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A Tale of Two Provinces: The Institutional Environment and Foreign Ownership in China

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Abstract:

In this paper, we use a unique dataset covering joint ventures in two provinces of China, Jiangsu and Zhejiang, to test the effect of the institutional environment for domestic private firms on ownership structures of FDI projects. Unlike many studies on this subject, we approach the issue from the perspective of local firms seeking FDI rather than from the perspective of foreign firms seeking to invest in China. Applying the prevailing bargaining framework in studies on ownership structures of FDI projects, we find that a more liberal institutional environment for domestic private firms is associated with less foreign ownership of the joint ventures operating there. Several mechanisms can contribute to this outcome. One is that a more liberal institutional environment may enhance the bargaining power of those domestic firms negotiating with foreign firms to form alliances (the capability effect). The other mechanism is that a more liberal institutional environment may reduce some of the auxiliary benefits associated with FDI—such as greater property rights granted to foreign investors—and thereby attenuate incentive to form alliances with foreign firms (the incentive effect).

Key words: China, FDI, private sector, institutional environment, joint venture

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Introduction

Since 1979, foreign-invested enterprises (FIEs)—firms funded by FDI—have become a sizable player in the Chinese economy. Increasingly, FIEs are making China the manufacturing base of Asia. They can be found in virtually every part of China and in every economic sector. FIEs have established dominant positions in a number of Chinese industries. The foreign trade activities of FIEs account for a significant share of China's overall trade. By 2002, they accounted for over 50 percent of China's exports.

There have been a number of studies analyzing the determinants of the ownership structures of these FIEs in China.[2] These studies share one common characteristic with works in the general economic and international business literatures on this topic: Almost all of them approach the question from the perspective of the foreign investing firms. This perspective entails a number of analytical and empirical implications. One is an overwhelming emphasis in the regression specifications on industry characteristics, firm-specific assets, and technology, those variables that are prominently featured in the theoretical and empirical works on multinational corporations (MNCs). [3] Host-country characteristics are

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[2] In a detailed study, Pan (1996) investigates the influences on foreign ownership of joint ventures arising from firm-level host country attributes, such as the contractual duration, industrial competitive intensity, local partner state ownership, partner alignment, and locations, in addition to normal industry and firm-level variables. Among his findings, the more interesting one relates to how foreign equity structures can be contingent on the hierarchy of the Chinese partnering firms. They also find some differences in the equity structure conditional on the nationality of the FDI source countries. In another study, Pan and Tse (1996) examine the linkages between entry modes of foreign firms and the equity structures of joint ventures. One could argue that their specification is subject to endogeneity issues as the entry modes and the equity arrangements are likely to be determined simultaneously. For a similar study, see Pan, Li and Tse (1999).

[3] The basic building bloc in works on the determinants of equity structures of FDI firms is the industrial organization (IO) conceptualization. The IO reasoning hinges on the notion that FDI fundamentally reflects the ability of profit-maximizing MNCs to overcome market imperfections. The starting point of the IO reasoning is that foreign firms incur costs that domestic firms do not. These costs range from the intrinsic difficulties of managing cross-border operations to the costs of gathering information and developing expertise about foreign markets, and the political, social, and legal environments, etc. Political uncertainty also abounds in investing overseas. These costs are usually large, fixed, and up-front. To offset these extra costs, a foreign firm must possess internal, ownership-specific advantages over its domestic rival firms. These advantages take the form of R&D capabilities,

not ignored in such studies but they are almost uniformly treated as "constraints" to which the MNCs are made subject by the authors of these studies.

While studies so analytically anchored have yielded rich insights, they do contain some limitations. One limitation is their narrow range of host-country variables. Most often, these studies incorporate a measure of host-government policies on foreign ownership in their regressions. (This paper focuses on institutional and policy issues and does not discuss in great detail those studies that incorporate host-country economic variables such as per capita GDP, the savings rate, etc.)[4] While it is natural—and intuitive—that foreign ownership policies should be included in studies on foreign ownership, the analytical payoffs from this line of thinking are decreasing. For one thing, if it is true that in the 1990s FDI policies across countries began to converge toward a more liberal stance, sooner or later, FDI policies will drop out as an explanatory variable. A more debilitating shortcoming from our perspective is that FDI policies operate at the national level and they are by definition irrelevant for our analytical task at hand—studying variations in ownership structures of FIEs at the subnational level.

A related limitation is that FDI policies are but one of many host-country variables that affect the ownership structures of FIEs. This is demonstrated by the inconsistent findings on the effect of FDI policies in empirical studies. Some studies have found them to be significant; others do not, and still others yield results contrary to expectations. There are also real-world examples of countries liberalizing FDI regimes but failing to garner much FDI and others inundated with FDI despite very restrictive policies. Taiwan, for example, considerably liberalized its FDI regime in the late 1980s but its FDI/capital formation ratio remained virtually unchanged in the 1990s. India undertook substantial FDI liberalization in the 1990s but its FDI inflows were a fraction of the FDI inflows that went into China, a country which in fact is quite comparable to India by various FDI liberalization measures.[5]

Apart from FDI policies, another frequent host-country variable is a measure of the "riskiness" of investing in a particular country. Again, including this variable makes a lot of intuitive sense but in part

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managerial know-how, organizational skills, marketing expertise, economies of scale, etc. The idea that these advantages must be firm-specific is central to the IO perspective. These advantages are available to the MNCs, but not to others due to the structural impediments. The clearest examples here would be patent protection and brand names that yield rents to their holders. The pioneering work in this field is Hymer (1976). For a good summary of this large body of literature, see Caves (1996).

[4] FDI studies have mainly approached institutions as determinants of FDI flows—normalized by GDP or other investment variables—rather than as determinants of equity structures. In this type of studies, the common control variables are market size, the export orientation of the economy, infrastructural quality, and political and economic stability. The findings, however, are not uniform. See the survey by Lim (2001) for recent works.

[5] Huang (2003) provides a number of such examples.

because it is treated as an exogenous constraint on MNCs its effect on the ownership structure of foreign affiliates is specified in an overly clear-cut way when in fact the true effect can be quite ambiguous. For example, researchers have theorized that political risks would reduce the incentives of a foreign firm to invest in a particular country and therefore would reduce foreign ownership there. So far, so good, but the problem with this formulation is that the same political risks that constrain foreign firms may also operate as constraints on local firms operating in the host country. If these political risks constrain local firms more than they do foreign firms, foreign firms may *increase* their ownership of assets in the country. (One mechanism by which this occurs could be that local firms are so constrained and are rendered uncompetitive and their assets become cheaper to acquire.)[6]

Our paper approaches the foreign ownership of FIEs in China from the perspective of Chinese firms seeking to form alliances with foreign firms rather than from the perspective of foreign firms seeking to invest in China. Doing so entails some similarities with the dominant approaches in the literature but also some notable differences. Our approach complements the prevailing approaches in the literature in the sense that many existing studies of FDI do not completely ignore host firms; they just happen to be less interested in them. [7]

Our central analytical interest revolves around the institutional environment of local firms and the premise is that the relevant host-country factors for examining the foreign ownership question go well beyond the traditional focus on FDI policies and political risks. Each FDI project requires contributions

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[6] Interestingly, some of the existing research has provided more empirical support for the idea that political risks can be associated with greater foreign ownership but because these results are so contrary to the *a priori* expectations, they are either set aside or not discussed at all. For example, in one of the earliest articles incorporating political risks, Contractor (1990) hypothesized that lower political risks on the part of the host country should lead to majority equity holdings for US firms. (Contractor was so sure of the reasoning that he did not bother to elaborate on it. As he put it, this is "because of venerable MNE theory reasons which need not detain us here.") When the regression results contradicted this hypothesis, he set them aside on the grounds that not all the measures were statistically significant. Similarly, when Asiedu and Esfahani (2001) found that better rule of law was in fact negatively correlated with the probablity that a US firm would choose a wholly-owned subsidiary (as opposed to a joint venture), they discussed the results very briefly and hypothesized that better rule of law promotes the productivity of FDI projects, which might motivate the host government to seize rent from such projects. This is a problematic formulation not least because their regression already incorporates an explicit measure of equity restrictions, which should capture the rent-capturing motivations.

