Fiscal Reforms and Multinational Entry Mode in China

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Abstract

The main purpose of this study is to empirically investigate the impact of political hazards on the entry mode choice of multinational investment. Additionally, this study also investigates the response of a multinational firm to contractual hazards in forming a joint-venture. The empirical analysis demonstrates that multinational firms respond to political hazards by cooperating with local partners to reduce the risks. The fiscal decentralization in China increases the incentive of local governments to maintain economic prosperity and thus reduces political risks facing multinational firms. Therefore, multinational firms located in regions with higher degrees of fiscal decentralization, namely with higher ratios of local government spending or higher retention ratios of local revenue, tend to obtain more shares of joint venture. Regarding contractual hazards, foreign shares of joint-ventures are found to increase with the percentage of machinery and equipment from the source country and the percentage of technicians and managerial personnel from the source country. The estimates are consistent with the theoretical hypothesis, implying that the share of multinational investment in joint-ventures increases with the risks of asset specificity and technology specificity.

Keywords: Fiscal reform; multinational entry mode; political hazard

JEL classification: F23; H73

1   Introduction

Numerous studies have found a positive effect of fiscal decentralization on China's economic growth since the beginning of economic reform and distinguished features of the fiscal relationship between the central government and local governments beneficial to economic growth. For example, Qian and Weingast (1997) note that the literature on fiscal federalism neglects the fundamental problem why governments commit to providing efficient public goods and preserving market incentives. They suggest that the "features of federalism (e.g. decentralization of information and authority) and inter-jurisdictional competition can provide a more credible commitment to securing economic rights and preserve markets." Weingast (1995) explains that the political foundations of markets are essential to the success of markets and that markets and limited government are complementary aspects of economic development and reform. He further contends that federalism underpins the spectacular economic growth in China by providing constraints on expanding governments. Montinola et al. (1995) argue that the Chinese political system provides a partial basis for a special kind of federalism called market-preserving federalism, which includes a division of authority between the central and local governments and gives local governments primary control over economic matters within their jurisdictions. Empirically, Ma (1995) finds that fiscal decentralization has enhanced economic growth in China. Based on province-level panel data during 1970-1993, Lin and Liu (2000) find that fiscal decentralization exerts a significantly positive effect on the growth rate of per capita GDP.[1]

Although numerous studies have examined the effect of fiscal reforms on economic growth in China, studies on the interaction between fiscal reforms and multinational FDI

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[1]Although Zhang and Zou (1998) derive the opposite conclusion that fiscal decentralization is detrimental to economic growth, Jin et al. (1999) suggest that Zhang and Zou (1998)'s finding perhaps results from the failure to control for economy-wide cyclic effects.

are rarely conducted.[2] One of the neglected issues is how and to what extent fiscal decentralization in the past decades affects the entry mode of multinational FDI. Recent studies by Henisz and Williamson (1999) and Henisz (2000) indicate that political hazards associated with political and regulatory environments affect a multinational's choice of entry mode beside contractual hazards associated with the characteristics of transactions. A multinational faces an increasing threat of opportunistic expropriation by the government as political risks increase. Therefore, a joint-venture with local partners could provide a comparative advantage in reducing political risks associated with the host-country government.

Fiscal reforms in China delegate local governments various degrees of control over economic matters within their jurisdictions and thus result in varying political hazards among regions. First, varying fiscal responsibilities of local governments induce local governments to enforce laws or regulations to different extents. Second, local governments may initiate local fiscal incentives such as preferential tax policies toward multinational investment to attract FDI. Third, corrupt practices by local government officials exert additional costs on multinational investment. Therefore, fiscal decentralization in China may create substantial variation in political and regulatory environments for multinational investment.

Although the main purpose of this study is to investigate the impact of political hazards on multinational entry modes, the study on institution-specific effects cannot proceed independently of their transaction-specific counterparts (Williamson, 1996). Beside political hazards, a multinational also faces inherent contractual risks in alliance with joint-venture partners. In discussing the transaction cost economics agenda, Williamson (1996) suggests that "identification, explication and mitigation of contractual hazards – which take many forms and long go unremarked – are central to the exercise." Several categories of contrac-

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[2]Nevertheless, Cheng and Kwan (2000) find local preferential policies create a positive effect in attracting FDI.

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tual hazards have been suggested in the literature (e.g. Williamson, 1985; Gatignon and Anderson, 1988; Oxley, 1997). The most prominent of these is asset specificity. Where "the degree to which an asset can be redeployed to alternative uses and by alternative users without sacrifice of productive value" (Williamson, 1996:59) is limited, the multinational parent faces a risk of ex-post opportunistic recontracting from its local partners. A second category of contractual hazards is the hazard of technological leakage (e.g. Oxley, 1997). A third category is the hazard of joint-venture partners' abuse of brand name and reputation (e.g Gatignon and Anderson, 1988). Since joint-venture contracts are necessarily incomplete, these hazards cannot be reliably safeguarded through contracts. A multinational thus faces the hazard that the present returns on its investment in equipment, technology and brand-name reputation will be devalued or expropriated by the opportunistic behaviors of a joint-venture partner. In order to mitigate the potential for maladaption resulting from contractual incompleteness in a minority-owned joint-venture, the probability of a multinational's choosing a majority-owned investment as a market entry mode thus increases with the level of contractual hazards.

