or downward organizations when its top management team members worked in these organizations (Gulati and Higgins, 2003). Hallen (2008) also finds that relationships developed by entrepreneurs during their prior employment period helps startups to form connections with prominent organizations, particularly when these startups have only limited track records of performance.

Second, large and established organizations having ties with a firm can make referrals on behalf of the focal firm to third parties that are in search of strategic alliances to exploit/ explore entrepreneurial opportunities. Potential partners are reluctant to put their reputation, capital, or other resources at risk in a startup, whose financial prospects and longevity are often highly uncertain (Podolny, 2001). Contacts with established players are conducive to the mobilization of external resources from third parties since those very contacts signal positive assessments regarding the startup's future prospects (Stuart et al., 1999). Sociologists have long maintained that status can be transferred, as individual status is in part constructed from the identities of the parties with which he associates (Blau, 1964). Naturally, individuals benefit from association with prominent actors whose legitimacy is beyond doubt (Goode, 1978). Public sector organizations such as the state can be a key player defining a new venture's legitimacy. Rather than simply another bureaucratically administrated structure, the state has "special power and prerogatives" to regulate other players in the market, defining the "appropriateness" of organizational behaviors (Scott, 1995), and exercising coercive power to punish deviants (North, 1990). Bureaucratic experience helps entrepreneurs boost their legitimacy in the eyes of the state regulator, as enterprises built by former bureaucrats are more likely to be perceived with a higher level of "publicness" through their external linkages with political authority. Baum and Oliver (1991) examine the impact of institutional linkages on the failure of child care service organizations in Metropolitan Toronto between 1971 and 1987. They show that organizations with institutional linkages to the state exhibit a significant survival advantage and that the advantage increases with the intensity of competition.

The role of bureaucratic legacy could be particularly strong in developing countries, as the state plays a central role in these economies and the public sector there controls a much higher percentage of economic resources than their western counterparts. I will elaborate on this point when visiting the Chinese case.

CAREER EXPERIENCE AND ORGANIZATIONAL IMPRINTING

New firms need to build an organizational structure to support the execution of strategies and utilization of assembled resources. These structures reside within organizations and compose the most idiosyncratic resources that individual firms possess. Their attributes significantly affect firms' competitive advantages and, by implication, their performances (Penrose, 1959; Nelson and Winter, 1985). New organizations, however, generally involve new roles and routines that have to be learned and refined (Stinchcombe, 1965). An entrepreneur's career history greatly shapes this learning process and thus the establishment and evolution of new firms' organizational structures (Philips, 2002; Burton and Beckman, 2007). As organizational routines and cultural attitudes are embodied in an organization's employees, when individuals leave existing organizations to found new organizations, they transfer some of the parent organization's routines to the progeny organization (McKelvey, 1982). As a result, the structure and culture of progeny organizations are in part determined by the structure and culture of their "parent" organizations (Philips, 2002). To the extent we understand the source of a founder's routines, we are better able to understand the emergence and diversity of organizational blueprints (Carroll, 1993).

Career experiences in the public sector may negatively influence an entrepreneur's capability to exploit market opportunities in several ways. First, public sector norms and modes of reasoning limit the development of entrepreneurial mindsets. Entrepreneurs usually create and run their ventures to develop a market niche with new products, services and/or substitute established players with better quality and cheaper price. This process of "creative destruction" requires an entrepreneurial orientation that encourages innovativeness, risk-taking propensity and proactiveness (Schumpeter, 1947; Miller, 1983). Unfortunately, none of these characteristics is encouraged in bureaucratic organizations (Sorensen, 2007). For instance, the public sector is featured not only with a culture that emphasizes systematic rules and procedures, but also institutionalized methods of organizing social conduct. All these features consequentially suppress the voices that challenge organizational norms and beliefs (Wilson, 1989). Rather than being fostered in an entrepreneurial environment where creativity and experimentation are

encouraged, employees in public organizations are “expected to identify strongly with their work roles and be ‘conformist,’ ‘cohesive,’ and ‘collectivist’” (Ozcan and Reichstein, 2009: 607). As a result, they gradually feel that deference of problem solving and responsibility for decisions to supervisors is acceptable, even though these individuals initially joined the public sector to “make a change in the world”. This shift is particularly promoted by these organizations’ rigid procedural norms and reward systems that seek stability and punish failed initiatives (Perry and Porter 1982; Wilson, 1989). Thus, the longer an individual stays in the organization, the further these structural forces will distance him from the frame of mind required to become an entrepreneur.

Second, the absence of (intense) competition prevents public sector organizations from developing organizational routines that suit market competition. Low exposures to competition shelter employees from external labor market competition and lock them into passive and mechanistic patterns of behavior. Firms are most likely to engage in a search for ways to improve performance when facing competition. Learning can be a self-reinforcing process known in evolution theory as the “Red Queen”: An organization’s competitive strength triggers learning in its rivals, “consequentially making them stronger competitors and so again triggering learning by the first organization” (Barnett and Hansen, 1996: 139). Even though political constituencies add pressures to public sector organizations, political control over firms “cannot provide the pervasive, if not always coercive, set of value signals and incentives that is provided by consumer sovereignty in the market sectors” (Nelson and Winter, 1982:270). As “the best of all monopoly profits is a quiet life” (Hicks, 1935:8), the lack of business rivalry softens public sector organizations, allowing them to avoid conflict-creating decisions in favor of slightly suboptimal performances. This lack of vigor permeates the entire public sector, engendering tangible bureaucratic distortions and constrains them from adopting the best organizational practices.

