Lancaster University Management School Working Paper 2004/001

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Abstract:

The existing empirical literature on foreign direct investment (FDI) entry strategies tends to allow a binary choice between wholly owned enterprises (WOEs) and equity joint ventures (EJVs) or between greenfield investment and acquisition only. The current study establishes a multinomial logit model for the choice from all four FDI entry modes in China. Hypotheses involving country-, industry- and firm-specific factors are developed based on transaction cost economics, and tested on a data set covering 10607 foreign invested firms in China. A foreign invested firm is found to prefer the WOE mode given its large investment commitment, a high level of host-country experience in attracting FDI, a good specific industrial location, and a high asset intensity in the host industry. If the conditions of host-country experience and good specific location are not met, the EJV and the joint stock company (JSC) modes would be of greater use. A good specific location also makes the contractual joint venture (CJV) a preferable entry mode. Compared with overseas Chinese investors from Hong Kong, Macao and Taiwan, other foreign investors prefer EJVs over WOEs and CJVs. The results have important implications for managers.

Key Words: Entry Mode, Foreign Direct Investment, Multinomial Logit Model, China

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I.   Introduction

The choice of foreign entry modes has been the focus of much recent theoretical and especially empirical research in international business. In terms of foreign direct investment (FDI) entry strategy, the existing literature tends to focus on a binary choice between wholly owned enterprises (WOEs) and equity joint ventures (EJVs) or between greenfield investment and acquisition.

Although WOEs and EJVs are the two most popular FDI entry modes, other important entry modes are also available to multinational enterprises (MNEs). For instance, around 11% of foreign invested firms established in China in 1999 were contractual joint ventures (CJVs) and joint stock companies (JSCs) (SSB, 2000a). As specified by the laws and regulations in China (NPC, 1979, 1986 and 1988; MOFTEC, 1995), these four entry modes are all involved in the ownership and control by foreign partners, and officially recorded as FDI by both the Chinese authorities and world organisations such as United Nations (UNCTAD). A systematic study of FDI entry strategy should include all these modes, and the Chinese experience provides us with a unique data source for such a study.

Different from the existing studies, the current research attempts to establish a multinomial logit model in which foreign invested firms are allowed to choose among the four entry modes of FDI in China. Based on transaction cost economics, several hypotheses are developed involving country-, industry- and firm-specific factors, including host-country experience in attracting FDI, specific locational factors, cultural distance, asset intensity in the host industry and foreign firms' financial resource commitment. A data set covering 10607 foreign invested firms in China is used and new empirical evidence is provided.

The next section reviews the relevant literature and develops hypotheses. Section III discusses our empirical model, data, variable measurement and methodology. The empirical results are presented in section IV and finally section V concludes and, where appropriate, policy implications are discussed.

II.   Literature Review and Hypotheses on Entry Modes of FDI

Firms interested in serving foreign markets face a difficult decision in respect to the choice of entry mode (Agarwal and Ramaswami, 1992). The existing studies can be classified into two groups according to their research objects. The first discusses the binary or multinomial choice between broad international market entry modes such as trade, licensing and FDI, and examples include Agarwal and Ramaswami (1992), Kim and Hwang (1992) and Tse et al. (1997). The second focuses on the binary choice between a WOE and an EJV (e.g. Hennart and Larimo, 1998; Markino and Neupert, 2000) or between greenfield investment and acquisition (e.g. Chang and Rosenzweig; 2001; Girma, 2002). To our best knowledge, little research has been reported on the choice of CJVs and JSCs.

Among the few studies on foreign entry modes in China, Luo (2001) studies the conditions under which EJVs are chosen, as opposed to WOEs, at four levels: country, industry, firm and project. Sun (1999) investigates the socio-economic factors which influence the choice of foreign invested firms between partial and full ownership of their subsidiaries in China. Shan (1991), Pan (1996) and Zhao and Zhu (1998) study the determinants of foreign equity share of JVs in China. Tse et al. (1997) examine how host country-, home country- and industry-specific factors affect foreign firms' choices among export, licensing, JVs and WOEs. In line with Kumar and Subramainam (1997), Pan and Tse (2000) regard the choice between equity and non-equity modes as the first level of hierarchy[1]. After this first choice, managers then decide the specific mode within equity or non-equity. Very recently, Chen and Hu (2002) exceptionally include the CJV as one of the FDI entry modes in China.

Transaction cost analysis turns to be very successful in explaining the choice between the WOE and EJVs (Anderson and Gatignon, 1986; Hennart and Larimo, 1998; Chen and Hu, 2002). As will be demonstrated below, this line of analysis is also very useful when the range of choice is extended to include CJVs and JSCs.