[7] That the capabilities and resources of local firms affect the ownership structures of FDI projects is explicitly acknowledged in previous studies. For example, Asiedu and Esfahani (2001) incorporate several measures of local resource contributions. However, these variables are not of central analytical concern in their work.

from both foreign and local firms; for analytical tractability, we have chosen firms—joint ventures—that have explicit contributions from local firms.[8] The other way our paper is complementary with the general FDI literature is that we adopt a similar framework to examine how ownership structures of FDI projects are determined. The prevailing approach is to view the observed equity structures as an outcome of bargaining between foreign and host firms (or host governments). Bargaining, in turn, is treated as a function of the preferences for forming the alliances and the capabilities to make resource contributions to the alliances on the part of foreign and host firms.[9] We adopt the same approach here, except for the fact that we pay closer attention to those factors that affect the preferences/capabilities of local firms.

Approaching the *foreign* ownership question from a *local* perspective leads us naturally to some of the institutional factors that have been featured prominently in the more recent studies on FDI flows but have so far not been extended to the ownership structure question.[10] Many of the institutional studies of FDI have focused on FDI flows rather than on foreign ownership of existing FDI projects.[11] The two

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[8] This framework applies equally to wholly-owned foreign subsidiaries which do not have explicit contributions from local firms. We then want to determine the host-country factors that reduce the local contributions to zero.

[9] The theoretical underpinning that links these industry characteristics with bargaining power dynamics is the transaction cost framework. The literature here is vast. See the following sample of articles, Svejnar and Smith (1984), Hennart (1988) and Kogut (1988). For a number of empirical applications using foreign equity ownership to test the bargaining dynamics between foreign and domestic firms, see, Krobin (1987); Gomes-Casseres (1990) and Asiedu and Esfahani (2001).

[10] Perhaps one should clarify the underlying presumption in such an analysis. Our paper presumes that a country's institutional environment, first and foremost, affects the host firms anchored there and that the institutional environment affects the ownership structures of FDI projects via its primary effect on the capabilities and resource constraints of local firms.

[11] The most detailed institutional analysis is on the connections between corruption and FDI. In earlier studies, Wheeler and Mody (1992) did not find significant impacts of corruption on the investment decisions of U.S. manufacturing firms. Later studies contradict this finding, and one of the best known being, Wei (2000) in which he documented a substantial suppressive effect of corruption on FDI inflows. Based on survey data from transition economies, Hellman, Jones and Kaufmann (2002) found a different kind of linkage: FDI flows are only weakly affected by corruption but corruption reduces the quality of FDI inflows. One way to reconcile the findings from Wei (2000) with those from Hellman et al (2002) is to note that Wei (2000) is limited to FDI from OECD source countries (i.e., high-quality FDI). Thus it is possible that corruption deters FDI from OECD countries but does not deter FDI from other countries.

questions may be related to each other but are sufficiently distinct to warrant a separate approach.[12] We believe incorporating institutions into an analysis of the foreign ownership question is a contribution to the FDI literature.

We use a unique dataset containing over 2,000 joint ventures located in two Chinese provinces, Jiangsu and Zhejaing, to get at the two central questions in this paper. First, how do institutions affect the ownership structures of FDI projects? Second, how does one potential mechanism—the domestic firms as joint-venture partners—illuminate the institutional determinants of the ownership structures of FDI projects? Using the bargaining framework, we set out to test the hypothesis that an institutional environment more nurturing of domestic private firms is associated with greater bargaining power—arising from less FDI preferences or stronger capabilities—of Chinese joint-venture partners and, all else being equal, greater Chinese bargaining power may lead to *less* foreign ownership of production assets in joint ventures.

We chose to focus on Jiangsu and Zhejiang for substantive reasons. One is that doing so reduces some of the intrinsic complications of trying to isolate those factors pertinent to the calculus of foreign firms from those pertinent to the calculus of domestic firms. After satisfying a number of criteria we imposed, most of the surviving joint ventures in these two provinces are quite small and this characteristic, plus the availability of the detailed industry classifications, reduces the variance of prominent FDI supply variables such as market positioning of firms, intangible assets, and R&D capabilities. On the other hand, these two provinces exhibit substantial—and well-documented— variance in the institutional environments for domestic private firms. This makes it easier for us to examine the institutional determinants of the ownership structures of FDI projects. In the 1980s and early 1990s, the two provinces pursued very different policies toward the domestic private sector. Jiangsu favored collective firms closely allied with the government, such as township and village enterprises (TVEs), and discriminated against or even mildly suppressed domestic private firms. Zhejiang is widely known in China as a pioneering province in private sector development. Although credit and policy bias against the private sector was still present, the extent of the bias was substantially less than that in Jiangsu and than that in China overall.

A related reason is that these two provinces make as ideal a natural experiment as one can find. Both provinces started out in the early 1980s with similar levels of economic and social development and

[12] For example, one can envision a scenario in which foreign investors invest in many projects but only retain small equity interests in each project. Contrast this with another scenario in which foreign investors invest in one single project but retain all the equity interests in it. The relationship between FDI flows and foreign ownership would differ between these two scenarios.

with a similar domestic private sector size. Both are open to foreign trade and FDI and have a long history of entrepreneurship. Their geographic conditions are almost identical. Both are coastal and are located next to each other. (Jiangsu is to the north and Zhejiang is the south of Shanghai.) The substantial similarities between these two provinces in many respects and the well-documented policy differences between them furnish us with a solution to a nagging problem in research on this topic—how to cleanly measure the institutional environments for domestic private firms. In this paper, we use a Zhejiang dummy to denote a more liberal institutional environment.

The paper is organized as follows. We begin by our tale of two provinces to show how the institutional environment for private firms differed between them. We then formulate four hypotheses about the institutional determinants of the equity structures of FDI projects. The second section explains the dataset and the construction of the variables and describes the findings from the statistical analysis. The third section presents some concluding remarks.

A tale of two provinces

Throughout the reform era, the Chinese Communist Party has remained suspicious of the domestic private sector. There are complex reasons for this, some rooted in the ideological aversion toward private ownership and others having to do with the political calculation to guard its monopoly of power. Many of the institutions and policies at the national level were designed to constrain the development and growth of the private sector. One example is the insecurity of private property rights; this insecurity is particularly striking considering the legal treatment of FIEs. In 1982, China's Constitution already committed itself to the protection of property rights of foreign firms investing in China. In contrast, as of 2003, there is no similar constitutional protection for domestic private firms. (There is now a controversial proposal to amend the Constitution in 2004 to provide such protection.) Another example has to do with sectoral restrictions. In 2002, the vice chairman of National People's Congress—China's legislature—wrote that of 80 or so economic sectors, domestic private firms were permitted entry into 40 of them whereas foreign firms were allowed to enter 60 of them. There is also a substantial financial bias against private firms. In the 1980s, Chinese banks heavily favored TVEs over private firms and despite the moderate financial liberalization, this financial bias persisted well into the 1990s. For example, banks imposed stricter scrutiny criteria and collateral requirements on private firms than on TVEs. In the first half of the 1990s, most of the bank credit still went to TVEs, despite the

substantially stronger performance, higher profitability, and greater employment potentials of private firms.[13]

The above is a standard perspective on the lending bias and legal and regulatory discrimination against private firms in the Chinese economy. As a general description, the perspective is correct. There is, however, substantial heterogeneity at the regional level in terms of how stringently these legal and credit biases are enforced. This is possible because of the character of the Chinese reforms--often described as "federalism, Chinese style" according to a prominent formulation of the Chinese reform model—in which local governments are permitted substantial discretion in economic decision making (Qian 1999). Our two provinces are a good illustration of "federalism, Chinese style." In the 1980s and up to the mid-1990s, Jiangsu more closely followed the national policies and more stringently enforced legal and financial constraints on private sector than Zhejiang. This well-documented difference between the two provinces allows us to test the effect of the institutional environment on the ownership structures of foreign affiliates in China.

Profiles of Zhejiang and Jiangsu

Table 1 presents some basic statistics about these the two provinces. In terms of geographic location, both are located on the eastern coast of China. Jiangsu is the larger of the two, in terms of population, geographic size, and GDP. In 2001, Jiangsu had a population of 74 million people, compared with 46 million in Zhejiang. Its GDP was RMB 951.2 billion (about US$ 115 billion), compared with Zhejiang's RMB 674.5 billion (about US$ 81.3 billion). Both are far more affluent than the rest of China. In 2001, the GDP per capita of the two provinces exceeded RMB 12,000, while the national average of GDP per capita stood at RMB 7,543.