Fiscal decentralization in China affects political and regulatory environments and thus results in varying local political hazards. The main purpose of this study is to inquire the impact of local political hazards on the entry mode choice of multinational investments across China. Alternative measures of fiscal decentralization are provided to empirically investigate the impact of political hazards. The rest of this study is organized as follows. Section 2 illustrates a theoretical framework for investigating the effects of political hazards and contractual hazards on the entry mode choice of multinational investment. Section 3 provides an empirical specification for empirical estimations. It also summarizes the data sources and the measurements of variables for estimations. Section 4 presents and discusses the estimation results. Section 5 then provides concluding remarks.

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2 Multinational Political Hazards in China

2.1 Political Hazards and Multinational Investment

The impacts of political hazards on the economy have been widely investigated. Levy and Spiller (1994) and Henisz (2000) define political hazards as both formal and informal constraints on executive discretion. Acemoglu et al. (2001) use the index from Political Risk Services to proxy for the institutions protecting against risk of expropriation and find that an institution with higher protection is beneficial to economic growth. Furthermore, several studies have investigated the impact of political hazards on the location choice of multinational investment. For example, Mody and Srinivasan (1998) find that political hazards are important for Japanese firms investing abroad but less so for U.S. firms. Wheeler and Mody (1992) also find that political hazards exert a negative but insignificant effect on locational choices in the case of investment in electronics.

Recently, economists began to explore the impact of political hazards on the market entry mode of multinational investment (e.g. Henisz, 2000; Henisz and Williamson, 1999). Host governments pose political hazards to multinational firms either through policy shifts in taxation or regulation, or through outright expropriation. Phillips-Patrick (1992) find that multinational firms facing higher political risks are more likely to form joint-ventures with local firms than other multinational firms. Henisz (2000) also contends that multinational firms will take actions by cooperating with local partners to mitigate risks in response to these potential risks. Regarding the influence of different forms of political hazards, Smarzynska and Wei (2000) investigate the impact of corruption in a host country on a multinational choice of a joint venture versus a wholly-owned subsidiary. Because of corrupt bureaucracy, a local partner is beneficial for foreign investors in reducing costs associated with getting through administrative complexity. Based on a firm-level data set, their empirical results demonstrate that corruption shifts the ownership structure towards

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joint venture.

2.2 Fiscal Reforms in China and Political Hazards

Institutional differences across countries create substantial variation for researchers to explore the implications of different political institutions; thus most of the studies on political hazards are based on cross-country data. Nevertheless, fiscal institutions also differ substantially across regions in each country. Various forms of political hazards are thus associated with different fiscal institutions. For example, a local government can extract revenues from foreign firms by imposing additional taxes or tariffs. Such "creeping expropriation" behaviors of local governments are found worldwide. For example, the newly elected governor in 1994 renegotiated the tax package for Mercedes on the basis that the state was in deep financial trouble after Mercedes built a new automobile plant in Alabama, USA, in 1993 (Janeba, 2002). Fisman and Gatti (2002) also find that larger federal transfers lead to more corruption of state public office based on the state-level data of the U.S.

Fiscal reforms on central-local fiscal relations in China in the past two decades have created significant variation in local fiscal environments for multinational investments. Sun (1999) contends that substantial variation in investment environment exists among regions due to fiscal reforms since 1979. In comparison to other regions, the southeast coastal region, including Guangdong, Fujian and Hainan, were granted special policies by the central government. For example, in the Special Economic Zone (SEZs) located in this region, a special preferential tax rate (15%) rather than a normal tax rate (33%) was applied to foreign investments. However, Sun (1999) does not discuss the relationship between shares of ownership and political hazards, although he finds that multinationals located in the southeast region are more likely to have higher percentages of equity ownership.

Jin et al. (1999) also document variation in fiscal incentives across provinces in China.

For example, the fiscal contracting system implemented between 1980 and 1993 created diverse marginal retention ratios of local government revenue, ranging from 23.54% for Shanghai to 100% for Guangdong in 1987 (e.g. Lin and Liu, 2000). A higher retention rate thus provides a stronger fiscal incentive for local governments to develop local economy. Evidence in Zhang and Zou (1998) also demonstrates that the ratio of per capita local public spending to per capita central public spending ranged from 0.78 for Henan to 3.91 for Tianjin during 1978-1992. This ratio is the most common measurement for fiscal decentralization used in the literature. Since local governments have the authority over their expenditure, a higher ratio of per capita local public spending to per capita central public spending implies a higher degree of fiscal decentralization (see Jin et al., 1999).