Location-specific Factors

Location-specific factors can be examined at different levels. At the national level, emerging economies like China were generally characterised by extensive state

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[1] Equity-based modes include WOEs and EJVs while non-equity-based modes are contractual agreements and exports.

intervention for business operations, lack of reliable business information and more importantly, lack of effective institutional arrangements to enforce contracts (Khanna and Palepu, 1997). These location-specific characteristics mainly result from the lack of experience of the host country in economic liberalisation and opening to the outside world. The lack of established institutional regimes that support business activities makes transactions in these emerging economies less efficient and, from an investor's perspective, creates significant uncertainty (Isobe et al., 2000).

Tse et al. (1997) argue that a host country's experience in attracting FDI facilitates MNEs' adoption of more equity-based entry modes versus export or licensing. By gaining experience in working with foreign investors, the host country learns how to create an attractive and stable investment environment (Zhan, 1993) and raises the level of confidence of foreign invested firms.

During its process of economic reforms and opening to the outside world in the past 25 years or so, China has gained much experience, and has been progressively liberalising its investment regime. A confidence tracking survey in 2002 indicates that China was the top FDI destination, displacing US for the first time in the investment plans of the MNEs surveyed (UNCTAD 2003, p. 44). The experience and policy efforts can reduce environmental uncertainty and improve efficiency of transactions. The empirical evidence from Tse et al. (1997) supports the hypothesis that as China gained more experience as a host country, foreign invested firms adopted more equity-based ventures.

In our four types of FDI, the ownership and control of a CJV are contract-specified rather than equity based. Therefore, our first hypothesis is

H1: The more experience the host country gains in attracting FDI, the more likely the foreign investors adopt WOEs relative to EJVs and JSCs, and the least likely they will choose CJVs.

In some cases, a host country and a specific location within this country are simultaneously chosen, while in other occasions a specific location is selected after the host country is chosen. In either case, location-specific factors at the regional level within a host country are also expected to affect the choice of foreign entry modes.

In some countries, location-specific conditions vary substantially across regions. In the case of China, there are regional segmentation, monopoly, and protectionism so that foreign investors view Chinese regions as separate markets (Gao, 1996; Chen and Hu, 2002). In addition, a number of countries such as China

provide incentives for FDI in areas such as special economic zones and open cities (Shenkar, 1990; Beamish, 1993; Zhang, 1994; Tse et al., 1997). These incentives may be offered in return for commitments on local value added, or 'job creation', which affect the choice of entry mode (Buckley and Casson, 1998). As foreign firms find it easier and less risky to operate in these zones or areas, they are more likely to invest in equity-based projects there (Zhang, 1994). In other word, equity-based investments are more likely to be pursued than contract-based business in these prioritised zones. Pan and Tse (2000) suggest that such location factors explain the choice between equity versus non-equity modes, but not within each type.

In the case of China on which Pan and Tse's (2000) study is based, these regions (normally on the coast) are preferred not only because they are prioritised, but more importantly, most of them have traditionally been commercial and industrial centres. They have much better infrastructure and higher market demand than inner areas. These regions also have a long history of international trade and contacts with the outside world. Therefore, we propose that a preferred specific location enhances foreign investors' confidence and facilitates them to choose WOEs, EJVs and JSCs rather than CJVs. We can then form the following hypothesis:

H2: A preferable specific location encourages foreign investors to choose WOEs, EJVs and JSCs rather than CJVs.

Firm-specific Factors

A firm is expected to make its entry mode choice based on trade-offs between risks and returns. On the other hand, its choices may be determined by resource availability and need for control (Cespedes, 1988). Agarwal and Ramaswami (1992) suggest that entry mode choice is often a compromise among these four attributes. A high investment requires the ability of an MNE to secure financial resources and is associated with high risk/return. Consequently, a WOE will normally be chosen in order to provide the investing firm with a high degree of control. The JV mode involves relatively lower investment and hence provides risk, return, and control commensurate to the extent of equity participation of the investing firm.

In general, the larger the resources committed to the local affiliates, the smaller the probability that a firm will share the equity (Larimo, 1993; Hennart and Larimo, 1998). This rule should also apply to CJVs and JSCs. In other words, so long

as it is a JV, it would not be favoured when a large amount of investment is made. Applying these arguments to the context of the current study, it seems that:

H3: Foreign firms making a large amount of investment tend to prefer WOEs to EJVs, CJVs or JSCs.

The impact of national culture on entry mode choice is widely recognised in literature. Hennart and Larimo (1998) discuss two schools of thoughts. A first is the "national character" (Hofstede, 1980) theory. It suggests that countries vary systematically in psychological characteristics, and an MNE's decision on the ownership structure of its subsidiary will reflect characteristics of the countries in which these MNEs are domiciled (Shetty, 1979). Following this, Erramilli (1996) contends that MNEs based in countries where the dominant cultural traits are high power distance and low uncertainty avoidance may have an inherent preference for full ownership of their foreign affiliates.