Third, political environment shapes a firm’s organizational routine and strategic orientation. In the public sector, the higher level of a governmental agency oversees the performance of an organization. In the case of state owned enterprises, particularly under

a planned economy, state agencies set prices, certify expansion projects, determine what to produce, and what costs may be passed through to customers, and involve themselves in numerous other decisions that are made autonomously by firms in the private sector. So fundamental is the influence of higher authority on the performance and reward of employees in the public sector, public sector organizations are often guilty of maintaining a focus on regulators and are bureaucratically burdened. “When organizations are regulated by the state, the economic environment diminishes in importance as the importance of the political and administrative environment increases. Both attention and behavior shift accordingly. The decisions of customers become less important than the decisions of lawmakers and government agents” (Pfeffer and Salancik, 1979: 203). Not surprisingly, public sector organizations often direct their attention to regulators and other political actors, rather than seeking information about the market and customers. Across time, this perspective is embedded within a “public sector”-linked firm and its routines. The organizations start to ignore the environment, erecting elaborate and rigid “castles” to buffer themselves from customer demand (Hedberg, Nystrom, and Starbuck, 1976).

Making things worse, public sector organizations face pressures from a variety of political constituencies. Unlike the tangible and relatively specific goals of business organizations, public organizations operate in a political environment and lack goal crispness (Buchanan, 1975). One special feature of public sector organization is the multiplicity of dimensions – “of tasks, of stakeholders and their often conflicting interests about the ends and the means, and of the tiers of management and front-line workers” (Dixit 2002:697). Striving to satisfy the diffuse and conflicting demands from external interests, public organizations have burdens other than providing best services that can be evaluated by clearly defined criteria. For solutions like competition or performance-based incentives, they may have beneficial effects in some dimensions or some principals, but generate dysfunctional reactions in other dimensions or from other principals. The problems of “creating performance criteria and implementing evaluation schemes are complex and difficult” (Perry and Porter, 1982: 90-91). As a result, public organizations are constrained from developing routines that are efficient under market condition.

In summary, compared with the market sector, public organizations tend to operate in an environment where competition is discouraged, organizational behaviors are politically regulated, and performance evaluation standards are fuzzy. All these properties of bureaucratic organizations are inimical to the cultivation of organizational culture and routines that are compatible with market completion. When the skills and know-how of the parent organization can be brought to bear on the progeny, public sector experience should prepare an entrepreneur less well for growing the new ventures. Chandler (1996) examines how the past experiences of founders affect the success of new ventures. He finds that new venture performance improves to the extent that there is similarity between the task environment of the new venture and the task environment faced by entrepreneur in his or her previous job. Similarly, performance tends to improve to the extent that the skills required in the new venture are similar to those previously developed.

CADRE AND ENTREPRENEURSHIP IN CHINA

The fate of private entrepreneurship has changed dramatically over the past three decades in China (Huang, 2008). Prior to market reform, private entrepreneurship had been actively suppressed by the state, particularly during the Cultural Revolution. While an underground economy survived in the rural area and operated in the shadow of the collectivized agriculture, in cities private entrepreneurship had been all but eradicated by the late Maoist era (Whyte and Parish, 1984).

Since Deng Xiaoping opened up the economy, private entrepreneurship started to flourish at a surprising speed, “as if as if a strange army appeared suddenly from nowhere”. The rise of private entrepreneurship in China has opened up mobility channels both for entrepreneurs and for their employees, beyond the reach of the socialist state. As Szelényi and Kostello (1996) pointed out, the rapidly expanding market sector created new opportunities, and those who were able to take advantage of the expanded new opportunities became the winners. However, people who were able to do so varied under different circumstances. In the early stage of the reform when participation in the market

was highly risky and required little skill, most self-employed entrepreneurs came from the lower tiers of the social hierarchy (Wu, 2006). As private economic activities became legal and market competition played a greater role in economic operations, people with more human capital and political capital began to be involved in business activities. Some political elites started to convert their political privileges into new economic advantages. After 1992, increasing numbers of government employees quit their government posts to enter the private sector. This exodus from the government and government-controlled institutions to private firms has been vividly dubbed as 'plunge into the sea'. These new entrants to the thriving private sector have become an important contingent of what are popularly known as the 'red capitalists' in China, that is, entrepreneurs with close personal and political ties to the Communist Party (Dickson, 2003).

A number of factors contributed to the defection of government staff and managers of state-owned enterprises to the private sector after 1992. Deng Xiaoping's Southern Tour of 1992 represented a critical turnaround in the Party's policy toward the development of private enterprises, and since then restrictions on private ownership have been gradually relaxed and the political and economic environment has become friendlier to private enterprises. The emergence and promising prospect of private business thus became increasingly attractive to government-sector workers. A more important reason for the emergence of cadre-turned -entrepreneurs is that their previous work experience in the government or state-owned enterprises allowed them to establish important connections with key party and government officials before starting their own firms. Given the adverse political and economic environment, bureaucratic experiences have become a valuable political tool for private entrepreneurs. Indeed, to strengthen links with the Party, an increasing number of private firms have established Party branches and regularly undertake party activities (Ma and Parish, 2006).

Former bureaucrats in China enjoy many advantages over entrepreneurs with work experience in the private sector only. One defining feature of transitional economies like China is the underdevelopment of market supporting institutions such as functional banking system and well respected property right regime. In many of these countries, the

state is still playing an active role in credit allocation and politically connected actors are heavily favored. Even in Eastern European countries where big-bang approaches were adopted in market creation, socialist legacy continued to persist in the economy (Stark, 1990), allowing members of the administrative elite to gradually convert their positional power into economic might (Rona-Tas, 1994). This may take the form of using personal contacts and information acquired through jobs in the state bureaucracy for brokerage activities, to subcontract to small private firms in which managers of state enterprises had a personal interest, and to convert de facto use and income rights of state enterprises into more de jure alienable rights during State-Owned-Enterprise (SOE) privatization.