As a whole, both provinces did quite well during the reform era, but Zhejiang, the initially poorer and less well endowed of the two, clearly put out a superior performance. During the reform, its growth rate was faster and by 2001 it was richer than Jiangsu. Between 1978 and 1995, real GDP grew by 14 percent per annum in Zhejiang but only 12.9 in Jiangsu. In 2001, the per capita GDP of Jiangsu was RMB 12,922; in Zhejiang, it was RMB 14,655. The external sector of Zhejiang's economy also outperformed that of Jiangsu. Despite an initially lower foreign trade/GDP share, Zhejiang's exports grew much faster, averaging 27.9 percent per annum between 1978 and 1995, compared with only 9.3 percent in Jiangsu. In 2001, the size of industry and foreign trade was almost identical in the two economies.

[13] For an excellent study of the domestic private sector in China, see International Finance Corporation (2000). The study portrays a private sector beset with governance problems, resource constraints, and lack of maturation even after twenty years of reforms.

Table 1 Profiles of Jiangsu and Zhejiang

	Jiangsu	Zhejiang
Basic Statistics		
--Size of area	100.3 (1,000 km^2)	100.2 (1,000 km^2)
--Length of coastline	1,000 km	2,200 km
--Population, 2001	73.6 million	46.1 million
--# of main seaports, 1987	5	3
--Loading capacity of the main seaports, 1987	163 million tons	30.2 million tons
--Turnover freight traffic per kilometer, 1978	28.4 billion tons	16.4 billion tons
--Primary school enrollment, 1978	97.0%	98.0%
--Doctors per 1,000 persons, 1978	0.97	0.87
--Hospital beds per 1,000 persons, 1978	1.89	1.00
Economic Structure		
--Industry as % of GDP		
1978	47.0	38.0
1995	47.9	46.3
--Urban as % of total employment		
1978	21.0	17.5
1995	27.2	20.1
--Foreign trade as % of GDP		
1981	5.8	4.0
1995	27.2	27.3
--Export as % of GDP		
1981	5.3	3.7
1995	8.1	20.0
--Domestic private firms as % of industrial output value of domestic firms[a]		
1980	0.53	0.57
1995	10.5	38.7
2001	44.7	69.3
Economic Performance		
--Nominal GDP (yuan)		
1978	24.9 billion	12.4 billion
2001	951 billion	674.8 billion
--Nominal GDP per capita (yuan)		
1978	430	331
2001	12,922	14,655
--Real GDP growth (annual average 1978-95)	12.9%	14.0%
--Nominal export growth (annual average 1978-95)	9.3%	27.9%

[a]: The output value of domestic private firms is derived from the total output value minus the sum of that of SOEs, collective firms, and FIEs. The output value of FIEs is netted out from the denominator as well. This is a relatively broad measure of private output and it includes firms of mixed state and private ownership, such as alliances between SOEs, and private firms and listed companies. For the latter two categories of firms, control rights often reside with the government rather than with private entrepreneurs. Jiangsu has more of these types of firms.

Sources: Basic statistics are mainly from State Statistical Bureau (1989). Economic and social data are based on State Statistical Bureau (1996) and National Bureau of Statistics of China (2002).

Zhejiang was able to grow faster despite the fact that it started out with comparable conditions in some dimensions and inferior conditions in other dimensions. On the eve of the reforms, although the two provinces as a whole were well endowed compared with the rest of country (by having, for example, a long coastline), Jiangsu had enjoyed some initial advantages. Jiangsu had better infrastructural facilities, as measured by the number of main seaports, loading capacity, and freight traffic volume. Jiangsu's advantages were, roughly speaking, between two to five times those of Zhejiang. Jiangsu appears to have led Zhejiang in the stock of social capital, although the differences were not huge. Jiangsu had more hospital beds and more doctors per 1,000 population, although the two were comparable in primary school enrollments and educational attainments. Jiangsu was richer, more urbanized, more industrialized, and more open to foreign trade. Its GDP per capita in 1978 was 430 yuan, compared with 331 yuan in Zhejiang. A greater share of GDP was generated by industry in Jiangsu, 47 percent compared with 38 percent; a higher portion of the workforce was urban (21 percent vis-à-vis 17.5 percent). In 1981, Jiangsu exported to and traded with foreign countries slightly more than Zhejiang.

Two contrasting development models

One substantial difference between the two provinces has to do with the status of domestic private sector development. In 1980, the size of the domestic private sector—the non-state sector minus collective firms, such as TVEs, and FIEs—in the two provinces was virtually identical. In Jiangsu, domestic private firms accounted for 0.53 percent of total industrial output value compared with Zhejiang's 0.57 percent. Historically, the two provinces had produced some of China's best entrepreneurs. In the 1930s and 1940s, many of the top industrialists in Shanghai came from these two provinces.

In the 1980s and 1990s, the domestic private sector grew much faster in Zhejiang. In 1995, domestic private firms generated 38.7 percent of Zhejiang's industrial output value compared with 10.5 percent in Jiangsu.[14] After 1995, the two provinces began to converge somewhat. By 2001 domestic private firms generated 69.3 percent of gross industrial output value in Zhejiang, compared with 44.7

[14] The private sector is defined here as the residual of the industrial output value of all firms minus that of the SOEs, collective firms, and FIEs. By this definition, some of the firms tangentially owned privately are also counted as private firms, e.g., shareholding firms. A stricter definition of private firms, i.e., firms that are solidly controlled by private entrepreneurs, would yield a higher differential between Zhejiang and Jiangsu. The output value of privately-operated (*siying*) and individually-operated (*geti*) firms accounted for 34.4 percent of total industrial output value in Zhejiang but only 6.2 percent in Jiangsu.

percent in Jiangsu. (In Jiangsu, the private sector has developed faster since 1995—the period beyond our dataset—because of the large-scale privatization of TVEs.)

Jiangsu and Zhejiang represent two contrasting development models in China, a phenomenon first noted by Professor Fei Xiaotong, China's father of sociology, in 1986. In Jiangsu, the "Sunan model" prevailed whereby the government played a heavy sponsorship and operating role in enterprise management and supported collectively-owned TVEs rather than, or even to the detriment of, genuinely private firms. The Sunan model was widespread in much of southern Jiangsu but three cities, Wuxi, Suzhou, and Changzhou, are considered to be the progenitors of this model. The other is the Wenzhou model which is characterized by a heavy reliance on private initiatives, a non-interventionist style by the government in the management of firms, and a supportive credit policy stance toward private firms. Wenzhou, a city in southern Zhejiang province, is the best known example of this model (hence the name of the model).[15]

In the 1980s, after Professor Fei had formulated these two models, Chinese economists debated the respective merits of these two models. By now, this debate has been settled in favor of the Wenzhou model. Many TVEs in Jiangsu experienced massive financial losses during the more competitive economic environment of the 1990s, while firms in Wenzhou prospered. The TVEs in Jiangsu have been privatized on a large scale since the mid-1990s.[16] This is not a surprising outcome. Economists have noted the incentive alignment problems among TVEs and their lower efficiency compared with private firms.[17]

The Sunan and Wenzhou models differ on several dimensions. First, government control of firms was far tighter in Jiangsu. In 1985, the Wuxi government adopted the following measures: (1) penalties for skilled workers who left collective TVEs for other jobs, including barring their family members from jobs in TVEs, (2) thorough status checks on the enterprise registration documents and procedures; and (3) limits on managers' pay at three times of the average payroll (Luo 1990, p. 150). Wenzhou favored a far more laissez-faire policy stance and did not exercise this kind of micro-management.

Second, Jiangsu mildly suppressed the development of private firms. The first two aft-mentioned measures were designed explicitly to constrain private firms. The tight labor regulations reduced the

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[15] This paper takes the difference between these two models as given rather than exploring their origins. Jin and Qian (1998) have found evidence that stronger ties with the central government tend to be associated with higher collective to private output ratios. This explanation fits with the Jiangsu/Zhejiang story. Historically, the central government retained stronger ties with Jiangsu than it did with Zhejiang.

[16] For more details, see Oi (1999) and Park and Shen (2000).