A second school focuses on the impact of *differences* between national characteristics. This cultural distance approach is believed to fit comfortably within transaction costs theory. This school argues that the choice between full and partial ownership of a subsidiary depends on the costs and benefits of sharing its equity relative to those of retaining full ownership (Hennart, 1982). When market transactions are subject to high transaction costs, sharing equity is efficient as it makes local partners co-owners in the venture. For instance, the knowledge of local conditions is very important for successful operations. An MNE which knows little about local conditions may find it desirable to leave part of the equity with the local partner in order to enhance incentives. Thus, the larger the cultural distance, the more likely the MNE will adopt EJV (Hennart and Larimo, 1998).

The unique feature of FDI in China is that the majority of China's inward investment has been contributed by ethnic Chinese from Hong Kong, Macao and Taiwan (Wei and Liu, 2001). Overseas Chinese usually share language, cultural traits and ethnic links with mainland Chinese and have strong affection for their original home and a strong feeling of commitment to their family. This kind of affection or feeling reflects the Confucian culture. Because of the shared culture and family relations, there is less uncertainty but more mutual trust between local and overseas Chinese than between local Chinese and other foreign investors. This cultural advantage substantially reduces contractual risks, and makes overseas Chinese investors prefer CJV (Wei and Liu, 2001). For the same reason, overseas Chinese

investors may also favour WOEs over EJVs, as they are much more knowledgeable about local conditions than other foreign investors, which allows them to be less reliant on local firms. On the other hand, as the equity of a JSC is normally widely spread among shareholders, cultural factors may not have significant impact on the choice of this entry mode. Following the above discussion, the following hypothesis can be developed:

H4: Cultural distance leads overseas Chinese investors to prefer CJVs and WOEs and other foreign investors to favour EJVs. The choice of JSC may not be influenced by cultural factors.

Industry-Specific Factors

Industry-specific factors affect the entry mode choice of MNEs. For instance, Scherer and Ross (1990) suggest that firms in an industry that requires a large capital investment can obtain monopoly profits in the long run because few truly qualified competitors can enter the industry and because exit barriers are created by substantial resource commitments that may not be fully recoverable. Thus, if the asset intensity in a host country industry is high, an MNE seeking long-term profitability is likely to choose WOE. This mode facilitates the receipt of sustained financial returns generated from monopolistic or oligopolistic positions (Luo, 2001). Following this argument, we can have a hypothesis as below.

H5: If the asset intensity in a host-country industry is high, foreign investors tend to choose WOEs rather than EJVs, CJVs or JSCs.

The five hypotheses involve the country-, industry- and firm-specific factors. The assessments of host-country experience, specific location, amount of investment, cultural distance and asset intensity are all related to the consideration of transaction costs and therefore are consistent with the prescriptions of transaction cost economics. Some of the location-, firm- and industry-specific factors may to some extent either reinforce or moderate each other. For instance, the interaction of a high degree of host-country experience with a large amount of investment is expected to significantly promote the choice of WOE, so does that of high asset intensity and a large amount of investment. These five hypotheses and related interaction terms will be tested on a large firm-level data set from Chinese manufacturing.

III. Data, Variable Measurement, and Econometric Model

Data

The data used are mainly from SSB (2000b) covering all foreign invested firms in seven two-digit industries for 1999: food manufacturing, garment, pharmaceuticals, general machinery, transport equipment, electrical goods and electronics products. As for assets intensity, data are obtained from *China Statistical Yearbook* 2002. It must be noted that in Chinese statistics all investment from outside mainland China is regarded as being "foreign". For instance, direct investment from Hong Kong, Macao and Taiwan is recorded as FDI. When there is a need to differentiate between investors from the above regions and those from other countries, we define the former as overseas Chinese investors and the latter as other foreign investors.

The total number of foreign invested firms in these seven industries was 10,757 for 1999. Due to some missing values, only 10,607 observations are used. The information on these firms includes its location, product ranges, start date of operations, the number of employees, capital contributions by different partners, fixed and working capital, output, sales, tax and profits. This is the most comprehensive data set available in China. Some of such information is summarised in Table 1.

There were 2839 foreign invested firms in the garment industry, accounting for 27% of the total foreign invested firms in the sample, followed by food manufacturing (22%), electronics (18%) and electrical goods (15%). The numbers of foreign invested firms in the capital- or technology-intensive industries such as pharmaceuticals (9%), transport equipment (5%) and general machinery (5%), were small. From Table 1, it can be seen that one important limitation of the data set is that the share of JSCs was very small.

<Table 1 Here>

Variable Measurement

The dependent variable is entry mode. As mentioned earlier, there are four main types of FDI entry strategy in China. We define the WOE mode as the base category, and assign a value of 0 to it. The CJV, EJV and JSC modes are assigned the values of 1, 2 and 3 respectively.