Moreover, in these countries, even though private enterprises have gradually gained political and constitutional recognition, private entrepreneurs continue to deal with hostility and social prejudice on the part of cadres and the public in general. They are often regarded as dubious, ignoble, and even despicable (Huang, 2003). As a result, they are vulnerable to the prey of the “grabbing hand of the state” and are reluctant to reinvest their profit to grow their firms (Johnson, McMillan and Woodruff, 2002). However, even in the most predatory state, the government does not discriminate against all enterprises to the same extent. Firms with political connections in the government tend to be politically favored and thus have better property rights protection (Huang, 2003; Siegel, 2005). As a result, they are more likely to invest to harvest the benefits of scale economy.

Bureaucratic experience may particularly help entrepreneurs to access bank credits. While leaving the public sector for private enterprises, these entrepreneurs nevertheless keep their personal relationships with former colleagues and work contacts and these bonds enable them to access to state controlled resources such as bank credits. State banks are highly regulated in China; the central government and especially the local governments at various levels actively interfere with the functioning of the capital market by directing and encouraging some bank loans while discouraging or even prohibiting others (Boyreau-Debray and Wei, 2004). Outside the banking sector, the capital market is not well-developed in proportion to the size of the economy (Allen, Qian and Qian, 2008).

While alternative, informal financial mechanisms exist, it is usually costly for entrepreneurs to rely on such “back alley banking” to grow their firms (Tsai, 2004; Passas, 1999). Even though firms in rapidly growing areas may be more able to finance activities from retained earnings, China’s low official interest rates make loan financing highly desirable. Thus, firms which have better access to bank loans will have a natural competitive advantage in the market.

Along with their advantages in accessing state controlled resources, bureaucrats-turned- entrepreneurs may also suffer from their bureaucratic legacy. The detrimental effects against entrepreneurship in the public sector often take their worst forms in former socialist economies. The problems of lack of market competition and political regulation are particularly salient for bureaucrats in the former socialist economies. In the market system, firms have to search markets for information on which produced are demanded and decide which demand they are best able to fulfill. The socialist experience has equipped firms with little prior knowledge that would allow them to adequately interpret the information acquired to make optimal decisions on opportunities to pursue. In the state sector, economic resources are allocated primarily according to central plans and bureaucratic controls and the basis for reward is political loyalty rather than economic productivity (Szelenyi, 1983). Naturally, firms aim to fulfill the production requirement from the authority above, rather than paying attention to demand in the market.

A key feature of SOEs in emerging economies is the soft budget constraint, which refers to the phenomenon that state agencies will bail SOEs out when they run into financial troubles (Kornai, 1992). Financial performance is not emphasized under the socialist economic system, fulfillment of the central economic plan, often measured in production quantity, is an important criteria evaluating managerial capability (Gregory and Stuart, 1981). As the planned system operates deficiently and the socialist economies face a chronic shortage of production factors, the pressure to meet the production plan forces SOE managers to hoard everything, from raw materials to financial capital and from machineries to human resources (Conyngham, 1982). Put it another way, “this is a system of ‘just-in-case’ management, as opposed to the lean, ‘just-in-time’ management

now practiced throughout the West. Such a ‘just-in-case’ system naturally ends up with a large amount of slack” (Tan and Peng, 2003: 1253).

Resource slack often has detrimental effects on SOEs under a centrally planned economy. While resource slack provides firms with opportunities to explore innovative strategies to improve performances in a market economy (Singh, 1986), SOEs in the socialist system have strong incentives to accumulate rather than absorbing resource slack (Kornai, 1992). A manager whose firm operates efficiently and produces at a level above the planned quantity will receive an “updated” and higher production target in the subsequent year. Given the chronic shortage of production factors in the socialist economy, this will naturally put the manager under the risk of negative evaluation. Chronically, these SOEs build organizational routines to facilitate the accumulation and under-utilization of resources to buffer themselves from the pressure of plan targets from higher authorities.

Even though market liberalization has gradually introduced competition to the state owned enterprises, these firms continue to suffer from soft-budget constraints (Steinfeld, 1998). Their external operating environment, while sluggish, was predictable and controlled. Marketing, sales, competitive pricing and customer satisfaction were simply not organizational priorities. Risk taking was strongly discouraged and managers were expected to follow party doctrine in terms of their organizational leadership and human resource practices. Now, business leaders in state owned enterprises find themselves being forced to compete in a competitive, market driven environment. These business leaders are struggling to keep their organizations alive while they learn the rules of the capitalist game. Studies of the transitional economies have found high levels of organizational inheritance. For instance, Pearce (1991) studied human resource management practices in Hungary, arguably the most liberal in the former Eastern European communist bloc, and found practices that had their origin in the now-dysfunctional communist system of political control, but have taken on a continuing life independent of their communist origins.

Summarizing the arguments above, we have the following hypotheses-

H1: Bureaucrats-turned-entrepreneurs are more likely to access state controlled resources such as bank credits than their counterparts who do not have work experience in the public sector.

H2: Bureaucrats-turned-entrepreneurs use resources such as capital less efficiently than their counterparts who do not have work experience in the public sector.