[17] Jin and Qian (1998), in a paper explaining the success of the TVEs, nevertheless conclude that TVEs are less efficient than private firms.

availability of quality human capital to the private sector and the strict registration procedures prevented private entrepreneurs from falsely registering their firms as collective firms, a popular mechanism to evade the prohibitions on private firms. Jiangsu wanted to conserve raw materials and energy and to protect TVEs as much as possible from competition for human and financial resources. Private enterprises "are tolerated, but their development has been constrained by limits on loans, restricted access to inputs, and environmental and other regulations" (Svejnar and Woo 1990, p. 80). As a result of this bias, the dominance of the more government-controlled TVEs was overwhelming in Wuxi. In 1985, collective TVEs constituted 36 percent of the total number of industrial non-state firms and contributed 96 percent of the gross value of industrial output. The private sector in the industrial arena was simply inconsequential (Svejnar and Woo 1990, pp. 67-69). Two World Bank economists thus commented Byrd and Lin (1990, p. 25):

> [In Wuxi,] the TVCEs [collective TVEs] are relatively large, many of them use relatively advanced technology, and they compete effectively with state industry. Private enterprises are severely hampered by administrative restrictions, and sizable ones have not emerged.

Contrast this with Wenzhou,[18] as the same World Bank study did. Byrd and Lin (1990, p. 34) characterize the Wenzhou model as follows:

> The famous 'Wenzhou' model is characterized by free development of private enterprises (mostly household undertakings), a thriving financial market based to a large extent on private financial institutions, and extensive commercial relationships with distant parts of China.

The centerpiece of the Wenzhou model was an active informal credit market servicing private enterprises, much of which was not sanctioned by the central government. Despite the dynamism of the private sector, "the state banking system was neither willing or jurisdictionally able to meet the credit needs of the new generation of individual entrepreneurs" (Tsai 2002, pp. 122-3). The informal financing mechanisms include rotating credit associations (*hui*), money houses, and credit cooperatives. The Wenzhou government, rather than curtailing the informal credit facilities, tried to incorporate them into

[18] Much of the autonomy of the Wenzhou owed, in part, to its initial economic insignificance. Wenzhou was a vibrant trading port up through the Republican era, but in the first thirty years of PRC governance its economy stagnated. It was considered high-risk by the central government because of its proximity to Taiwan. In addition, it is difficult to travel to and remote from major Chinese cities. Flanked by mountains on one side and the East China Sea on the other, a 500 km ferry ride from Shanghai was the primary way to get to Wenzhou until a small airport was built there with private funds in 1990. In 1998 a railway was opened from Wenzhou to Jinhua City in Zhejiang province. Because its proportion of arable land was so low (only 0.42 mu per capita vs. 0.65 mu

the formal financial sector. Its reasoning is particularly illuminating of the economic liberalism of Wenzhou—that informal finance should be made official to enhance regulatory supervision and to better meet the rising credit demand from the private sector (Tsai 2002, pp. 157-158).

Foreign ownership and domestic private sector development: Four hypotheses

The oft-documented legal and financial treatments on domestic private firms can affect the ownership structures of foreign affiliates in two ways. One operates on the incentive side: Private entrepreneurs might seek out foreign firms as business partners to access the relatively superior legal protection and regulatory treatment accorded to foreign firms.[19] These incentives should be positively correlated with the extent of constraints on private firms. The other mechanism operates on the capabilities of private firms. Whatever their incentive to form joint ventures with foreign firms, private firms might be constrained in making resource contributions to FDI projects. Credit constraints can lead to greater concessions of equity shares—and to greater foreign ownership—as a way to alleviate their financial constraints or as a result of weaker bargaining power.

We propose four hypotheses (H1 through H4). H1 and H2 test whether or not the general bias in the treatment of private firms vis-à-vis the treatment of TVEs affects foreign ownership. We should observe stronger incentive and capability effects among private firms than among the more privileged TVEs. H3 and H4 are designed to test the hypothesis that there is a difference between Zhejiang and Jiangsu in the strength of the incentive and capability effects. These two effects should be weaker in Zhejiang than in Jiangsu.

H1 states, simply, that those joint ventures partially owned and run by private firms are more foreign owned than the joint ventures partially owned and operated by TVEs. H2 is a further extension of H1 by operationalizing the credit constraints effect. If credit constraints drive private entrepreneurs to seek out foreign firms as sources of finance (i.e., the incentive effect) or to reduce their bargaining power when negotiating with foreign firms (i.e., the capability effect), it should be true, ceteris paribus, that

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per capita for the province as a whole and 1.4 countrywide), it was never a major agricultural center, nor was it known for advanced industrial development.

[19] This incentive is not limited to establishing FIEs. The lack of legal protection created the widespread phenomenon of so-called "red-hat" firms—those private firms that were registered as collective or even state-owned firms in order to access the greater political protection accorded to these firms. But this was not a costless arrangement. Private entrepreneurs had to cede substantial equity shares to the government, sometimes leading to acrimonious conflicts about the true ownership of these firms.

those private firms with a greater demand for capital should value alliances with foreign firms more by ceding more equity shares.

H3 and H4 directly present the tale of the two provinces. H3 states that the effect of H1 and of H2 is either absent or weaker in Zhejiang than in Jiangsu because of the differences in the institutional environment for private firms. All else being equal, foreign ownership in those joint ventures with private firms as partners in Zhejiang should be smaller compared with similar joint ventures in Jiangsu. H4 tests the incentive and capability effect on TVEs and the economy-wide effect of the presence of a strong private sector. The benefits of foreign firms are often conceptualized as the provision of technology and overseas markets and alliances with foreign firms are modeled as being motivated to attain these benefits. Thus to the extent that domestic firms can offer comparable benefits, then the attractions to form alliances with foreign firms are weaker. Or, in the presence of stronger private firms, TVEs can turn to private firms as alternative alliance partners. In Zhejiang the incentive and capability effects should be weaker not only among private firms but also among TVEs. Thus a strong private sector reduces foreign ownership across the board, rather than just foreign ownership of those joint ventures partially owned by private firms.

Empirical tests

Data source

We use a dataset of over 2,100 manufacturing joint ventures located in Zhejiang and Jiangsu. The sample was constructed from the Third Industrial Census conducted in 1996 by the State Statistical Bureau of China.[20] The census covers all the industrial firms that are classified as "independent accounting units" operating in China as of December 31, 1995. (Independent accounting units are roughly equivalent to what would be classified as ongoing legal concerns in a Western economy.)[21] Industrial censuses are conducted every ten years in China, the previous two censuses having been conducted in 1975 and 1985, and they are the most detailed compilation of firm-level information in the country.

For each firm, the dataset contains the following variables: identity of the firm, six-digit graphical location codes, four-digit Standard Industrial Classification code, size, establishment date, registered capital, fixed asset, current asset, sales revenue, assets at year-end, exports, and profits. Most important for our purpose, the dataset contains some administrative information about the Chinese shareholder firms

[20] The dataset is from All China Marketing Research Co. Ltd. (1999).

[21] The FDI section of the census data includes all FDI firms except extremely small ones. In total, there are 58,547 firms.

of the joint ventures. This information enables us to test the effect of private ownership on the foreign ownership of joint ventures.

In this paper, we only analyze manufacturing firms. The most important reason is that the Chinese government has imposed onerous restrictions on FDI in the natural resource and public utility sectors—the two other industrial sectors. Focusing only on manufacturing firms imposes an implicit control on the government's FDI policies.

We have chosen to present results only for those FIEs established during the 1992-95 period. This is mainly dictated by our need to demonstrate the effect of firm-level dynamics rather than the effect of government policies on the patterns of foreign ownership. Beginning in 1992, the Chinese government moved to substantially liberalize the FDI regime. An important component of the FDI liberalization program was to allow firms and local governments more decision-making power over FDI entry forms and the ownership structures of joint ventures. Focusing on this period thus allows us to demonstrate the effect of firm-level treatments better than if we were to examine the entire reform period (1978-95). In any event, the results presented below are not substantially different from those obtained from the full sample.

We include only small firms.[22] There are two reasons for this. First, 95 percent of the firms surviving the aforementioned criteria are small firms and in order to avoid extreme values, we exclude large and medium ones. (The results are not substantially different whether or not the larger firms are included.) The more important substantive reason has to do with the need to control for the business strategies of the firms in our regressions; as a number of scholars have noted, the strategic considerations also drive the ownership preferences of foreign investors (Hennart 1988). Because we cannot observe the business strategy of these firms directly, we want to limit our sample to those firms that are in similar price-taking market positions and for which strategic options are not discretionary. Small firms command less market power because of their low product differentiation, insignificant scale economies, and low R&D expenditures.

The analytical focus on the bargaining dynamics between foreign and Chinese firms in setting up joint ventures requires the presence of a Chinese shareholder. For this reason, the analysis is limited to joint ventures that are owned jointly by foreign and domestic firms. Wholly foreign-owned enterprises are excluded from our analysis. The definitions and summary statistics of the major variables are listed in Table 2.