WOEs, EJVs, CJVs and JSCs are officially defined as FDI as they are all involved in the ownership and control by foreign partners. However, they are different in the degree of control, resource and risk involvement, and management structure, as specified by relevant laws and regulations in China (NPC, 1979, 1986, 1988; MOFTEC, 1995). A WOE is a limited liability entity solely owned and operated by a foreign investor who receives all profits and bears all costs and risks. An EJV is a limited liability company where resource commitment, profit distribution, risk sharing, and the control and management are based on equity shares between foreign and Chinese partners. A comparison of the laws on EJVs and CJVs (NPC, 1979, 1988) indicates that the establishment of a CJV follows the same principles and guidelines as applied to an EJV. Like an EJV, a CJV is specified with a multi-year duration, and shall acquire the status of a Chinese legal person. The essential characteristic of a CJV is its flexibility, that is, the parties may structure the organisation in whatever way they think proper. Each party's rights and obligations are set out in the contract, which may not be in proportion to the party's investment. According to MOFTEC (1995), a JSC may be established by means of promotion or public offer. It is defined as an enterprise with the status of a legal person that divides its share capital into equal shares with a par value, usually RMB 1.00. It is equity based, with the minimum registered capital requirement for the establishment of $3.6 million, and the amount of foreign ownership of the company should exceed 25%.

Obviously, a common feature of EJVs, CJVs or JSCs is that they are all JVs as foreign investors only partially own the enterprises. However, these different types of JVs are involved in different ways of ownership and control strategies. Ownership and control are normally determined by equity shares in EJVs and JSCs, but by contracts in CJVs. Moreover, an EJV normally involves a very limited number of partners, while a JSC may be owned by a number of people although the equity share of the foreign partner must be higher than 25%. In addition, the average firm size of JSCs is larger than EJVs. For example, the average number of employees of JSCs was 715,000, compared with 290,000 in EJVs in 1999. The average fixed assets of JSCs was RMB 94 million and that of EJVs was RMB 35 million in 1999.

No ranking or order is imposed on these entry modes for two reasons. Firstly, it is impossible to tell which of CJVs, EJVs or JSCs will lead to more resource commitment and control by foreign investors. Secondly, in many cases, control may not always be that important. Dunning (1981) suggests that, MNEs tend to make the

best combination of its firm-specific advantages with the location-specific advantages, no matter whether FDI is motivated for the host-country market, export or efficiency improvement. WOEs are not necessarily better than CJVs, EJVs or JSCs for these purposes.

Our choice of explanatory variables is governed by theoretical issues and data availability. The explanatory variables used in this study are defined below.

Host country experience (EXPER). As China started its programme of economic liberalisation and opening to the outside world in 1978, we use that year as the base. We assume that China has been gaining more and more experience in attracting FDI over years. During this process, environmental uncertainty has been gradually reduced and efficiency of transactions improved.

Specific industrial location (LOCAT). A dummy variable called "LOCAT" is introduced with 0 indicating the inner areas and 1 the coastal areas. As discussed earlier, in the case of China, the coastal areas can be identified as the low information cost locations (Wei and Liu, 2001) and therefore can be assumed to have a good investment environment. On the other hand, the inland locations are often perceived to have a lower degree of economic liberalisation, poor infrastructure and low efficiency.

Amount of foreign investment (FORINV). One important limitation of the current data set is that it does not have the information on foreign parent firms. Thus, data on the parents' firm sizes, R&D and technological capabilities and their experiences in international business are not available. However, the amounts of investment into their affiliates can reflect the parent firm's financial resource commitment.

Cultural distance (CULTU). It would be ideal to assign individual numeric values of cultural distance as specified in Hofstede (1980) to foreign invested firms from different countries/regions. However, the available information in the data set only allows us to differentiate FDI from Hong Kong, Macao and Taiwan with that from other countries. Therefore, a dummy variable "CULTU" is imposed with 0 indicating the former and 1 the latter. Investors from Hong Kong, Macao and Taiwan have smaller cultural distance than those from the rest of the world.

Industrial asset intensity (IA). Following the existing literature, we measure industrial asset intensity by the average level of fixed assets in the industry.

Model Specification

For the econometric analysis, the different entry modes are analysed as alternatives without implicit order. There are four entry modes: WOE(0), EJV(1), CJV(2) and JSC(3). They depend on a set of characteristics X. Because of the nature of the dependent variable, a multinomial logit model is used. The probability that the ith firm will choose the jth entry mode (P_{ij}) is given by

$$P_{ij} = Pr\ (R_{ij} > R_{ik}),\ for\ k \neq j,\ j = 0, 1, 2, 3.$$

With R_{ij} being the maximum utility (return) attainable for firm I if it chooses the jth mode and

$$R_{ij} = \beta_j'X_{ij} + \varepsilon_{ij}.$$

Where β_j is a vector of coefficients of each of the explanatory variables. If the stochastic terms εs have the independent and Weibull distribution, the multinomial logit model can be expressed as

$$P_{ij} = exp(\beta_j'X_{ij})/\Sigma exp(\beta_j'X_{ij})$$

The parameters (βs) are estimated by maximising a log likelihood function.