METHODOLOGY

SAMPLE AND PROCEDURES The main data used in this study come from a nation-wide survey of private domestic enterprises. The survey was jointly conducted in 2002 by the All China Federation of Industry and Commerce (ACFIC) and the United Front Work Department of the Chinese Communist Party's Central Committee (CCPCC). The questionnaire was designed by a panel of scholars from the Research Division of ACFIC, the Policy Research Office of CCPCC, People's University of China, China Academy of Social Sciences, and Beijing Academy of Social Sciences. The dataset is by far the best one for studying non-state enterprises in China.

Firms were selected from the population of all registered non-state enterprises in the country's 30 provincial-level administrative regions using a multi-stage stratified random sampling. For a sample frame, the list of private enterprises registered with the Industry and Commerce Bureau was used. At the first stage, the number of firms to be sampled in each province was decided based on the region's density of private enterprises. At the second stage, the sampling units of city and county were decided according to the proportion of private business in each province. At the third stage, for all selected cities and counties, private enterprises were grouped according to two dimensions of geography (rural-urban) and industries, and in each group, private enterprises were chosen randomly.

Out of 3,635 firms sampled (e.g. .5% of the population), 2,948 firms were still in operation and their owners were interviewed.²¹

Direct interviews using a questionnaire were conducted with the major owner of each private enterprise in the sample. The survey provides information on firms' characteristics and their key owners' social economic backgrounds. This survey is particularly well suitable for the current study, as it asks detailed information regarding each entrepreneur's career history, including the type of organization they had worked at, the length of their tenure in the organizations and their final positions achieved.

MEASURES

DEPENDENT VARIABLES This paper uses several variables to measure the different dimensions of entrepreneurial performance. These variables include entrepreneurs' access to bank loans and the revenue of their business ventures. **BANK LOAN** is a binary variable of one if the private enterprise gained loans from state owned banks and zero otherwise. This variable offers the cleanest test of access to credit in the present Chinese environment. **LOAN COST** measures the cost that entrepreneurs pay for gaining access to state bank credit that is *above and beyond* the loan's interest rate. This may be interpreted as the expenditure to invite bank and other officials for entertainment and buy them gifts to grease the "public-relations" (Cai, Fang and Xu, 2005). The variable **LOAN COST** is calculated as a percentage of the total loan granted. While the central government sets the standard interest rates that are very rigid, the real cost of accessing bank credits vary dramatically across borrowers. China's low official interest rates make loan financing highly desirable and firms compete through "under the table" deals. While pervasive, these under-the-table deals are essentially illegal activities that are carried out through social conspiracy. Given that network ties foster trust and

²¹ To examine the representativeness of the data, we checked the data with various Chinese statistical yearbooks, discovering that the survey under-sampled small firms, particularly those household enterprises with less than seven employees. This may reflect that small firms are more likely to fail under competition and that the missing observations may come disproportionately from this subgroup. To reduce the potential bias introduced by left truncation, I split the data into two parts and analyze firms that had existed for two years or shortly as a robustness check. More detailed information can be found in the discussion section.

obligations, illegal activities are least likely to be revealed when conspired and executed among parties with strong connections with each other (Baker and Faulkner, 1993). From this perspective, firms with good connections (with the public sector) may have the advantage of being trusted by bribe-receiving officials and thus can pay a lower “price” for access to bank loans.²² I also constructed a similar variable to measure the cost of getting loans from private parties and use this as a benchmark to see whether bureaucrats-turned-entrepreneurs are treated differently. Given the incentives for a private lender to allocate credit based on firm performance and past track record of creditworthiness, I expect that entrepreneurs without bureaucratic legacy are not going to be explicitly discriminated against, once information regarding firm performance and entrepreneurial capability is controlled. Furthermore, a variable FIRM REVENUE is constructed to measure the logged size of firm revenue in the year of 2001. This transformation form has the advantage of enabling a Cobb-Douglas production function to examine firm efficiency using ordinary least square regressions when firms’ capital size and employee numbers are also transformed into logged value.

INDEPENDENT VARIABLE The key independent variable in this study is entrepreneurs’ work experience in bureaucratic organizations. Unlike previous research that measures bureaucracy indirectly through the size and age of parental organizations, this paper measures the concept more directly through the type of parental organization and looks at whether an entrepreneur has worked in a public sector organization or not. As Wilson (1989) has argued, the public sector organizations are “the most bureaucratic among all bureaucratic organizations”, a binary variable PUBLIC SECTOR is created, with the value of one if the entrepreneur has work experience in the public sector and zero otherwise.

CONTROL VARIABLES To provide more accurate estimates of the hypothesized variables, this paper controls for other factors that previous research has found to be important in explaining entrepreneurial performance. I use two dummy

²² This is different from relationship lending in the Western context where personal ties transfer soft information to help bankers overcome the problems of information asymmetry (Uzzi, 1999).

variables to control for the geographic location of each firm. Previous research has shown that private enterprises are treated more positively in the coastal area of China where economic reforms took root early and that they are less discriminated in the rural area due to relaxed governmental control and local state corporatism. I also control for industry because prior research shows that industries vary in capital intensity, productivity and priority in terms of governmental development policy. To control for industry, this paper employs a series of dummy variables for real estate, energy, finance, construction, and manufacture.²³ In addition, this paper controls for demographic characteristics of the entrepreneur that may influence firm performance. These characteristics include entrepreneur's age, gender and level of education. Similarly, several firm attributes are controlled too, including firm age, employee level and capital level. As Chinese governmental policy often provides preferential treatments to firms established by ethnic minorities, a dummy variable is created to capture whether the entrepreneur is a Han Chinese, the ethnic majority.