Most cross-country studies on political hazards are based on the index composed of the number of independent branches of government with veto power over policy changes, the party composition of the executive and legislative branches, and the extent of preference heterogeneity with each legislative branches (e.g. the index from the *International Country Risk Guide* and the index in Henisz (2000)). In contrast, variation in political hazards across regions in the same country mainly results from fiscal variation in taxation, regulation, and the possible bribery activities of local government officials because outright expropriation by local governments is most likely constrained by the central government. For example, Cheng (2003) finds variation in the extent of bribery conduct across provinces and attributes this difference to increasing fiscal responsibility of local governments. Therefore, compared to the index used in cross-country studies, the proxies for political hazards used in this study are mainly associated with local governments and their fiscal institutions. These proxies are described in more details below in the subsection for the measurements of variable. Nevertheless, compared to cross-country studies, studies based on regional data of the same country could provide additional advantage of controlling for country-level unobservable factors which might cause spurious biases in

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cross-country estimations.

3   Empirical Evidence

3.1   Econometric Specification

This section presents two alternative specifications for empirical estimations. The dependent variable is the foreign share of equity ownership in a joint-venture. A multinational's decision on its ownership share in a joint venture is assumed to be a bivariate choice decision between a majority-owned joint-venture and a minority-owned joint-venture in one model, while the ownership share is a continuous variable in the other. Because the factors leading a multinational to choose contractual joint-venture (CJV) in foreign investment are distinguished from those affecting the decision to establish a subsidiary of equity joint-venture (e.g. Tao and Wang, 1998), foreign enterprises of contractual joint-venture are excluded from the empirical analysis as in Sun (1999).[3]

A multinational entry mode choice between a majority-owned joint-venture and a minority-owned joint-venture is a function of a set of firm-level and region-level characteristics. Therefore, a multinational's decision on its equity share of ownership is specified as the Probit bivariate model of choice between a majority-owned and a minority-owned joint-venture.

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[3]A stylized fact about FDI is that a substantial percentage of foreign direct investment was conducted in CJVs in the early stage of an economic transition as in the case in contemporary China. Tao and Wang (1998) note that the defining feature of contractual joint ventures is the absence of equity shares so that the profits are split according to the revenue shares specified in the contracts. They contend that the possibility of learning the technology from the foreign firm is determined by the local firm's effort and this possibility thus prevents the local firm from violating the contracts in the early stage of cooperation even when contract enforcement is problematic in a developing country.

$$\text{Prob}(S_i = 1) = \alpha_0 + \alpha_1 \mathbf{PH_i} + \alpha_2 \mathbf{CH_i} + \alpha_3 \mathbf{X_i} + \epsilon_i \tag{1}$$

where $\mathbf{PH}$ denotes political hazards; $\mathbf{CH}$ denotes contractual hazards, and $\mathbf{X}$ is a vector of other control variables. Moreover,

$$S_i = \begin{cases} 1 & \text{if foreign share} \geq 50\% \\ 0 & \text{otherwise} \end{cases}$$

Alternatively, the share of foreign ownership is assumed to be a function of a set of firm-level and region-level attributes in a continuous model and thus is specified as:

$$\text{SHARE}_i = \beta_0 + \beta_1 \mathbf{PH_i} + \beta_2 \mathbf{CH_i} + \beta_3 \mathbf{X_i} + \eta_i \tag{2}$$

3.2 Data Sources

The estimations of the above models are based on the cross-section survey data from Chi and Kao (1995) and Pan and Chi (1999). The sampling population of this data set comprises all 29,076 foreign enterprises registered in China before 1993, of which 22,744 were manufactures. The data set is composed of a representative sample of 1,066 randomly selected foreign manufacturers, through a systematic stratified sampling method. The survey provides information of foreign enterprises' source countries, entry modes, ownership shares, industry categories and detailed information of manager perception of investment environments and decisions. Especially, it provides information of foreign investment locations. Therefore, political risks facing each foreign firm can be measured based on the local fiscal statistics from the Chinese governments which are summarized in various studies.[4] Because the survey questions in the data set were not designed for a study on political

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[4]As described below, these fiscal statistics are reported in Huang (1996), Jin et al. (1999), Lin and Liu (2000), Zhang and Zou (1998) and Bahl and Wallich (1992)

hazards and contractual hazards, it should be cautious in interpreting the estimate results based on the responses to the survey questions. Several caveats will be elaborated in discussing the results below.

Table 1 in Appendix B provides the actual amounts of foreign direct investment in China by entry modes, while Table 2 provides the information of source countries of multinational firms in the sample. As shown in Table 3, most of the multinationals registered before 1993 adopted the mode of equity joint venture (EJV), comprising 78% of the sample.

3.3 Variables

The measurements of various sources of political hazards and contractual hazards are explained below.

Political hazards: As noted above, variation in political hazards across China mainly results from fiscal reforms, which consequently cause difference in fiscal policies such as tax policy, preferential policy toward foreign direct investment and bribery practices of local public officials. Thus proxies used to measure the risk of political hazards in this study are based on measures of fiscal decentralization, fiscal incentive, bureaucratic integration and manager perception.[5]

The most common measurement for fiscal decentralization used in the literature is the ratio of per capita local government spending to per capita central government spending (Jin et al., 1999). If a local government has the authority over its expenditure, a higher ratio implies a higher degree of fiscal decentralization. Owing to local government's greater proximity to the inhabitants, more fiscal decentralization makes local governments more responsive to local preferences. It also fosters inter-government competition and creates

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[5]If the tax information for FDI is available, a measure of tax variability based on the variance of tax rates during 1978-1992 can be used to proxy for the political hazards associated with policy uncertainty, especially uncertainty about tax policy.

incentives for local governments to maintain the local prosperity. Therefore, a higher ratio of local government spending implies a less political risk associated with misallocation of local public budget. Alternatively, a lower ratio implies a higher political risk from local governments. The measure of *fiscal centralization*, namely the inverse of the measure of fiscal decentralization, is adopted to proxy for political hazards. In practical implementation, the average of the ratios of per capita central spending to per capita local spending during 1978-1992 from Zhang and Zou (1998) is employed for estimating the effect of political hazards. A higher ratio of fiscal centralization represents less authority of local government over public spending and thus implies a higher risk associated with local public sectors.