IV.   Empirical Results

Table 2 presents the results of the multinomial logit regression analysis for three models. Model I includes all individual explanatory variables discussed above. Models II and III include two interaction terms. Because of the high correlation coefficients between FORINV and its interaction terms, the variable FORINV is dropped from Models II and III. The coefficients in Table 2 show the effect of the explanatory variables on the marginal utility of the entry mode under consideration, relative to the reference – the WOE. The statistical significance of a coefficient indicates the extent to which the corresponding explanatory variable affects the marginal utility of the entry mode to which it applies relative to the WOE. Estimates with the negative sign imply the preference for the WOE. To assess the simultaneous effect of the explanatory variables on the probabilities of the four distinct entry modes, one should turn to the marginal effects, which are presented in Table 3. The estimated parameters show the effect of the explanatory variables on the probability of undertaking the entry mode under consideration.

<Tables 2 and 3 Here>

The negative and highly significant coefficients on EXPER in Table 2 suggest the preference for the WOE over all other entry modes. This implies that, ceteris paribus, the more experience China has in attracting FDI, the more likely the foreign investors will choose WOEs. The marginal effects bring out some interesting points (Table 3). EXPER is positively and significantly associated with WOEs, negatively and significantly with EJVs and JSCs. As China gains more experience and hence foreign investors' confidence rises, ceteris paribus, the probability of undertaking the WOE mode significantly grows, but of pursuing the EJV and JSC significantly decreases. The probability of choosing CJVs is not significantly reduced probably because foreign investors' confidence and trust are enhanced with the increase in the host-country experience. Thus, H1 is largely supported.

The coefficients on LOCAT are highly significant in Table 2, and the negative signs suggest a greater preference for the WOE, as opposed to other entry modes. Turning to the marginal effects, the probability of undertaking the WOE and CJV modes is positively and significantly affected by LOCAT, while the opposite is the case with the EJV and JSC strategies. These results suggest that a good specific location attracts both WOEs and CJVs. Therefore, H2 is largely supported.

The coefficients on FORINV are all negative in Table 2, suggesting the preference for the WOE. Ceteris paribus, foreign firms that commit more financial resources in China are more likely to choose WOEs. From Table 3, it can be seen that the amount of capital investment is positively related to the choice of the WOE and negatively associated with the CJV mode. It has no significant effect on the probability of being EJVs and JSCs. This reflects the foreign investors' ownership advantage and the need for tight control over the affiliates' operations if large financial resources are committed to their affiliates. Thus, H3 is supported.

Cultural effects are captured by the dummy variable CULTU. The results show that other foreign investors are more likely to favour EJVs over WOEs than overseas Chinese firms. CJVs are the least favoured by other foreign invested firms. The coefficients on JSC are insignificant in Tables 2 and 3, indicating that there is no preference for JSCs over WOEs and that the variable can not help explain the probability of foreign invested firms to undertake the JSC mode. As discussed earlier, overseas Chinese investors are geographically and culturally closer to China than other foreign investors. They benefit from personal relationships with locals and good

local knowledge. Other foreign invested firms have relatively large cultural distance and have to rely more on local Chinese partners. Therefore, EJVs are favoured over WOEs by other foreign invested firms. Since ownership and control are specified by the contract in a CJV, and mutual understanding and trust between the partners are essential for its success. Because of a lack of personal relationships with local partners, other foreign investors tend not to favour CJVs. In the sample, 7.85% of other foreign invested firms chose CJVs, compared with 12.62% of Hong Kong, Macao and Taiwan firms. Therefore, H4 is supported.

Turning now to industry-specific factors, it is found that high asset intensity in the host industry discourages the CJV but encourages the WOE mode. High asset intensity also significantly attracts EJVs, but its positive impact on the choice of JSCs is not significant. H5 is largely supported.

The interaction term between EXPER and FORINV and that between AI and FORINV are negative and statistically significant for EJV and especially CJV in Table 2 and positive and statistically significant (or marginally significant) for WOE and EJV but negative and statistically significant for CJV in Table 3. These results mean that the host-country experience, the asset intensity in the host industry and large resource commitment on the part of foreign investors reinforce each other to make the WOE and then the EJV mode preferable, and the CJV mode unpopular.

V.   Conclusions

Based on transactions cost economics, this study uses a multinomial logit model to investigate the determinants of four types of FDI entry strategy in China: the CJV, EJV, JSC and WOE. Our large sample evidence suggests that an MNE's choice of the WOE mode is positively associated with its large investment commitment, the host-country experience in attracting FDI, a good industrial location, and a high asset intensity in the host industry. If the conditions of the host-country experience and good industrial location are not met, the EJV mode would be of greater use. As WOEs, EJVs are positively associated with the asset intensity of the host industry.