Chinese Communist Party membership is also used as a control variable in this study. Although often used as an indicator of individual's political connection, party membership is not a good measurement of bureaucratic experience. While government agents and SOE employees often have party membership, a large number of party members operate outside the public sector. Since the late 1990s, the party has made deliberate efforts to attract successful people from a wide range of social economic backgrounds into the organization (Dickson, 2003). This cooption strategy has particularly targeted private entrepreneurs who have successfully operated outside the state sector. From this perspective, while party membership may indicate an individual's political connection and even capture part of his capability, it does not necessary mean such a person has bureaucratic experience in government agencies or state owned enterprises.

Another career experience - negative displacement -is also controlled in this study. Shapiro and Sokol (1982) look at how change in the work situations may encourage an

²³ Other industries including agriculture are the reference group in the regression.

eventual decision to launch an entrepreneurial venture. They find that "negative displacement" (being fired, demoted, and transferred to an undesirable location; changes in the organization or ownership with negative career implications, etc.) is a major factor encouraging entrepreneurship in several cultures. Of 1,394 persons who started or purchased a business, Cooper and Dunkelberg reported 21.6 per- cent left prior employers due to negative displacement. Out of no better alternatives, members of this group are forced into entrepreneurship and tend to have low performance. To control for job displacement, a binary variable LAID OFF is created with value 1 for entrepreneurs who were laid off from previous work organizations.

RESULTS

Table 1 shows the descriptive statistics and correlation matrix. Bureaucratic work experience is positively correlated with entrepreneur's access to bank credit and firm's revenue size. Because not all entrepreneurs find access to bank credits and/or private loans, Table 2 reports the correlation between loan cost and other variables for the subgroup of entrepreneurs who got loans. These results provide tentative evidence that bureaucratic legacy provide entrepreneurs with preferential access to bank credits and also positive performance results.

Table 3 provides the results of a regression predicting entrepreneur's access and cost to bank credit as a function of bureaucratic legacy, controlling for other factors. Model 1 looks at bank credit access using logistic regression, showing that bureaucratic legacy has positive and significant effects ($B = .08$, $S.E. = .05$) on entrepreneurs' access to state controlled financial capital. Models 2 and 3 provide the ordinary least square (OLS) regressions predicting the cost of loans. While bureaucratic legacy dramatically reduces the cost of bank credit ($B = -.79$, $S.E. = .32$), it does not help entrepreneurs to reduce the cost of accessing other types of loan. Indeed, the coefficient changes direction ($B = .92$, $S.E. = .41$). This may suggest that there is a strong selection effect in terms of entrepreneur's pursuit of external credit. As the interest rate of the state controlled banks is generally much lower than loans from alternative sources, entrepreneurs would give a

priority to bank loans for finance. For other loan sources, the very act of bureaucrats-turned-entrepreneurs seeking non-bank loans itself indicates certain weakness of the entrepreneurs. This consequentially leads to the charging of higher fees. In combination, these three models suggest that, in an institutional environment where state plays a central role in credit allocation, work experience in the public sector helps entrepreneurs to gain preferential treatment by the state banks.

Model 4 reports ordinary least square (OLS) regression results predicting firm performance using entrepreneurs' bureaucratic legacy while controlling other variables. A clear pattern is that bureaucrats-turned-entrepreneurs tend to build larger firms, as the coefficient for the variable PUBLIC SECTOR is .20 and the standard error is .07. The control variables provide some important insights about entrepreneurial performance. As prior research has predicted, firms tend to have better performance when the entrepreneur has a higher level of human capital (as measured by education, $B = .23$, $S.E. = .04$) and when she is located in better institutional environment, e.g. the coastal area ($B = .23$, $S.E. = .06$). Moreover, the results show that firms whose entrepreneurs are party members have better performance ($B = .10$, $S.E. = .06$), as these entrepreneurs tend to have good connections with the government and better human capital.

To measure how efficiently bureaucrats-turned-entrepreneurs are using financial capital, an interaction effect is constructed between bureaucracy and capital size. While bureaucratic experience and capital size have positive and significant impacts on firm revenue independently ($B = .39$, $S.E. = .17$ for PUBLIC SECTOR; $B = .29$, $S.E. = .03$ for CAPITAL), the interaction effect is significantly negative ($B = -.05$, $S.E. = .03$), indicating that, for the same amount of capital under utilization, bureaucrats-turned-entrepreneurs tend to be less efficient. This is an interesting comparison with entrepreneurs who have quasi-bureaucratic experience only. While the collective sector experience has a direct and positive effect on entrepreneurial performance, its interaction effect with capital does not have any negative impact.

DISCUSSION AND CONCLUSION

This paper provides the first evidence that bureaucratic legacy may serve as a double-edged sword for entrepreneurial competence. While work experience in the public sector helps entrepreneurs build connections with the state and get access to state controlled resources, it hinders the development of entrepreneurial capability to use these resources in an efficient way. This result suggests that the development of new organizations is constrained by both the social structure and the organizational blueprint of established organizations. While entrepreneurs set up new firms to explore new technologies and to serve new markets, their performances are influenced by their positions within the broad social structure and the organizational blueprints available to them. Both factors are partly determined by the type of organization in which they have worked previously. The empirical evidence of this study comes from a nationally representative dataset of private enterprises in China.

While this study uses China as an empirical setting, its results may be applicable to many transitional economies. While dismantling the former centrally planned economic system, the transformation of socialism into some form of a market economy does not make the state retreat from the economic domain. Political processes continue to be central in the reform process. Both in China and in Eastern Europe, political markets are critical to understanding transition (Parish and Michelson, 1996). As central controls loosen, informal bargaining becomes more important, and having linkages with influential political actors and government-based political patronage becomes much more important. This leads some scholars to propose that “political actors will become more important and garner more resources not only despite but also because of markets” (Keister, 2008).