A second proxy for political hazards is based on Lin and Liu (2000) and Bahl and Wallich (1992), which defined fiscal decentralization as the marginal retention rate of locally collected budgetary revenue or the average retention rate of locally collected budgetary revenue. In contrast to the ratio of local government spending to central government spending, the fiscal incentive variable measures how local governments are rewarded at the margin from an increment in local tax revenues, which consequently hinges on local economy. For example, Jin et al. (1999) show that stronger fiscal incentives promote faster development of non-state enterprises and more reforms in state-owned enterprises. Lin and Liu (2000) and Fisman and Gatti (2002) suggest that higher retention ratio can exert fiscal discipline on local governments and thus can reduce policy risks. The retention ratio is subtracted from 1 to obtain the remittance ratio of local tax revenue. A higher remittance ratio thus implies higher political hazards associated with less fiscal incentive.

A third proxy for political hazards concerns characteristics of top provincial officials. Huang (1996) defines the index of "bureaucratic integration" based on the career background of the provincial Party Secretaries. The score of bureaucratic integration for a province is 1 if the provincial Party Secretary was promoted from within the same province; the score is 2 if he was moved to the current post from another province; the score is 3 if

he served in the central government before the current appointment, and the score is 4 if he concurrently holds a post in the central government. Provincial officials promoted from within provinces rather than moved from other ministries in the central government are less connected with the central government and thus assigned a lower score of "bureaucratic integration." Hence provincial officials of lower scores are more likely to have better local information and more likely to committed to the local prosperity.

A fourth proxy for political hazards is based on the responses to a survey questions in the Chi and Kao (1995) data set, which asked about manager perception of various managing costs. The relevant survey questions are provided in Appendix A. The costs associated with local governments include local government inefficiency, extra payments to governmental officials and incompleteness of laws and regulations. In general, the responses provide the information of foreign investor perception of political risks more related to local governments. Perception of higher costs suggests higher risks of political hazards from local governments. Nevertheless, whether manager perception of hazards in a given region corresponds to certain observable characteristics of political institutions in that region may be questionable (Henisz, 2000).[6] Furthermore, the subjective measures introduce an ednogeneity problem in the sense that perception of political hazards affects multinational managers' decision on entry mode and location, which consequently influence their perception of political hazards. This endogeneity problem will be further discussed below.

Measures of political hazards are likely to correlate. Correlation between the above four measures is thus provided in Table 4. Table 4 shows that manager perception is not significantly correlated with other three measures. Because manager perception is a subjective measure, the insignificance is likely attributed to the endogeneity of manager perception. Facing higher risks of political hazards, managers of a multinational can take various mea-

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[6]Some of the studies on political hazards instead adopt the responses of manager perception of hazards because of the difficulty in clearly defining and measuring political hazards (?).

sures, including reducing the share in a joint-venture, to mitigate political hazards and managers may consequently perceive a less threat of political hazards. The remittance ratio is positively correlated with the extent of bureaucratic integration, implying that a province with Party Secretary more connected to the central government has a smaller retention ratio and thus a higher remittance ratio. It is consistent with the hypothesis that local officials who are less connected with the central government have stronger incentives to keep revenue for local purposes.

Fiscal centralization is negatively correlated with the remittance ratio and bureaucratic integration, implying that a province with higher per capita local spending has a smaller retention ratio and has Party Secretary more connected to the central government. It is likely that a province with Party Secretary more connected with the central government is provided with more subsidies from the central government and thus has higher local spending ratio because of the connection of Party Secretary with the central government. Therefore, more bureaucratic integration with the central government may reduce fiscal decentralization of a province on one hand, while increase the fiscal resource of a province on the other hand. It could thus cause a mixed effect of bureaucratic integration on political hazards.

Contractual hazards: As noted in the introduction, every joint-venture contract is necessarily incomplete and several categories of contractual hazards have been suggested and tested empirically in the literature (e.g. Williamson, 1985; Oxley, 1997; Henisz, 2000). Among sources of contractual hazards, the most prominent is asset specificity. As noted by Henisz (2000), if property, plant and equipment intensity are high (that is, operating costs are low relative total costs), a wide range of contractual renegotiations favoring the host-country joint-venture partner exist and induce the multinational to accept short of the joint venture. In estimation implementation, the percentage of machinery and equipment from the source country is employed to proxy for the hazards of asset specificity. Alternatively,

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a dummy variable for the decision whether to purchase the plant or to build the plant is used to proxy for the hazards of asset specificity. In contrast to purchasing or building the plant, the foreign partner can choose to rent plants in order to reduce the sunk cost in case of contractual renegotiation. Alternatively, plants can be provided by the host-country joint-venture partner to reduce a foreign investor's contractual hazards.