The above results are generally consistent with the existing studies on the choice between WOEs and EJVs. However, this study produces new evidence for JSCs and CJVs. Similar to EJVs, JSCs will not be chosen given an increase in the host-country experience and a good specific industrial location. However, other firm-

and industry-factors do not seem to affect the choice of JSCs. A good specific location also makes the CJV a preferable entry mode because it reduces uncertainty and enhances confidence. Compared with overseas Chinese investors from Hong Kong, Macao and Taiwan, other foreign investors prefer EJVs over WOEs and CJVs because of the relatively larger cultural distance. It is clear that the new evidence can be explained by transaction cost economics.

This research has important implications for managers as they lend credence to the fact that the choice of entry mode is influenced by country-, industry- and firm-specific factors. By making some judicious choices on these dimensions, MNEs' managers should be able to improve their chances of success in doing business in China.

The study has its limitations. There are some aspects not considered in the paper, e.g. factors associated with parent firms. Only two variables are significant in explaining the probability of undertaking JSCs as an entry mode. This may be because JSCs are relatively new, and not many MNEs have chosen this entry mode. A case study could provide further insights into the factors responsible for entry mode decisions. Notwithstanding the limitations, this paper, compared with other studies in the area, has several advantages. The data set is the most comprehensive one regarding foreign invested firms' activities in China available. In addition, this paper attempts to study all possible FDI entry strategies in China and provides some new empirical evidence. Our study suggests that further research on FDI entry strategy should include all available modes.

References

Agarwal S, Ramaswami S. Choice of foreign entry mode: Impact of ownership, location and internalisation factors. Journal of International Business Studies 1992; 23(1): 1-16.

Anderson E, Gatignon H. Modes of foreign entry: A transaction cost analysis and proposition. Journal of International Business Studies 1986; 11: 1-26.

Beamish PW. The characteristics of joint ventures in the People's Republic of China. Journal of International Marketing 1993; 1(2): 29-48.

Buckley PJ, Casson MC. Analysing foreign market entry strategies: extending the internalisation approach. Journal of International Business Studies 1998; 29(3): 539-562.

Cespedes FV. Control vs. resources in channel design: Distribution differences in one industry. Industrial Marketing Management 1988; 17(2): 15-27.

Chang SJ, Rosenzweig PM. The choice of entry mode in sequential foreign direct investment. Strategic Management Journal 2001; 22: 747-776.

Chen H, Hu MY. An analysis of determinants of entry mode and its impact on performance. International Business Review 2002; 11: 193-210.

Dunning JH. International production and the multinational enterprise. London: George Allen and Unwin, 1981.

Gao S. China's economic reform. New York: St. Martine's Press, 1996.

Girma S. The process of European integration and the determinants of entry by non-EU multinationals in UK manufacturing. Manchester School 2002; 70(3): 315-335.

Hennart Jean-Francois. A theory of multinational enterprise. Ann Arbor: The University of Michigan Press, 1982.

Hennart Jean-Francois, Larimo J. The impact of culture on the strategy of multinational enterprises: Does national origin affect ownership decisions? Journal of International Business Studies 1998; 29(3): 515-538.

Hofstede G. Culture's consequences. Beverly Hills, CA: Sage, 1980.

Isobe T, Makino S, Montgomery DB. Resource commitment, entry timing, and market performance of foreign direct investment in emerging economies: case of Japanese international joint ventures in China. Academy of Management Journal 2000; 43(3): 468-484.

Khanna T, Palepu K. Why focused strategies may be wrong for emerging markets. Harvard Business Review 1997; 75(4): 41-51.

Kim WC, Hwang P. Global strategy and multinationals' entry mode choice. Journal of International Business Studies 1992; 23: 29-53.

Kumar V, Subramainam V. A contingency framework for the mode of entry decision. Journal of World Business 1997; 32(1): 53-72.

Larimo J. Foreign direct investment and performance: An analysis of Finnish direct manufacturing investment in OECD countries. Acta Wasansia 1993; 32: 471 pp.

Luo Y. Determinants of entry in an emerging economy: a multilevel approach. Journal of Management Studies 2001; 38(3): 443-472.

Markino S, Neupert KE. Natural culture, transaction costs and the choice between joint venture and wholly owned subsidiary. Journal of International Business Studies 2000; 31(4): 705-713.

Ministry of Foreign Trade and Economic Cooperation (MOFTEC) Provisional regulations on the establishment of foreign-funded joint stock companies limited. MOFTEC Press, Beijing, 1995.

National People's Congress of P. R. China (NPC) Sino-Foreign Equity Joint Venture Law. People's Press, Beijing, 1979.

National People's Congress of P. R. China (NPC) Wholly Foreign Owned Enterprise Law of the People's Republic of China. People's Press, Beijing, 1986.

National People's Congress of P. R. China (NPC) Sino-Foreign Contractual Joint Venture Law of the People's Republic of China. People's Press, Beijing, 1988.