While many developing countries are not in the process of transition from a socialist economy into a market-oriented economy, conclusions drawn from this study may apply to them as well. Similar to transitional economies, the state also plays a central role in defining economic and social life in developing countries and is probably the most important single factor that influences firm performance at the micro level and economic

growth at the macro level. While banks in these countries may not be state owned, they are under strong governmental influence and the state often gives direct or indirect guidance regarding credit allocation. Furthermore, as the tools for the state to carry out economic and social policies, public sector organizations in these societies generally control a large proportion of the national wealth and penetrate many sectors of the national economy.

This paper uses entrepreneurs' work experience in the public sector as a measurement of bureaucratic legacy. People may have different interpretations of what exactly this variable measures. For instance, one may argue that, rather than bureaucratic legacy, public sector experience may capture certain individual characteristics that overlap with entrepreneurs' human capital. One may argue that there is a sorting process in job allocation under the socialist system and people with high human capital (potential) are more likely to be recruited into the public sector. Slightly different, the so-called technocrat-continuity hypothesis argues that bureaucratic experience can serve as a good training ground for people to gain administrative expertise under state socialism and former cadres can rely on such expertise to maintain high socioeconomic status in post-socialist era. For instance, Rona-Tas (1994:45) argues, "There is a common meritocratic-technocratic character of both party and entrepreneurial recruitment that is the main source of continuity". To put it another way, cadre status provides the opportunities to acquire administrative expertise. Such expertise is a special form of human capital. It is marketable under the new economic regime not for its linkage with the state actor for access to resources but for its high efficiency in utilizing resources. This implies that the interaction term between bureaucracy and capital should have a positive effect on firm revenue. However, this is exactly the opposite of what I have found in this study. Thus, this study has minimal concern with this human capital interpretation of public sector experience.

One may also concern that political connections explain both bureaucrat-entrepreneurs' access to and low efficiency of capital, as politically connected entrepreneurs are more likely to privatize state owned enterprises that operate

inefficiently. From this perspective, it is not public sector experience that constrains individuals from developing entrepreneurial competence, but that state owned enterprises themselves are not efficient and it is hard to change their organizational routines for performance improvement. Evidence supports the argument that cadres took advantage of their political power to acquire state property through privatization. However, this paper is not subject to accusation of this line of argument, as I have created a control variable (PRIVATIZED) to capture whether a firm is created from scratch by the entrepreneur or from the change of ownership during privatization. Surprisingly, adding this variable does not change any of the statistical results (see Model 7), showing that privatized SOEs do not behave differently from other firms in any fundamental way!

Another concern is that easy access to bank loans, rather than bureaucratic legacy per se, explains bureaucrats-turned-entrepreneurs' low efficiency in financial capital utilization. As bureaucrats-turned-entrepreneurs have easy access to cheap credit in China (see Models 1 & 2), they have incentives to use capital, the relatively cheap production factor, to substitute the expensive ones and thus it is natural for the interaction term of capital and bureaucratic experience to have a negative sign in regressions. To reduce this concern, several robustness tests are conducted (see Table 5). Model 8 looks at the cases where firms have gained bank loans. After controlling for the "public relations expenditure" of bank loans, the interaction term between capital size and bureaucratic experience continues to have a negative coefficient ($B = -0.33$) that is statistically significant at .10 level for one-tailed test²⁴. As shown in Models 9 and 10, controlling firms' access to bank loans does not change the empirical pattern either. These results reduce concerns of the rival hypothesis of "cheap loans inducing low inefficiency in capital utilization".

Several limitations in this paper are worthwhile acknowledging for the purpose of future improvement. First, this study treats an individual's career choice as exogenously determined by factors that have no direct impact upon the development of entrepreneurial

²⁴ One thing to note is that all regressions in Table 5 report one-tailed significance test, due to the relatively small number of observations in the analyses.

competence. This assumption needs to be relaxed and career option should be explicitly modeled in future research. One possible solution to this issue is to use father's education level (Bellante and Link, 1981) and work experience (Blank, 1985) as instruments for individuals' career choice. Even though such an approach has been utilized in prior studies (Ozcan and Reichstein, 2009), theoretically, parental education and career influence both individuals' career choice and their accumulation of human and social capital (Sorenson, 2004). Thus these two factors may impact entrepreneurial performance through mechanisms other than career choice, making them invalid instrumental variables.

Second, this study does not open up the black box of organizational imprinting. While the empirical results are in alignment with the theoretical argument that the transfer of bureaucratic legacy into new enterprises through the turnover of public sector employees makes these new enterprises inefficient, this paper does not model directly the transfer of organizational routines or culture. This leaves the door open for rival interpretations. For instance, one may contribute both the positive, direct bureaucratic impact and the negative, indirect bureaucratic impact on firm revenue to unobservable sector effect. Or put another way, bureaucrats-turned- entrepreneurs can utilize their political connections to enter industrial sectors that are formerly monopolized by the state. When these sectors are of low competition yet capital intensive, regression analysis will show a positive direct effect of bureaucracy (due to the lucrative profit that these sectors provide) and a negative indirect effect of bureaucracy (due to capital intensity in these sectors)²⁵. While this study has industrial dummies as control variables, industrial sectors are aggregated at very high levels. Without fine-grained information, it is hard for us to rule out the potential sector effect.