Oxley (1997) suggests the hazard of technological leakage as another category of contractual hazards. Henisz (2000) notes that the intensity of research and development captures transaction-specific variance in the ability of the multinational to contract for technology. Although direct information of research and development spending is not available in the data set, information of technology source and the number of managers and technicians from the source country can be used to proxy for the multinational's ability to contract for technology.[7]

Facing the above contractual hazards, the multinational firm is exposed to the risks that the present returns on its sunk costs will be devalued or expropriated by a joint-venture partner. Since every join-venture contract is necessarily incomplete and these risks cannot be reliably forbidden through contracts, each of these characteristics of a given transaction increases the potential returns to the opportunistic behavior of the host-country joint-venture partner. In order to mitigate the hazards arising from contractual incompleteness in a minority-owned joint venture, a multinational's likelihood of choosing a majority-owned joint-venture as a market entry mode increases with the level of the above three measures of contractual hazards. The survey questions of the above three

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[7]A third widely discussed hazard is the hazard of partners' free-riding on brand name and reputation (Gatignon and Anderson, 1988). The proxy of advertisement intensity as a percentage of sales can be used to capture the presence of an asset with a value that is difficult to protect contractually. However, the information is not available in the data set and thus this study does not empirically investigate the impact of this hazard.

proxies are provided in Appendix A.

Sociocultural distance between the source and host countries may affect the choice of a multinational's entry mode because sociocultural distance creates enormous information needs and thus high information costs for a multinational. According to Sun (1999), a multinational finds it difficult to transfer home technologies and management techniques to an unfamiliar cultural environment. Furthermore, operating in a foreign culture at a distance increases business uncertainty and is likely to undervalue foreign investment. Both of the above factors thus result in a smaller investment involvement and a smaller equity share in a joint venture. Following Sun (1999), multinationals are categorized into three groups: from Hong Kong, Macao, Singapore and Taiwan, from East Asian countries of Japan and Korean and others.

Additional control variables included in the regressions include industry dummy, the period of entry, the percentage of products sold in domestic markets and the investment amount of joint-venture in establishment. The descriptive statistics of the explanatory variables are listed in Table 5. Table 5 shows that the measure of fiscal centralization, namely the ratio of per capita central spending to per capita local spending, ranges from 0.23 to 1.28; the remittance ratio ranges from 0 to 100%; the score of bureaucratic integration ranges from 1.06 to 3.06, while 8% of managers perceived the risks associated with local governments. As far contractual hazards are concerned, 50.3% of the equipment or machinery were imported from the source countries of the multinationals; 17% of the plant were purchased or built by the joint-venture, while 11.87% of the technicians and managers employed in the joint-venture were from the source country. As for other control variables, 16% of the multinationals invested in the industry of chemical, plastic and rubber products; 8% invested in the industry of minerals and metals; 31% invested in the industry of machinery, electrical and electronic products, while the other 45% invested in the industry of food, beverage, textile, garment and poultry. The multinationals from

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Hong Kong, Macao, Singapore and Taiwan comprise 80% of the sample; those from Japan and Korea comprise 9%, and the remaining 11% are from other countries. The mutlinationals established during 1989-1993 comprise 61% of the sample; those established during 1985-1988 comprise 33%, while the remaining 6% entered China before 1985. The average percentage of a multinational's domestic sales is 44%. The average amount of investment in establishment equals 6.5 million US dollars.

4   Results and Discussion

The estimates based on the Probit model in Eqs. (1) and the OLS model in Eqs. (2) are provided in Table 6 and 7 respectively. The estimations are conducted using four alternative measures of political risks, including fiscal centralization, the remittance ratio, bureaucratic integration and manager perception. The estimates using these measures are provided in columns (1), (2), (3) and (4) of both tables respectively.

Regarding the Probit model of bivarate decision, multinationals investing in regions with higher degrees of fiscal centralization and higher remittance ratios are less likely to choose a majority-owned plant as a market entry mode. These results are consistent with the theoretical hypothesis that multinationals shift the political calculus of the government and reduce the probability of expropriation of assets by reducing their shares of equity control and transfer previously internal functions to host-country partners.

However, the estimates using the measures of bureaucratic integration and manager perception contradict the hypothesis. As noted above, a province with a Party Secretary more connected with the central government is also found to have a higher extent of fiscal decentralization in terms of per capita local spending. Therefore, the score of bureaucratic integration may not capture the potential risks associated with policy uncertainty in taxation or regulation, or corrupt conducts of local governments. In contrast, it may imply

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preferential policy or fiscal subsidies from the central government. Other reasons include multinational investor's strategies in response to more connection between provincial officials and the central government. Moreover, it is likely that multinationals from different source countries respond to bureaucratic integration differently. However, further inquiries are needed to provide more information about the implication of bureaucratic integration.