Pan YG. Influence of foreign equity ownership level in joint venture in China. Journal of International Business Studies 1996; 27(1): 1-26.

Pan YG, Tse DK. The hierarchical model of market entry modes. Journal of International Business Studies 2000; 31(4): 535-574.

Scherer FM, Ross D. Industrial market structure and economic performance (3rd ed.). Boston, MA: Houghton Mifflin, 1990.

Shan W. Environmental risks and joint venture sharing arrangements. Journal of International Business Studies 1991; 555-278.

Shenkar O. International joint ventures' problems in China: Risks and remedies. Long Range Planning 1990; 23(3): 82-90.

Shetty YK. Managing the multinational corporation: European and American styles. Management International Review 1979; 19: 39-48.

State Statistical Bureau of the People's Republic of China (SSB). China Statistical Yearbook. Beijing: State Statistical Bureau, 2000a.

State Statistical Bureau of the People's Republic of China (SSB). Annual Report of Industrial Enterprise Statistics. Beijing: State Statistical Bureau, 2000b.

Sun H. Entry modes of multinational corporations into China's market: a socio-economic analysis. International Journal of Social Economics 1999; 26(5): 642-659.

Tse D, Pan YG, Au K. How MNEs choose entry modes and form appliances: The China experience. Journal of International Business Studies 1997; 28(4): 779-805.

United Nations Conference on Trade and Development (UNCTAD), World Investment Report, various issues. United Nations, New York and Geneva.

Wei Y, Liu X. Foreign direct investment in China: Determinants and impact. Cheltenham England: Edward Elgar, 2001.

Zhan XJ. The role of foreign direct investment in market-oriented reforms and economic development: The case of China. Transnational Corporations 1993; 2(3): 121-148.

Zhang L. Location-specific advantages and manufacturing direct investment in South China. World Development 1994; 22(1): 45-53.

Zhao H, Zhu G. Determinants of ownership preference of international joint ventures: new evidence from Chinese manufacturing industries. International Business Review 1998; 7: 569-589.

Table 1: Sectoral Distribution of Foreign Invested Firms by Entry Modes and Industry, 1999

	Food	Garm	Pharm	Mach	Trans	Elec	Elect
Total Number of Firms							
WOE	558	1010	62	260	143	526	762
EJV	1499	1396	402	590	366	852	973
CJV	232	407	35	76	24	158	170
JSC	19	26	11	8	4	14	24
Total Value Added ('000,000 RMB)							
WOE	10593	9327	988	3358	1523	8765	32915
EJV	30311	11775	9834	9686	28198	18240	51377
CJV	3053	2806	621	737	477	1768	3042
JSC	412	300	477	1293	875	43	4115
Total Fixed Assets ('000,000 RMB)							
WOE	23473	10146	1565	7810	3289	11648	31716
EJV	55759	10045	11070	16501	44359	31677	44817
CJV	6153	1758	466	1091	543	2971	3472
JSC	878	171	524	1704	2355	185	4179
Total Employment ('000)							
WOE	117	395	10	41	27	213	409
EJV	376	413	85	157	161	237	335
CJV	47	123	7	14	5	44	63
JSC	6	8	4	12	18	4	24
Total Sales ('000,000 RMB)							
WOE	40230	37667	3552	10962	5877	38956	150081
EJV	108766	44075	24690	33375	101722	73179	211370
CJV	12662	12031	1874	2697	1900	8503	13625
JSC	1483	1174	1088	2805	3794	563	18246
Total Exports ('000,000 RMB)							
WOE	8194	27431	425	6427	3493	29214	103020
EJV	15518	28878	2600	5890	3036	17099	68745
CJV	1425	8095	274	589	604	5549	9698
JSC	734	724	38	1340	20	140	4783
Total FDI ('000,000 RMB)							
WOE	21812	11626	2164	8594	4414	12537	29747
EJV	35205	5684	7081	11800	21019	22105	27919
CJV	4591	2250	623	878	351	1694	3071
JSC	491	108	153	772	77	148	1207

Note: Food = food manufacturing; Garm = garment manufacturing; Pharm = pharmaceutical industry; Mach = general machinery manufacturing; Trans = transport equipment manufacturing; Elec = electrical industry; Elect = electronic and communication equipment manufacturing.