²⁵ Regression analysis of entry choice does show that bureaucrats-turned-entrepreneurs are more likely to enter the lucrative yet capital intensive real estate sector. This result will be reported in the next version of the paper.

Last but not least important, the data in this study are left-truncated and this may introduce a survivor bias into the study²⁶. Firms in the data were surveyed in 2002 and most of them have survived more than four years. Studies have suggested that only 50% of the firms can survive up to four years. To reduce the concern of left truncation, I split the data and ran an analysis of firms that were established after 1999 only. The statistical results in Model 6 show that the basic patterns as predicted by the theory continue to hold: entrepreneurs with work experience in governmental agencies and the state owned enterprises tend to build large yet inefficient firms. Even though the number of observations is small (n= 222), the coefficients for PUBLIC SECTOR (B=1.03) and the interaction term of public sector and capital size (B= -0.20) continue to hold statistical significance (Standard errors are .60 and .12 respectively)²⁷. Indeed, the comparison between the coefficients of bureaucracy related variables in Model 6 and Model 5 can be very revealing. These coefficients are much stronger for entrepreneurs who just left the public sector recently. This may indicate that bureaucracy effects are discounted over time: the longer an entrepreneur has left the public sector, the weaker his connections with the state become and the less he is constrained by the inherited inefficient organizational routines²⁸.

²⁶ Namely, given their limited access to state controlled resources that are important to firm survival, entrepreneurs without bureaucratic experience that manage to survive for a long period must possess certain unique capability that distinguish them from the rest of the population. This unique (yet unobservable) capability may well explain why they are more efficient in utilizing resources that are available to them.

²⁷ However, for models predicting bank credit access and loan costs, the coefficients are in the right direction as predicted by the theory, but they do not have statistical significance. The results are not reported here.

²⁸ Roberts (1991: 117, 121) shows this very effect for the technology connection of new firms with their parental organizations in the American context.

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APPENDIX:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1 Bank loan	1.00																		
2 Revenue	0.25	1.00																	
3 Public sector	0.06	0.06	1.00																
4 Collective sector	0.06	0.06	-0.28	1.00															
5 Capital	0.28	0.68	0.05	0.04	1.00														
6 Labor	0.32	0.67	-0.05	0.10	0.62	1.00													
7 Male	0.07	0.11	-0.07	0.05	0.11	0.08	1.00												
8 Education	-0.05	0.20	0.31	-0.11	0.21	0.10	-0.03	1.00											
9 Han Chinese	0.02	0.05	-0.02	0.01	0.01	0.04	0.05	0.02	1.00										
10 Party member	0.08	0.13	0.00	0.13	0.07	0.14	0.07	0.03	-0.04	1.00									
11 Laid off	-0.03	-0.12	0.02	0.03	-0.11	-0.10	-0.07	-0.03	-0.03	-0.03	1.00								
12 Big City	0.18	-0.04	-0.26	0.11	0.00	0.09	0.08	-0.25	0.03	0.11	-0.02	1.00							
13 Coast	-0.07	0.06	-0.07	0.10	-0.10	-0.05	0.00	0.01	0.13	0.01	-0.08	0.10	1.00						
14 Manufacturing	0.16	0.11	-0.19	0.16	0.09	0.23	0.06	-0.16	0.03	0.12	-0.03	0.29	0.07	1.00					
15 Energy	-0.02	-0.01	0.03	0.00	0.02	-0.06	-0.01	0.01	0.02	-0.01	0.03	-0.03	-0.03	-0.07	1.00				
16 Construction	0.01	0.10	0.01	0.03	0.15	0.18	0.06	0.06	-0.02	0.04	-0.03	-0.04	-0.08	-0.21	-0.02	1.00			
17 Finance	-0.04	0.02	0.04	-0.03	0.06	-0.03	0.01	0.05	-0.06	-0.03	-0.01	-0.04	0.00	-0.03	0.00	-0.01	1.00		
18 Real Estate	0.05	0.10	0.07	0.02	0.17	0.01	0.00	0.13	0.01	-0.03	-0.03	-0.10	-0.08	-0.15	-0.02	-0.05	-0.01	1.00	
19 Firm Age	0.02	0.04	-0.13	-0.05	0.07	0.06	0.05	-0.13	0.01	-0.12	-0.03	0.00	-0.06	0.05	-0.01	-0.04	-0.04	-0.02	1.00

Table 1: Correlation Matrix of Variables

Table 2: Correlation Matrix of Variables, continued

	Bank loan cost	Other loan cost
Bank loan cost	1.00	0.09
Other loan cost	0.09	1.00
Revenue	-0.07	0.02
Public sector	-0.02	0.03
Collective sector	-0.04	0.05
Capital	0.02	0.00
Labor	-0.05	0.03
Male	0.05	0.02
Education	0.04	0.07
Han Chinese	-0.03	0.04
Party member	-0.06	0.04
Laid off	0.04	-0.06
Big city	-0.04	0.04
Coast	-0.15	0.01
Manufacturing	-0.05	0.05
Energy	0.00	0.03
Construction	-0.04	-0.06
Finance	-0.01	-0.02
Real Estate	0.03	0.00
Firm Age	0.05	-0.05