Because the survey question of manager perception of political risks in the data set was not designed for studies on political hazards, it should be cautious in interpreting the estimates based on the responses to the survey questions. Especially, the manager perception may have the endogeneity problem. It is likely that a higher equity share in a joint-venture increases political risks and thus induces managers to subjectively perceive higher level of risks. This endogeneity of manager perception of political hazards thus leads to a positive estimate of the influence of political hazards on the shares in a joint venture. An instrumental variable which is correlated with manager perception of political hazards but uncorrelated with a multinational's share in a joint-venture could solve this endogeneity problem. However, the current draft does not apply the instrumental variable approach to solving the possible endogeneity problem.

The coefficients of equipment specificity and technology specificity are found positive and significant. The estimates suggest that the likelihood of establishing a majority-owned instead of a minority-owned joint-venture increases with equipment specificity and technology specificity. Facing renegotiation risks from the local partners, owning a majority of the joint-venture equity could reduce contractual risks. However, plant specificty is not found to have any significant effect on the majority decision.

As for other explanatory variables, only the dummies for the period of entry have significant effects on the majority-owned subsidiary decision. Compared to the joint-ventures established before 1984, those established after 1985 generally have a higher tendency to choose a majority-owned joint-ventures as an entry mode. It suggests that economic re-

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forms since 1978 have gradually reduced policy uncertainty and increased foreign investor confidence on the environment for foreign investment.

Table 7 lists the results from the OLS estimation of a continuous model of joint-venture equity. Table 7 demonstrates that political hazards, using the measures of fiscal centralization and remittance ratio, exert negative effects on the multinational equity share in joint-ventures. As Fisman and Gatti (2002) note, fiscal decentralization will only be effective if accompanied by the devolution of revenue generation to local governments. The estimate that a higher revenue retention ratio – a higher degree of fiscal centralization – induces foreign partners to increase their equity shares in joint-ventures, thus supports the implication of fiscal decentralization for attracting foreign direct investment. The fiscal reforms in China delegate the fiscal responsibility from the central government to local governments and have created substantial variation in local fiscal institutions and policies. Fiscal decentralization increases the incentive of local governments to maintain economic prosperity and thus reduce political risks of multinational firms. Therefore, multinational firms located in regions with smaller ratios of local government spending and smaller retention ratios of revenue tend to have more shares of joint venture. If a higher revenue retention rate leads to smaller political risks and more foreign involvement in economic activities, fiscal decentralization would be beneficial to economic growth. However, the estimates using the measures of bureaucratic integration and manager perception are significantly positive, contradicting the theoretical hypothesis. The possible reasons for these contradictory estimates are likely similar to those for the contradictory estimates from the Probit model above.

All three measures of contractual hazards are found to have positive effects on the multinational equity share in a joint-venture. Compared to the light industry of food, beverage, textile and garment, multinationals in the industry of minerals and metals and in the industry of machinery, electrical and electronic products own smaller equity shares

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in joint-ventures. Japanese and Korean multinationals obtain more equity shares of joint-ventures compared to multinationals from other countries. Multinationals from Hong Kong, Macao, Singapore and Taiwan also tend to have more equity shares of joint-venture although the effect is not significantly. In investigating the cultural influence on the choice of multinational entry mode, Sun (1999) finds that multinationals from Hong Kong and Taiwan and East Asian countries have more equity involvement in the joint-venture than multinationals from other countries. Moreover, a multinational equity share increases with the percentage of joint-venture products sold in domestic market. If the products of a joint-venture are more domestic-market oriented and thus most of its products are sold domestically, the multinational corporation would shift more equities to its partner to take advantage of the local partner's comparative advantages in the market of host country.

5 Concluding Remarks

The main purpose of this study is to empirically investigate the impact of political hazards on the entry mode choice of multinational investment. The literature on political hazards has proposed various measures of political risks across countries. However, because of the political hazards associated with local governments are not identical to those associated with the central government, alternative measures are required to proxy for varying political risks among regions in a country. Additionally, this study also investigates the response of a multinational enterprise to contractual hazards in forming a joint-venture.

The empirical analysis demonstrates that multinational firms respond to political hazards by cooperating with local partners to reduce the risks. The fiscal reforms in China delegate the fiscal responsibility from the central government to local governments and have created substantial variation in local fiscal institutions and policies. Fiscal decentralization increases the incentive of local governments to maintain economic prosperity and

thus reduce political risks of multinational firms. Therefore, multinational firms located in regions with smaller ratios of local government spending and smaller retention ratios of revenue tend to have more shares of joint venture. Nevertheless, the estimates based on the measures of bureaucratic integration and manager perception provide contradictionary results regarding the effect of political hazards on multinational shares in joint ventures. Further inquiries are needed to provide better understanding of the implications of bureaucratic integration for political hazards.

When multinationals face political hazards, a bribery conduct by multinationals could be a substitute for a decision to form joint-venture with local partners. If so, the empirical evidence could provide an explanation for varying bribery conducts across regions. Therefore, more protection against opportunistic expropriation is able to reduce political hazards and consequently the extent of bribery activities conducted by foreign investors.