Table 2: Multinomial Logit Regression Estimates: Comparison with WOE

	Model I			Model II			Model III		
	EJV	CJV	JSC	EJV	CJV	JSC	EJV	CJV	JSC
Constant	4.0420 (0.1672)***	1.5792 (0.2507)***	1.2023 (0.5058)**	4.0178 (0.1672)***	1.4960 (0.2507)***	1.1957 (0.5059)**	4.0327 (0.1671)***	1.5194 (0.2506)***	1.2033 (0.5057)**
EXPER	-0.1459 (0.0083)***	-0.1129 (0.0122)***	-0.2046 (0.0284)***	-0.1444 (0.0083)***	-0.1074 (0.0123)***	-0.2044 (0.0284)***	-0.1460 (0.0083)***	-0.1133 (0.0122)***	-0.2046 (0.0284)***
LOCAT	-1.4036 (0.0975)***	-0.5280 (0.1558)***	-1.8039 (0.2703)***	-1.4032 (0.0975)***	-0.5272 (0.1558)***	-1.8024 (0.2703)***	-1.4028 (0.0975)***	-0.5229 (0.1557)***	-1.8032 (0.2703)***
FORINV	-1.1408 (0.3095)***	-5.8104 (1.1919)***	-0.0718 (0.9321)						
CULTU	0.4150 (0.0456)***	-0.1813 (0.0740)***	0.1346 (0.2036)	0.4107 (0.0456)***	-0.1820 (0.0739)***	0.1411 (0.2034)	0.4013 (0.0454)***	-0.1979 (0.0739)***	0.1315 (0.2029)
AI	-0.1586 (0.2461)	-2.3356 (0.42428)***	0.8010 (1.0780)	-0.1821 (0.2459)	-2.3391 (0.4241)***	0.8370 (1.0758)	-0.1683 (0.2508)	-1.9513 (0.4471)***	0.7794 (1.0892)
EXPER* FORINV				-0.0570 (0.0191)***	-0.3831 (0.0785)***	-0.0157 (0.0788)			
AI* FORINV							-2.4905 (1.4228)*	-33.5091 (8.9737)***	0.3319 (3.8473)
Log likelihood function	-9810.958			-9812.1950			-9820.6030		
χ^2	827.1684***			824.6955			807.8781		

Notes:
1. Standard errors are in parentheses.
2. ***, **, and * indicate that the coefficient is significantly different from zero at the 1%, 5% and 10% levels respectively.

Table 3: Marginal Effects of Explanatory Variables on Entry Modes
– Estimated from a Multinomial Logit Model

	Model I				Model II				Model III			
	WOE	EJV	CJV	JSC	WOE	EJV	CJV	JSC	WOE	EJV	CJV	JSC
Constant	-0.7703 (0.0328)***	0.8796 (0.0336)***	-0.0964 (0.0190)***	-0.0129 (0.0049)***	-0.7641 (0.0329)***	0.8789 (0.0336)***	-0.1020 (0.0189)***	-0.0128 (0.0050)***	-0.7677 (0.0329)***	0.8812 (0.0336)***	-0.1007 (0.0189)***	-0.0128 (0.0049)***
EXPER	0.0300 (0.0017)***	-0.0276 (0.0017)***	-0.0014 (0.0010)	-0.0010 (0.0003)***	0.0295 (0.0017)***	-0.0275 (0.0017)***	-0.0010 (0.0010)	-0.0010 (0.0003)***	0.0300 (0.0017)***	-0.0276 (0.0017)***	-0.0014 (0.0010)[#]	-0.0010 (0.0003)***
LOCAT	0.2709 (0.0201)***	-0.2988 (0.0198)***	0.0366 (0.0119)***	-0.0087 (0.0024)***	0.2710 (0.0201)***	-0.2988 (0.0198)***	0.0365 (0.0118)***	-0.0087 (0.0024)***	0.2709 (0.0201)***	-0.2990 (0.0198)***	0.0369 (0.0118)***	-0.0087 (0.0024)***
FORINV	0.3782 (0.0703)***	0.0646 (0.0923)	-0.4541 (0.1027)***	0.0113 (0.0089)								
CULTU	-0.0688 (0.0093)***	0.1104 (0.0100)***	-0.0407 (0.0060)***	-0.0009 (0.0019)	-0.0681 (0.0093)***	0.1093 (0.0100)***	-0.0404 (0.0060)***	-0.0008 (0.0019)	-0.0659 (0.0093)***	0.1080 (0.0100)***	-0.0412 (0.0060)***	-0.0008 (0.0019)
AI	0.0962 (0.0504)*	0.0939 (0.0551)*	-0.2009 (0.0351)***	0.0107 (0.0101)	0.1002 (0.0504)**	0.0877 (0.0551)[#]	-0.1991 (0.0350)***	0.0112 (0.0101)	0.0863 (0.0515)*	0.0687 (0.0567)	-0.1652 (0.0375)***	0.0102 (0.0102)
EXPER*FORINV					0.0217 (0.0044)***	0.0087 (0.0059)[#]	-0.0309 (0.0067)***	0.0005 (0.0007)				
AI*FORINV									1.4490 (0.3844)***	1.3505 (0.5816)**	-2.8486 (0.7726)***	0.0491 (0.0371)

Notes:

1. Standard errors are in parentheses.

2. ***, **, and * indicate that the coefficient is significantly different from zero at the 1%, 5% and 10% levels respectively.

3. [#] indicates that the coefficient is marginally insignificant at the 10% level.