Table 3: Models Predicting Entrepreneurial Finance

	Model1:Bank Credit Access		Model 2: Bank Loan Cost		Model 3: Other Loan Cost	
	B	S.E.	B	S.E.	B	S.E.
Public sector	0.08*	0.05	-0.79***	0.32	0.92**	0.41
Collective sector	0.09	0.09	-0.35	0.30	1.28***	0.40
Capital	0.09***	0.03	0.11	0.12	0.01	0.16
Labor	0.28***	0.04	-0.37***	0.15	0.12	0.19
Firm Age	0.03***	0.01	0.05	0.03	-0.02	0.04
Big City	0.26***	0.04	0.06	0.14	0.22	0.18
Coast	-0.51***	0.09	-1.12***	0.30	-0.55	0.38
Male	0.27**	0.14	0.96*	0.53	0.29	0.62
Education	-0.04	0.05	0.29*	0.18	0.62**	0.24
Han Chinese	0.33	0.22	-0.39	0.73	0.63	0.81
Party member	0.15*	0.09	-0.01	0.31	-0.03	0.41
Laid off	-0.15	0.2	1.60***	0.71	-1.11	0.82
Manufacturing	0.45***	0.1	-0.77**	0.32	0.12	0.43
Energy	-0.21	0.53	-2.03	1.90	2.21	2.50
Construction	-0.07	0.19	-1.27**	0.62	-2.08**	0.87
Real Estate	0.72***	0.24	-1.09	0.74	-1.47	1.05
Constant	-2.64***	0.35	2.41**	1.19	0.12	1.44
n		2571		1063		1297
d.f.		16		16		16
Adj. R-Square		0.09		0.04		0.02

Note: * p< .10; ** p <.05; *** p< .01 in two-tailed tests.

Model 1 looks at the full sample and predicts firms' access to bank loans; Logistic regression analysis is used. Model2 and model 3 look at entrepreneurs who gained loans from the state bank and non-bank loan sources respectively, predicting the cost of gaining loans. Ordinary least square regressions are used.

Table 4: Results of Ordinary Least Square Models Predicting Firm Performance

	Model 4		Model 5		Model 6		Model 7	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Public sector	0.20***	0.07	0.39**	0.17	1.03*	0.60	0.39**	0.17
Collective sector	0.13**	0.06	0.16	0.17	0.25	0.59	0.16	0.17
Capital	0.27***	0.02	0.29***	0.03	0.44***	0.11	0.29***	0.03
Labor	0.40***	0.03	0.40***	0.03	0.50***	0.08	0.40***	0.03
Firm age	0.06***	0.01	0.06***	0.01	-0.27	0.20	0.06***	0.01
Big city	-0.11***	0.03	-0.11***	0.03	-0.16*	0.09	-0.11***	0.03
Coast	0.23***	0.06	0.23***	0.06	0.22	0.21	0.23***	0.06
Male	0.37***	0.10	0.37***	0.10	0.35	0.30	0.37***	0.10
Education	0.23***	0.04	0.23***	0.04	-0.01	0.11	0.23***	0.04
Han Chinese	0.34**	0.16	0.34**	0.16	-0.28	0.55	0.34**	0.16
Party member	0.10*	0.06	0.10*	0.06	0.06	0.20	0.10*	0.06
Laid off	-0.38***	0.14	-0.38***	0.14	-0.61*	0.36	-0.38***	0.14
Manufacturing	0.29***	0.07	0.29***	0.07	0.19	0.21	0.29***	0.07
Energy	0.08	0.34	0.09	0.34	0.51	1.33	0.09	0.34
Construction	0.20	0.13	0.20	0.13	0.14	0.39	0.20	0.13
Real Estate	0.64***	0.17	0.65***	0.17	1.25***	0.47	0.65***	0.17
Public sector X Capital			-0.05*	0.03	-0.20*	0.12	-0.05*	0.03
Collective sector X Capital			-0.01	0.04	-0.03	0.12	-0.01	0.04
Privatized							0.03	0.07
Constant	1.72***	0.24	1.62***	0.27	2.51***	0.91	1.62***	0.27
n		2247		2247		222		2247
d.f.		16		18		18		19
Adj. R-Square		0.31		0.32		0.47		0.31

Note: * p < .10; ** p < .05; *** p < .01 in two-tailed tests.

The dependent variables in these models are the logged value of firm revenue. Models 4, 5 and 7 use the full sample; Model 6 uses the subsample of firms that had existed for one or two years.

Table 5: Results of Ordinary Least Square Models Predicting Firm Performance

	Model 8		Model 9		Model 10	
	B	S.E.	B	S.E.	B	S.E.
Public sector	1.85**	1.02	1.00**	0.61	1.06**	0.62
Collective sector	0.98	0.98	0.40	0.61	0.43	0.62
Capital	0.25*	0.19	0.44***	0.11	0.45***	0.09
Labor	0.59***	0.11	0.47***	0.08	0.47***	0.08
Party member	0.12	0.30	0.02	0.20	-0.03	0.21
Laid off	-0.76***	0.14	-0.61*	0.41	-0.61*	0.41
Public sector X Capital	-0.33*	0.21	-0.18*	0.13	-0.19*	0.13
Collective sector X Capital	-0.02	0.20	-0.06	0.12	-0.03	0.12
Bank loan cost	-0.12	0.05				
Bank loan access			0.46**	0.20	0.45**	0.20
Privatized					0.14	0.23
Other controls	YES		YES		YES	
n		87		216		216
d.f.		18		19		20
Adj. R-Square		0.51		0.48		0.48

Note: one-tailed test. * $<.10$; ** $<.05$; *** $<.01$. The following variables are controlled in all models: firm age, firm location (big city, coast), industrial dummies (manufacturing, energy, construction, and real estate), and entrepreneurial background (male, education and Han Chinese).

Model 8 looks at firms younger than 3 years old with access to state bank loans. The energy sector drops out in model 8. Models 9 and 10 look at firms younger than 3 years old, no matter whether they got access to state bank loans.