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[22] Firm size is based on initial fixed asset investment in production or production capacity. Chinese firms are divided into the following categories: Huge, Large I, Large II, Medium I, Medium II, and Small.

Table 2 Descriptive statistics of small FDI firms established between 1992-1995

Variable	Definition	Mean	Std Dev	Min	Max	Obs
FEQSH	Foreign registered capital/ total registered capital	0.412	0.209	0	1	2188
PRIVATE	Dummy for private ownership of Chinese venture partner			0	1(342)	2227
EMP	Number of employees	120.2	127	1	1508	2227
SALES	Sales (RMB 1,000)	12549	25602	0	444271	2189
ASSET	Asset at year-end (RMB 1,000)	12851	21772	196	336084	2189
EXPORT	Exports (RMB 1,000R)	4721	15371	0	404732	2189
EXPSH	Exports/Sales ratio of joint ventures	0.31	0.42	0	1	2178
OPEN91	Trade/GDP ratio in 1991	0.176	0.075	0.02	0.291	2227
HTM	Dummy variable for investment from firms based in Hong Kong, Macao, or Taiwan			0	1(1085)	2227
CJV	Contractual joint venture			0	1(72)	2227
ZHEJIANG	Dummy variable for firms located in Zhejiang province			0	1(923)	2227
NSFAI94	Non-state share of fixed asset investment in 1994	0.232	0.085	0.06	0.37	2227
POPT94	Private share of output in 1994					2227
CREGCAP	Chinese registered capital/ employment/1,000	0.041	0.165	0	7.205	2227
ASTSAL	Ratio of assets over sales	9.433	198.6	0,034	8906	2178
JPN	Dummy variable for Japanese joint-venture partners			0	1(197)	644
USA	Dummy variable for American joint-venture partners.			0	1(175)	644

Variable construction

1) Dependent variable

We use the foreign ownership of FIEs as a measure of the bargaining power between foreign and domestic firms over the establishment of joint ventures. All else being equal, the larger the foreign ownership in a given joint venture, the stronger the FDI incentives or the weaker the bargaining power on the part of Chinese joint-venture shareholders. Although foreign ownership is an imperfect measure of the

bargaining dynamics, it is a popular measure in the international business literature. The advantage of this variable is its relative availability and uniformity across different firms.[23]

The foreign equity share (FEQSH) is derived by taking the ratio of the foreign equity capital to the total equity capital in a joint venture. Foreign firms here encompass firms based in Hong Kong, Macao, Taiwan, as well as other foreign countries. The foreign equity capital and the total equity capital refer to their book value at the time of the *establishment* of the joint venture rather than at the time the census was taken in 1996. The census also contains information on shareholder equity value at the time of the census.[24] However, this is an inferior measure because our interest is to explore the constraints on Chinese shareholding firms at the time of the negotiation over the formation of the joint venture. Focusing on the equity structure at the time of establishment—referred to as registered capital in the census—minimizes the confounding influences of the performance of the firm subsequent to the formation of the joint venture.

In our sample, the average foreign equity share is 41.1 percent, with a standard deviation 20.9 percent. In Zhejiang, the average foreign equity share is 38.2 percent, which is significantly lower than Jiangsu's 43.3 percent, with a t-ratio of 5.75. As we will show in the empirical section, the difference between the two provinces is still significant conditional on multiple covariates.

2) Explanatory variables

Private ownership of the Chinese joint-venture partner. Fortunately for us, apart from the asset, employment and export data, the FIE database contains some information on the administrative affiliation and ownership characteristics of the *Chinese* shareholding firms in these FIEs. The availability of the latter information makes it possible to relate the patterns of foreign ownership to the administrative and ownership characteristics of the Chinese firms. The differences in the administrative and ownership characteristics of the Chinese firms are used as a proxy measure for the legal and financial treatments of private firms and TVEs. The assumption is that a private firm receives inferior treatment compared with a TVE in China overall, with the important exception of Zhejiang.

The FIE database classifies all firms as belonging to one of six categories in the administrative hierarchy: central government, provincial governments, prefectures, counties, neighborhood committees

[23] For a number of applications using foreign equity ownership to test the bargaining dynamics between foreign and domestic firms, see Krobin (1987) and Gomes-Casseres (1990). See Pan (1996) for an application to the Chinese data.

[24] The shareholder equity values encompass the carryover losses from previous years. For this reason, many of the shareholder equity values are negative.

(in the urban areas), townships, and villages (in the rural areas). The FIE database has a seventh category, which is denoted as "others." Following Huang's (2003) classification scheme, those firms in the "others" category are classified as private firms in this paper.

We limit our sample to two types of joint ventures—those partially owned by private firms and those partially owned by TVEs. Comparing these two categories of firms has a number of advantages over including firms of all ownership categories. One is that the ownership classification of TVEs is straightforward in the census dataset compared with that of SOEs.[25] Another reason is that TVEs and private firms are among the most efficient firms in China. Comparing them has the advantage of controlling for some, although not all, performance differences among firms while highlighting their well-documented differences in financial and legal treatments.

We created a dummy variable, PRIVATE, by assigning a value of one to those joint ventures with private ownership of Chinese joint-venture partners and zero to those joint ventures partially owned by TVEs. Many of the joint ventures in the sample are partially owned by TVEs. Of the maximum 2,227 observations, 342 joint ventures have a private Chinese joint-venture partner. Of these 342 firms, 236 are located in Zhejiang and the rest are in Jiangsu. H1 suggests that private firms should value foreign equity financing more than other domestic firms in order to access the legal protection accorded to foreign firms or to alleviate credit constraints. Thus, ceteris paribus, PRIVATE should be positively correlated with FEQSH.

To operationalize H2, we created a variable called Chinese registered capital per employee (CREGCAP), which is given by the ratio of the Chinese registered capital to the number of employees. Given similar firm size and similar industry positions, an initial lower capital/labor ratio should induce a higher demand for foreign capital and thus should be negatively correlated with foreign ownership. We create an interaction variable between CREGCAP and PRIVATE to see if PRIVATE affects the coefficient of this term. All else being equal, due to their weaker bargaining power, private entrepreneurs should cede more equity at a given level of CREGCAP. The CREGCAP*PRIVATE term should be positively correlated with FEQSH.

The essence of the tale of two provinces is that foreign ownership patterns should systematically differ between Zhejiang and Jiangsu. The size of the PRIVATE coefficient or even its sign should be

[25] The reason is that the census provides more information on administrative affiliation than on ownership of firms. Each firm is identified as having an administrative affiliation, i.e., the levels of government to which a firm is subordinate. Except for the TVEs the ownership types of other firms are not clearly identified. This creates an ambiguity. For example, whereas a firm subordinate to a county government can be a SOE, it can also be a collective enterprise.

conditional on the location of the joint venture. In all our regressions, we use the provincial dummy, ZHEJIANG, to proxy for a more liberal institutional environment for domestic private firms. We also create an interaction term between ZHEJIANG and PRIVATE to test H3 and H4.

Alternative measures of the private sector. It is possible that ZHEJIANG may be too blunt in that it can incorporate other differences between Zhejiang and Jiangsu not connected with the institutional environment for private firms. To remedy this, we have also devised two alternative measures of the private sector. One is the private firms' share of the gross industrial output in 1994 (POPT94); the second is the share of fixed asset investments by the non-state firms in 1994 (NSFAI94).[26] The larger values of POPT94 and NSFAI94 indicate a larger private sector or a more liberal institutional environment for private firms.[27] Both POPT94 and NSFAI94 are based on data at the city level. Substituting them for ZHEJIANG would thus allow the institutional environments to vary at the subprovincial level. This can be a more accurate measure of the institutional environment than ZHEJIANG.

3) Control variables

Inter-industry differences. Previous research suggests that foreign ownership tends to differ systematically depending on the industry characteristics. Foreign ownership is more prevalent in those industries with scale economies, R&D content, heavy advertising expenditures, etc. The census does not have data on these industry characteristics so we chose to control for them by including 370 industry dummies. The industry dummies are constructed at a disaggregated level—the four-digit Chinese Standard Industrial Classification Code. This detailed industry disaggregation can serve to control for many of the industry characteristics that are theoretically relevant to determining foreign ownership.

Other firm-level factors. Existing research suggests that a number of firm-level factors also influence the equity structure of joint ventures. For example, overseas market controls on the part of foreign firms are commonly viewed as increasing the bargaining power of foreign firms. Other researchers have suggested that firms of different nationalities have different ownership preferences. Because they are smaller and they need more resource contributions from the local partners, Asian firms

[26] Non-state firms here encompass both collective and private firms and thus NSFAI94 is a measure of treatment of non-state firms compared with that of SOEs.