Foreign shares of joint-venture are found to increase with the percentage of machinery and equipment from the source country and the percentage of technicians and managerial personnel from the source country. The estimates are consistent with the theoretical hypothesis and imply that the share of multinational investment in joint-ventures increases with the risks of asset specificity and technology specificity. Facing the risks of equipment sunk-cost and technological leakage, a multinational increases its share of the joint-venture to avoid disadvantage in cases of contract renegotiation.

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Appendix A: Survey questions

Survey questions in the dataset for proxies of political hazards and contractual hazards are described below.

I. Political Hazards

<u>Perception of political hazards</u>

Q: Please rank the following factors according to the extent of the costs associated with your joint-venture during the period of your investment in China.

1.＿＿＿ 2.＿＿＿ 3.＿＿＿ (1=the worst, 2=the second worst, 3=the least worst)

1 financial
2 extra-budget spending
3 the extra fee for coping with *guanxi* outside of enterprise
4 inventory cost
5 the allowance of visas and work permits
6 the difficulty in training local managerial personnel and technicians
7 less inefficient local governments
8 the adjustment of personnel from the source country
9 the difficulty in expanding markets in the host country
10 incomplete laws and regulations
11 unfamiliarity with local norms
12 incomplete infrastructure of transportation and utility
13 unstable political environment
14 lower labor productivity
15 others

II. Contractual Hazards

Sources of machinery and equipment

Q: Which of the followings are the sources of the machinery and equipment in your joint-venture?

1 The parent company in the source country:____%

2 Other companies in the source country:____%

3 The local partners in China:____%

4 Other countries or regions:____%

Sources of plants

Q: How did you obtain the plants for your joint-venture?

1 To rent

2 To purchase

3 To rent the land but build the plant

4 Provided by the local partner

5 Others. Please describe:_____

Source of personnel

Q: How many employees are there in your joint-venture (unit: person)?

1 From the source country

    a Managerial personnel:____

    b Technicians:____

    c Part-time managerial and technical personnel:____

    c Workers:____

2 From China

    a Managerial personnel:____

    b Technicians:____

    c Part-time managerial and technical personnel:____

    c Workers:_____

2 From other countries or regions

    a Managerial personnel:_____

    b Technicians:_____

    c Part-time managerial and technical personnel:_____

    c Workers:_____

Appendix B: Tables

Table 1: Foreign Investment in China (Million US dollars)

Year	WFOE	EJV	CJV
1979-1983	8,307	17,138	66,380
1984	1,494	25,473	75,845
1985	1,295	57,988	46,502
1986	1,630	80,447	58,504
1987	2,455	148,582	79,379
1988	22,616	197,540	61,996
1989	37,142	203,716	77,993
1990	68,317	188,607	75,719
1991	113,474	229,896	67,356
1992	252,031	611,462	76,360

Sources: China Statistical Yearbook, Various years.

Notes: WFOE denotes the wholly foreign-owned enterprises; EJV denotes the equity joint ventures, and CJV denotes the contractual joint ventures.

Table 2: Source Countries of Multinationals in the Sample

Source country	Numbers	Percentage(%)
Hong Kong	626	58.7
Taiwan	215	20.2
USA	61	5.7
Japan	55	5.2
Korea	13	1.2
Others	96	9.0

Sources: The Survey of Foreign Enterprises in China, 1992 (Chi and Kao, 1995)

Table 3: Entry Modes of Multinationals in the Sample

Entry mode	Ownership	Number	Percentage(%)
WFOE		134	
EJV		830	
	Foreign investor		42.2
	Local partner		56.8
	Others		1
CJV		102	
	Foreign investor		51.9
	Local partner		46.9
	Others		1.2

Sources: The Survey of Foreign Enterprises in China, 1992 (Chi and Kao, 1995)
Notes: WFOE denotes the wholly foreign-owned enterprises; EJV denotes the equity joint ventures, and CJV denotes the contractual joint ventures.

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Table 4: Correlation of Measures of Political Hazards

	Fiscal centralization	Remittance ratio	Bureaucratic integration
Remittance ratio	-0.194*		
Bureaucratic integration	-0.863*	0.058***	
Manager perception	0.045	0.002	-0.037

Notes: *, ** and *** indicate significance at 1%, 5% and 10% level, respectively. Fiscal centralization denotes the ratio of per capita central government spending to per capita local government spending. Remittance ratio equals one minus the marginal retention ratio of local revenue. Manager perception is a dummy variable, denoting manager perception of political hazards in the survey.

Table 5: Descriptive Statistics of Variables

Variable	Mean	S.D.	Minimum	Maximum
Political hazards				
Fiscal centralization	0.70	0.30	0.23	1.28
Remittance ratio (%)	29.19	31.57	0	100
Bureaucratic integration	1.92	0.67	1.06	3.06
Manager perception	0.08	0.28	0	1
Contractual hazards				
Equipment specificity (%)	50.27	44.20	0	100
Plant specificity	0.17	0.37	0	1
Technology specificity (%)	11.87	20.18	0	100
Industry category				
Chemical, plastic and rubber products	0.16	0.37	0	1
Minerals and metals	0.08	0.27	0	1
Machinery, electrical and electronic products	0.31	0.46	0	1
Source country				
HK, Macao, Singapore and Taiwan	0.80	0.40	0	1
Japan and Korea	0.09	0.28	0	1
Period of entry				
1985–1988	0.33	0.47	0	1
1989–1993	0.61	0.49	0	1
Domestic sale share (%)	0.44	0.50	0	1
Firm size (Million US dollars)	6.53	138.82	0.01	4000

Notes: Fiscal centralization denotes the ratio of per capita central government spending to per capita local government spending. Remittance ratio equals one minus the marginal retention ratio of local revenue. Manager perception is a dummy variable, denoting manager perception of political hazards in the survey.