[27] In this paper, we use private sector development and institutional development interchangeably. This is acceptable because, as shown in Table 1, the two provinces started out in an almost identical position in terms of private sector development. We thus attribute the subsequent differences in private sector development to differences in their institutional environments.

are often viewed as more likely to accept a minority ownership structure than American firms, which often demand majority controls.

We use the ratio of export value over sales revenue to indicate a foreign firm's controls of overseas markets (EXPSH). We created a dummy variable, HTM, and set it to 1 if the investment is from Hong Kong, Macao, or Taiwan. We also created dummies to indicate Japanese firms (JPN) or U.S. firms (USA). We devised a dummy variable, CJV, for cooperative joint ventures, which are a looser form of alliances with foreign firms, to control for the possibility that ZHEJIANG or PRIVATE may capture some of the dynamics associated with different forms of joint ventures. We use one of the three measures to control for the operating scale of the firm: the logarithm form of the employment (EMP), the assets (ASSET) at the year-end and the sales revenue (SALE).

Economic openness. We need to disentangle the effect on foreign ownership arising from the legal and financial treatment of private firms from the effect arising from the policy openness of the host regions. Both influence the equity structures of the joint ventures but via very different mechanisms. Policy openness permits or constrains the ability of foreign firms to structure an equity arrangement consistent with their own preferences and thus it operates on the supply side of the FDI equation. Legal and financial treatments of private firms, however, operate on the demand side.

To demonstrate the demand-side influences, the supply-side influences need to be controlled for. We use the ratio of foreign trade over GDP—at the city-level data for 1991—to measure the openness of a region (OPEN91). In addition, we control for the time trend and other unobserved policy interventions by including establishment year dummies. Focusing on the 1992-1995 period also helps control for the FDI policies as the FDI policies during this period were substantially more liberal than those in the 1980s.

One potential criticism is that our specification suffers from a reverse causality problem. One can argue that the effect attributed to ZHEJIANG is in fact caused by foreign ownership. The logic is that Zhejiang has created a more liberal institutional environment for domestic private firms in order to increase investment levels precisely because foreign firms have not invested in the province on a large scale. To the extent that FDI inflows are correlated positively with FEQSH the observed FEQSH is driving the institutional and policy treatments of the private sector rather than the other way around.

Including OPEN91 and limiting the sample to the 1992-1995 period help alleviate this problem by equalizing the policy openness of the two provinces, although it does not completely address the problem. A more satisfactory answer is that our specification is based firmly on historical grounds. As mentioned earlier, Professor Fei noted the substantial policy differences between Jiangsu and Zhejiang as early as 1986, at a time when the FDI flows were miniscule portions of capital formation. (In fact, Zhejiang was then leading Jiangsu in FDI absorption. In 1985, FDI accounted for 0.2 percent of total fixed asset investment in Jiangsu and 0.5 percent in Zhejiang.)

Findings

Our results are generated by OLS regressions with robust standard errors and by the two-limit Tobit regressions. The two methodologies yield similar findings; for presentational brevity, we will report the findings generated by the OLS regressions. We believe that the OLS regressions are an acceptable methodology here since the foreign equity shares of the joint ventures in our dataset do not contain many zeros and ones. (For unknown reasons, some of the observations for FEQSH are zero. We ran regressions without these observations and the results are unaltered.) Nevertheless, in Table 6, we have presented the findings generated by the two-limit Tobit regressions to show that our findings are robust to the deployment of different statistical methods.

1) H1 and H2: The effect of the legal and financial treatment of private firms

The results of testing H1 are reported in Table 3. Under Column 1, the PRIVATE term is positive and statistically significant at the 10 percent level after controlling for a number of firm-level attributes, establishment years, industry characteristics, and policy openness. This result is compatible with H1, which postulates that private firms may command less bargaining power vis-à-vis foreign firms when negotiating the equity structures of joint ventures compared with TVEs. On average, for a joint venture situated similarly economically (i.e., after controlling for firm size, export orientation, establishment years, industry characteristics, etc.), Chinese private shareholders hold 2.9 percent less equity as compared with a typical TVE. Columns 2 and 3 show that the statistically positive finding on PRIVATE does not change if we use other economic controls, i.e., substituting EMP for ASSET and SALE, respectively. Column 5 utilizes the entire dataset, covering the period from 1979 to 1995 rather than restricting the sample to the 1992-1995 period. The coefficients of PRIVATE are quite stable throughout all these specifications.

Table 3 Foreign Equity Shares and Private Ownership of the Chinese Joint-Venture Partner: Testing H1(Robust Standard Error OLS Regressions)

	(1)	(2)	(3)	(4)	(5)
	H1a	H1b	H1c	H1d	H1e
Institutional variables:					
PRIVATE	0.029*	0.035**	0.035**	0.081***	0.035***
	(0.015)	(0.015)	(0.015)	(0.029)	(0.013)
ZHEJIANG	-0.066***	-0.063***	-0.062***	-0.053***	-0.060***
	(0.011)	(0.011)	(0.011)	(0.012)	(0.009)
ZHEJIANG*PRIVATE				-0.077**	
				(0.034)	
Control variables:					
Log (EMP)	-0.024***			-0.024***	-0.025***
	(0.006)			(0.006)	(0.005)
Log (ASSET)		0.007			
		(0.006)			
Log (SALE)			-0.008**		
			(0.004)		
EXPSH	0.045***	0.035***	0.043***	0.044***	0.032***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.011)
OPEN91	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HTM	-0.010	-0.010	-0.011	-0.009	-0.014
	(0.010)	(0.010)	(0.010)	(0.010)	(0.008)
CJV	0.121***	0.131***	0.132***	0.120***	0.118***
	(0.036)	(0.036)	(0.036)	(0.036)	(0.030)
Establishment years	Yes	Yes	Yes	Yes	Yes
4-digit SIC controls	Yes	Yes	Yes	Yes	Yes
Sample period	1992-95	1992-95	1992-95	1992-95	1979-1995
Observations	2178	2178	2178	2178	2869
R-squared	0.23	0.22	0.22	0.23	0.21

Robust standard errors in parentheses. The dependent variable is FEQSH (=foreign registered capital divided by total equity capital).
* significant at 10%; ** significant at 5%; *** significant at 1%

Although we use firm-level economic characteristics as controls in this paper rather than as variables of our central analytical interest, it is worth emphasizing that the results we obtained from our regressions on these control variables are quite consistent with those reported in the FDI literature. For example, previous theoretical and empirical research shows that more export-oriented firms tend to be more foreign-controlled. Our analysis produces a similar finding in that EXPSH (the export/sale ratios) is positive and statistically significant at the 1 percent level. Research on firms based in Hong Kong has shown that these firms are more ready to accept minority equity stakes when investing abroad (due mainly to their own small size). This result is confirmed by the consistently negative coefficients associated with the HTM term (although lacking statistical significance). The fact that these findings are

consistent with previous research on the economic determinants of foreign equity structures lends some credence to the way we have specified our regressions.

H2 postulates that foreign firms claim greater ownership controls over those joint ventures with private firms as shareholders because private firms lack bargaining power. We introduce the variable, "Chinese registered capital per employee" or CREGCAP, to demonstrate this effect. CREGCAP can be interpreted as a measure of the capital demand on the part of the Chinese firms seeking to establish joint ventures with foreign firms. All else being equal, the initially financially better-endowed firms should have a lower demand for forming joint ventures as a source of capital. (For these firms, joint ventures may offer non-financial benefits such as technology or market outlets.) By this logic, CREGCAP ought to be negatively correlated with FEQSH but this effect varies between TVEs and private firms. Given their greater financial and other constraints, the same CREGCAP translates into a smaller bargaining power for private firms. An interaction term between CREGCAP and PRIVATE ought to be positively correlated with FEQSH.

Columns 1 and 2 of Table 4 bear out this hypothesis. CREGCAP is found to be negative and statistically significant at the 1 percent level, lending support to the notion that better endowed Chinese firms could negotiate an equity structure more in their favor. The term, CREGCAP*PRIVATE, however, is positive and statistically significant. These two findings taken together imply that an increase in CREGCAP of RMB 1,000 (per employee) translates into a 7.2 percent reduction of foreign equity for TVEs but only 0.02 percent for private firms (-0.721+0.695), according to the specification of Column 1 of Table 4.

Table 4 Tale of Two Provinces: Foreign Equity Shares and Policy toward the Private Sectors: Testing H2 and H3

	(1)	(2)	(3)	(4)	(5)
	H2a	H2b	H2c	H3a	H3b
Institutional variables:					
PRIVATE	0.002	0.058*	0.081***	0.062*	-0.019
	(0.015)	(0.030)	(0.029)	(0.036)	(0.017)
ZHEJIANG	-0.063***	-0.048***	-0.052***		
	(0.011)	(0.012)	(0.012)		
ZHEJIANG*PRIVATE		-0.084**	-0.081**		
		(0.034)	(0.034)		
CREGCAP	-0.721***	-0.729***		-0.748***	-0.738***
	(0.122)	(0.121)		(0.122)	(0.124)
CREGCAP*PRIVATE	0.695***	0.705***		0.725***	0.708***
	(0.120)	(0.120)		(0.121)	(0.122)
ASTSAL			-0.000		
			(0.000)		
ASTAL*PRIVATE			0.000*		
			(0.000)		
NSFAI94				-0.166**	
				(0.073)	
NSFAI94*PRIVATE				-0.291**	
				(0.124)	
POPT94					-5.031***
					(1.407)
POPT94*PRIVATE					2.149
					(4.912)
Control variables:					
Log (EMP)	-0.038***	-0.037***	-0.024***	-0.034***	-0.038***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
EXPSH	0.044***	0.042***	0.045***	0.042***	0.046***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
OPEN91	0.000	0.000**	0.000	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HTM	-0.010	-0.009	-0.009	-0.009	-0.010
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
CJV	0.116***	0.114***	0.122***	0.118***	0.119***
	(0.035)	(0.035)	(0.036)	(0.035)	(0.036)
Establishment year	Yes	Yes	Yes	Yes	Yes
4-digit SIC controls	Yes	Yes	Yes	Yes	Yes
Observations	2178	2178	2178	2178	2178
R-squared	0.25	0.26	0.23	0.25	0.24

Robust standard errors in parentheses. The dependent variable is FEQSH (=foreign registered capital divided by total equity capital).
* significant at 10%; ** significant at 5%; *** significant at 1%

Another way to test the credit constraint hypothesis is to examine the foreign ownership of those capital-intensive joint ventures with private entrepreneurs as shareholders. If credit constraints are truly binding, they should reduce the bargaining power of private firms in capital-intensive industries even more because such firms would have a greater demand for financial resources. To this end, we created the variable ASTSAL, which is the ratio of assets over sales. The higher the ratio, i.e., the more assets required to generate one unit of sales, the more capital-intensive the production is. The results are presented in Column 3 of Table 4. The ASTSAL term itself is not significant but ASTSAL*PRIVATE is positive and statistically significant at the 10 percent level. This is not a strong result, possibly due to the fact that industry dummies have already captured all the inter-industry differences in capital intensity, leaving ASTSAL to capture the smaller inter-firm differences in capital intensity. Nevertheless, the results on CCREGCAP and ASTSAL are consistent with each other and are broadly consistent with the predicted effects of the credit constraints on FEQSH.

We do not have any direct measures of legal constraints but it should be noted that out of the five specifications in Table 4 that incorporate some measures of credit constraints, three coefficients of PRIVATE are positive and statistically significant at conventional levels. This result can be interpreted as implying that PRIVATE may incorporate those forms of discrimination not captured by CREGCAP*PRIVATE or ASTSAL*PRIVATE. Legal discrimination is a plausible candidate, although not necessarily an exhaustive or exclusive one.

The relatively ambiguous findings on PRIVATE—that it is insignificant in a number of specifications—require an exploration. Once the specifications incorporate a ZHEJIANG*PRIVATE term (in Column 4 of Table 3 and Columns 2 and 3 of Table 4), PRIVATE becomes highly significant, at the 1 percent level, and the sign remains positive. This suggests that the effect of PRIVATE is truly different between Zhejiang and Jiangsu. In Zhejiang, private firms seem to command greater bargaining power compared with TVEs, as evidenced by the negative and statistically significant ZHEJIANG*PRIVATE term. But in Jiangsu, the effect of PRIVATE pulls in the other direction. This explains the ambiguous findings on PRIVATE: when PRIVATE incorporates the two opposite effects between Jiangsu and Zhejiang, it can be insignificant. However, when the ZHEJIANG*PRIVATE term is included, PRIVATE only reflects the dynamics in Jiangsu and thus is significant and positive.

2) H3 and H4: A tale of two provinces

The last observation leads to our tale of two provinces, the topic of this paper. The regressions shown in Column 4 of Table 3 and Columns 2 and 3 of Table 4 incorporate an interaction term between ZHEJIANG and PRIVATE. This term is consistently negative and statistically significant at least at the 5 percent level. This lends support to H3 that foreign ownership patterns of joint ventures differ between

Jiangsu and Zhejiang, conditional on the strength of the private sector. In Zhejiang, the foreign ownership of joint ventures with private shareholders is, on average, between 5 and 12 percentage points less than that of similar joint ventures in Jiangsu after controlling for other covariates.

So far, we have used ZHEJIANG as a proxy for a relatively benign treatment of private businesses. As indicated by the consistently negative and statistically significant ZHEJIANG term even after incorporating the ZHEJIANG*PRIVATE term in the regression, ZHEJIANG can be a blunt measure in that it may incorporate other effects tangentially connected to private sector treatments. To remedy this problem, we have devised two alternative variables to measure the private sector treatment. One is NSFAI94, which is the non-state share of total fixed asset investments in 1994; the other variable is the share of private firms in industrial output value in 1994, or POPT94. Both of these variables are at the city level.

Under Columns 4 and 5 of Table 4, we substitute ZHEJIANG with these two variables, thus allowing the private sector treatments to vary among cities in Jiangsu and Zhejiang rather than just between Zhejiang and Jiangsu. To demonstrate the effect on the bargaining power of the private firms, we created two interaction variables, NSFAI94*PRIVATE and POPT94*PRIVATE. The auxiliary H3 postulates that a more competitive private sector ought to reduce foreign ownership and that a private firm located in a region with a strong private sector ought to be endowed with greater bargaining power. This hypothesis received partial support from the regression analysis. Under Columns 4 and 5, both NSFAI94 and POPT94 were negative and statistically significant at the conventional levels. However, only NSFAI94*PRIVATE reached a statistically significant level and acquired the right sign. POPT94*PRIVATE has the wrong sign and is statistically insignificant.

The lack of statistical significance of this interaction term could be caused by the strong collinearity between POPT94 and POPT94*PRIVATE. The POPT94 for many cities in Jiangsu is zero or near zero and thus it can correlate perfectly when POPT94*PRIVATE is also zero. (The simple two-way correlation between these two variables is 0.996.) It is worth stressing here that POPT94 is a very narrow measure of private sector output. It only includes the output of those firms truly controlled by private entrepreneurs, excluding firms that have mixed private and public ownership. In Jiangsu, these narrowly private firms were very small as of the mid-1990s, accounting for just 6 percent of industrial output value for the province as a whole (in contrast to 34.4 percent in Zhejiang).

Another possibility is that POPT94 is not a policy variable but it more accurately tracks the economic importance of the private sector. Having a strong private sector has two effects on foreign ownership. One is that it increases the bargaining power of private firms when negotiating with foreign firms. The other is that it increases the bargaining power of TVEs when negotiating with foreign firms. If

POPT94 produces a proportional increase in the bargaining power of both TVEs and private firms, then one can get an insignificant POPT94*PRIVATE term.