Table 6: Probit Estimates of Political Hazards

	Fiscal centralization		Remittance ratio		Bureaucratic integration		Manager perception	
Intercept	-1.261*	(-3.70)	-0.862	(-1.59)	-1.995*	(-5.52)	-1.485*	(-4.60)
Political hazards	-0.327***	(-1.85)	-0.006	(-1.39)	0.255*	(3.22)	0.061*	(90.33)
Contractual hazards								
Equipment specificity	0.003*	(2.61)	0.003*	(2.69)	0.003**	(2.54)	0.003*	(2.68)
Plant specificity	-0.118	(-0.82)	-0.131	(-0.90)	-0.102	(-0.70)	-0.128	(-0.89)
Technology specificity	0.544**	(2.21)	0.529**	(2.15)	0.55**	(2.22)	0.547**	(2.23)
Industry category								
Chemical, plastic and rubber products	-0.146	(-0.92)	-0.172	(-1.09)	-0.149	(-0.93)	-0.166	(-1.05)
Minerals and metals	0.096	(0.50)	0.097	(0.50)	0.088	(0.45)	0.101	(0.53)
Machinery, electrical and electronic products	-0.102	(-0.83)	-0.117	(-0.96)	-0.101	(-0.82)	-0.112	(-0.91)
Country source								
HK, Macao, Singapore and Taiwan	-0.123	(-0.74)	-0.186	(-1.11)	-0.102	(-0.61)	-0.138	(-0.83)
Japan and Korea	-0.101	(-0.44)	-0.110	(-0.48)	-0.094	(-0.40)	-0.099	(-0.43)
Period of entry								
1985–1988	0.567**	(2.05)	0.041	(0.09)	0.567**	(2.05)	0.565**	(2.04)
1989–1993	0.600*	(2.22)	0.012	(0.02)	0.603**	(2.23)	0.582**	(2.15)
Domestic sale share	-0.111	(-0.99)	-0.058	(-0.53)	-0.138	(-1.23)	-0.065	(-0.59)
Firm size	-0.001	(-0.15)	-0.001	(-0.19)	-0.001	(-0.14)	-0.001	(-0.14)
R square	0.038		0.036		0.047		0.034	
No. of observation	832		832		832		832	

Notes: *, ** and *** indicate significance at 1%, 5% and 10% level, respectively.

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Table 7: OLS Estimates of Political Hazards

	Fiscal centralization		Rmittance ratio		Bureaucratic integration		Manager perception	
Intercept	46.94*	(9.91)	56.00*	(9.75)	31.89*	(6.34)	40.22*	(9.10)
Political hazards	-8.30*	(-3.02)	-0.13	(-3.88)	4.71*	(3.88)	7.72*	(2.63)
Contractual hazards								
Equipment specificity	0.14*	(7.13)	0.13*	(6.73)	0.14*	(7.04)	0.14*	(7.20)
Plant specificity	3.73***	(1.71)	3.09	(1.42)	3.99***	(1.83)	3.65***	(1.67)
Technology specificity	19.84*	(4.82)	18.90*	(4.59)	20.02*	(4.88)	19.33*	(4.68)
Industry category								
Chemical, plastic and rubber products	-1.16	(-0.49)	-1.78	(-0.75)	-1.33	(-0.56)	-1.76	(-0.74)
Minerals and metals	-5.14***	(-1.66)	-5.40***	(1.75)	-5.25***	(-1.70)	-5.07***	(-1.64)
Machinery, electrical and electronic products	-3.57***	(-1.88)	-3.54***	(-1.88)	-3.62***	(-1.91)	-3.68***	(-1.94)
Country source								
HK, Macao, Singapore and Taiwan	2.23	(0.85)	0.35	(0.13)	2.53	(0.97)	2.37	(0.90)
Japan and Korea	6.83***	(1.86)	7.35**	(2.01)	7.05***	(1.93)	6.90***	(1.88)
Period of entry								
1985–1988	0.81	(0.23)	-10.09**	(-2.24)	0.95	(0.27)	0.83	(0.23)
1989–1993	4.55	(1.33)	-5.57	(-1.32)	4.63	(1.36)	4.16	(1.21)
Domestic sale share	-8.74*	(-5.08)	-6.91*	(-4.06)	-8.86*	(-5.19)	-7.51*	(-4.42)
Firm size	0.01***	(1.74)	0.01	(1.56)	0.01	(1.53)	0.01	(1.25)
R square	0.189		0.195		0.195		0.187	
No. of observation	832		832		832		832	

Notes: *, ** and *** indicate significance at the 1%, 5% and 10% level, respectively.

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