Table 5 Tale of Two Provinces: Foreign Equity Shares in TVEs

	(1)	(2)	(3)	(4)	(5)
	H4a	H4b	H4c	H4d	H4e
ZHEJIANG	-0.051***				
	(0.012)				
CREGCAP	-0.749***	-0.776***	-0.754***	-0.763***	-0.762***
	(0.132)	(0.133)	(0.131)	(0.134)	(0.134)
NSFAI94		-0.161**	-0.031		
		(0.074)	(0.085)		
NSFAI94*ZHEJIANG			-0.170***		
			(0.048)		
POPT94				-5.203***	6.845
				(1.446)	(16.945)
POPT94*ZHEJIANG					-11.965
					(16.798)
Log (EMP)	-0.040***	-0.038***	-0.039***	-0.040***	-0.040***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
EXPSH	0.039***	0.038***	0.038***	0.040***	0.040***
	(0.013)	(0.014)	(0.013)	(0.014)	(0.014)
OPEN91	0.000**	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HTM	-0.009	-0.007	-0.008	-0.011	-0.011
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
CJV	0.139***	0.142***	0.139***	0.141***	0.142***
	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
Establishment Years	Yes	Yes	Yes	Yes	Yes
4-digit SIC controls	Yes	Yes	Yes	Yes	Yes
Observations	1845	1845	1845	1845	1845
R-squared	0.28	0.28	0.28	0.28	0.28

Robust standard errors in parentheses. The dependent variable is FEQSH (=foreign registered capital divided by total equity capital).
* significant at 10%; ** significant at 5%; *** significant at 1%

Testing whether a strong private sector is associated with stronger bargaining power of TVEs is our H4. Table 5 examines H4 in five different ways (H4a through H4e). We exclude those joint ventures with private shareholders and focus only on those with TVE shareholders. In our sample there are 1,845 joint ventures with TVE shareholders in these two provinces. There is considerable support for H4. ZHEJIANG is negative and statistically significant at the 1 percent level, ceteris paribus (H4a). NSFAI94 and POPT94 themselves are negative and statistically significant at the conventional levels (H4b and H4d). Results on NSFAI94* ZHEJIANG and POPT94* ZHEJIANG are mixed, similar to the results reported previously. NSFAI94* ZHEJIANG is statistically significant and is negative but POPT94*

PRIVATE failed to obtain the statistical significance, although it is still negative. The perfect collinearity again plagues this exercise.

3) Robustness checks

In this section, we discuss specifications designed to test the robustness of those findings reported in the previous section. All the findings are reported in Table 6. We first reproduce the regression testing H1d—reported in Table 3—under Column 1 of Table 6. This is our basic regression upon which we base our statistical checks. Column 2 reports findings on a regression on the FDI firms of all sizes, rather than just the small-sized firms reported previously. The findings on the institutional variables—PRIVATE, ZHEJIANG, and ZHEJIANG*PRIVATE—are identical to those on the small-sized firms only.

Table 6 Robustness Tests Based on H1d

	(1)	(2)	(3)	(4)	(5)	(6)
	Based on H1d	Firms of all sizes	Tobit regression	1995 only	Nationality of firms included	Wuxi and Wenzhou only
Institutional variables:						
PRIVATE	0.081***	0.078***	0.083***	0.172	0.071*	
	(0.029)	(0.028)	(0.023)	(0.127)	(0.029)	
ZHEJIANG	-0.053***	-0.053***	-0.053***	-0.044	-0.053**	
	(0.012)	(0.012)	(0.011)	(0.068)	(0.012)	
ZHEJIANG*PRIVATE	-0.077**	-0.075**	-0.081***	-0.210	-0.068**	
	(0.034)	(0.032)	(0.028)	(0.174)	(0.033)	
WENZHOU						-0.070*
						(0.037)
Control variables:						
Log (EMP)	-0.024***	-0.023***	-0.024***	0.010	-0.025**	-0.023
	(0.006)	(0.006)	(0.005)	(0.033)	(0.013)	(0.025)
EXPSH	0.044***	0.044***	0.044***	0.070	0.036*	0.088*
	(0.013)	(0.013)	(0.012)	(0.070)	(0.013)	(0.046)
OPEN91	0.000	0.000	0.000*	0.000	0.000	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
HTM	-0.009	-0.010	-0.009	-0.057	0.044	-0.008
	(0.010)	(0.010)	(0.009)	(0.058)	(0.011)	(0.043)
CJV	0.120***	0.120***	0.131***	0.018	0.12*	-0.005
	(0.036)	(0.035)	(0.026)	(0.125)	(0.036)	(0.061)
USA					-0.003	
					(0.02)	
JPN					0.077*	
					(0.02)	
Tobit Regression	No	No	Yes	No	No	No
4-digit SIC controls	Yes	Yes	Yes	Yes	Yes	2-digit
Nationality controls	No	No	No	No	Yes	No
Sample Period	1992-95	1992-95	1992-95	1995	1992-95	1992-95
Establishment year	Yes	Yes	Yes	-	Yes	Yes
Size	Small	All	Small	Small	Small	Small
Only Wenzhou/Wuxi	No	No	No	No	No	Yes
Only TVEs	No	No	No	No	No	Yes
Observations	2178	2227	2178	260	2178	190
R-squared	0.23	0.23	-	0.64	0.24	0.47

Standard errors in parentheses. The dependent variable is FEQSH (=foreign registered capital divided by total equity capital).
*: significant at 10%; **: significant at 5%; ***: significant at 1%.

We reported results on the basis of OLS because our joint venture dataset does not contain big clusters of zero foreign equity shares and full foreign ownership. However, we do have 49 left-censored observations with foreign equity shares equal to zero and 42 right-censored observations with foreign equity shares equal to one. Therefore, in the next test, we do a simple two-limit Tobit regression to test whether these observations make any difference. The estimates are fairly similar to the results based on OLS, as shown in column 3 of Table 6. Since Tobit estimates are the marginal impacts of the latent model, in order to compare with the OLS results, we need to scale down the coefficient by the probability of not censoring, which is about 97 percent in our dataset. The adjusted estimates are almost identical to the OLS regression.

The firms in our dataset were all established between 1992 and 1995. Since the objective of this analysis is to understand the equity structure at the beginning of the formation of a joint venture, we run the regression according to the basic specification on those firms established in 1995 only and report the estimates in Column 4 of Table 6. By doing this, we are looking at those firms with the conditions closest to their initial circumstances. However, since these firms only account for about 12 percent of the total sample, the estimates are not as precise as those from the large sample. The signs of the key variables are all consistent.

We added nationality dummies to control for the possibility that FEQSH may reflect the difference in the weights of the country composition of FDI between Jiangsu and Zhejiang. (For example, if foreign firms with a strong preference for majority control systematically favor Jiangsu, our ZHEJIANG coefficient may capture this effect.) In all the findings we have reported, we have included a HTM term, a dummy for firms based in Hong Kong, Taiwan, or Macao. In this section, we include two additional nationality dummy variables, JPN and USA, denoting Japanese firms and American firms respectively. Our institutional findings remain unaffected by the inclusion of these two additional variables, as shown under Column 5 of Table 6.

As discussed in the introductory section, the two cities, Wuxi and Wenzhou, represent the polar images of the two contrasting development models between Jiangsu and Zhejiang. Thus the province-level effects should also be present at the city level. We thus run a regression on firms based in Wuxi and Wenzhou only. However, we are only able to test H4 and to examine the economy-wide effect associated with a more liberal institutional environment because there are too few joint ventures with private shareholders in these two cities (six in Wuxi and 27 Wenzhou). So we focus on joint ventures with TVEs as Chinese shareholders. Joint ventures in Wenzhou should be less foreign-owned than those in Wuxi. The results are presented under Column 6 of Table 6 and are consistent with our expectations. The WENZHOU coefficient is negative and statistically significant at the 1 percent level.

Conclusion

We have found evidence that the institutional environment has a substantial impact on the foreign ownership of joint ventures in two provinces of China, Jiangsu and Zhejiang. Specifically, we find that the legal and financial constraints imposed on the most efficient domestic firms (i.e., private firms) to benefit less efficient domestic firms (i.e., TVEs) may have forced private firms to seek legal protection and financial resources in other ways—including forming alliances with foreign firms. Greater FDI preferences and/or weaker capabilities may have led private entrepreneurs to make more equity concessions to foreign firms in setting up joint ventures. In this paper, we limit ourselves to empirically documenting this phenomenon, but we believe that there are important normative implications associated with our findings.

Apart from its somewhat surprising empirical findings, we believe that our paper can make contributions to the general FDI literature in several ways. One is that we integrate two prominent branches of the FDI literature—one on ownership structures of FDI projects and the other on institutional determinants of FDI flows. We show that institutions also affect ownership structures of FDI projects.

Our second contribution is that we approach the foreign ownership question from the perspective of firms in host countries and in so doing we are able to incorporate more host-country variables than previous studies. A related contribution is that we have a coherent framework that explains a seemingly puzzling result—poor institutions can be correlated with higher foreign ownership—by emphasizing the effect of institutions on the incentives and capabilities of local firms. Good institutions, by making local firms more competitive, may in fact lead to smaller foreign ownership by decreasing FDI preferences of local firms or by increasing their bargaining power (or some combination of both).

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