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Foreign ownership structure of service equity joint ventures in China

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Abstract:
This paper investigates the foreign ownership structure of service equity joint ventures (EJVs) in China. In less than 20 years, China has emerged from a closed economy to become the second largest recipient of foreign direct investment (FDI) in the world. Now that China is a member of the World Trade Organisation, liberalisation of FDI is expected to accelerate even further. Despite the fact that an increasing proportion of FDI in China is in the form of equity joint ventures in the service sector, little is known of the ownership structure of service EJVs. Using a database of 6,430 foreign EJVs, in China from 1984 to 1996, this paper shows that foreign equity ownership differs significantly between service and manufacturing EJVs with foreign ownership generally being higher in service EJVs. The overall results also suggest that the gradual liberalisation of FDI in the service sector by Chinese authorities has had a positive effect on foreign equity ownership.

Introduction
Unprecedented growth of foreign direct investment (FDI) during the last decade suggests that FDI has become a preferred mode of internationalisation for many firms. One of the regions which has attracted much interest from foreign multinationals is China. In less than 20 years, China emerged from a virtually closed economy to become the second largest recipient of FDI in the world, following the USA. Interestingly, recent trends suggest that FDI in the service sector is increasing faster than in any other sectors of the economy and that of the different modes of FDI in China[1], equity joint ventures (EJVs) account for approximately 60 percent. Despite the rapid growth of FDI in China’s service sector over the last few years and the dominance of EJVs as the main mode of investment, FDI in China’s service EJVs has received limited attention from researchers[2]. Recent studies on China’s FDI have tended to focus mostly on the experience of firms investing in the manufacturing sector. Also, a growing stream of literature suggests that in industrialised countries the experience of service firms differs substantially from that of manufacturing firms (Larsson and Bowen, 1989; Bowen et al., 1989; Chadee and Qiu, 2001) and faces unique challenges in their foreign-market entry and expansion processes (Carman and Langeard, 1980). Thus, an interesting question arises as to whether this also holds true in the case of developing countries such as China.

This paper adds to the literature on FDI by focusing on EJVs in China’s service sector. In particular, the paper investigates how selected characteristics of EJVs (the location of the EJV, the country of origin of the foreign partner, the duration of the agreement, and the size of the project) influence the extent of foreign control in service sector EJVs in China. The paper proceeds as follows. First, a brief background on recent developments in China’s FDI and EJVs is provided. Second, using a large
data base of actual joint venture agreements in China, we assess the influence of selected JV characteristics on the extent of foreign equity ownership. The concluding section discusses the main findings regarding foreign ownership in China’s EJVs followed by some recommendations for future research.

**Developments in China’s service sector**

World wide, service firms have come under greater scrutiny in recent years, because the service sector has been found to be crucial for economic growth in many countries (Riddle, 1986). The service sector has experienced phenomenal growth in trade over a relatively short period of time (Mathe and Perras, 1994) and now accounts for around 70 percent of the production and an even larger percentage of employment in most developed countries (Burgess, 1995). The export of services is also becoming an increasingly important element of world trade as barriers to trade in services continue to be lowered under the auspices of the World Trade Organisation (WTO, 1996). Indeed, over most of the last decade, growth in the exports of commercial services worldwide has outpaced the growth of both the exports of merchandise and world output (WTO, 1996). As trade liberalisation initiatives for services gain momentum worldwide, greater opportunities are likely to be available to service multinationals.

China’s experience in attracting FDI in general and FDI in the service sector in particular, is only recent. Over most of the last five decades the Chinese economy was virtually closed to foreign firms. In the late 1970s, the Chinese government recognised the need to open up its domestic economy to foreign firms in order to become an integral part of the emerging global economy. The Chinese government also recognised the increasingly important role of multinational corporations in the global economy and their potential to upgrade China’s outmoded technology through FDI. Consequently, the Chinese government embarked on a deliberate internationalisation strategy aimed at making its economy an integral part of the world economy by opening up its import, export and foreign direct investment sectors.

One landmark policy related to FDI is the Law of the People’s Republic of China on Joint Ventures Using Chinese and Foreign Investment (1979), which gave FDI legal status for the first time. The 1979 law and subsequent additions have generally been aimed at stimulating FDI in the manufacturing sector through the reduction of barriers to FDI and the provision of incentives to foreign investors. Generally, policy reforms at stimulating and encouraging FDI in China have been very successful. It is estimated that by the end of 2000, a staggering 23,870 foreign funded enterprises were operating in China compared to only 21 in 1980 (CCPIT, 2001). During the same period, more than 367,500 foreign investment projects were approved by Chinese authorities for a total value of US$681 billion (MOFTEC, 2001). By the end of 2000, the cumulative amount of utilised FDI was approximately US$354.3 billion, the majority of which (approximately 59 percent in 2000) were in the form of equity joint ventures (EJVs) between foreign and local partners (MOFTEC, 2001). Clearly, China’s strategy of stimulating FDI has been quite successful, particularly after 1991 (see Figure 1) when the government offered major incentives to potential foreign investors. FDI has also contributed significantly to China’s economic growth. Exports from foreign invested enterprises (FIE) have increased from 17 percent to 45 percent of the country’s total exports between 1991 and 1999, with the value of exports by FIEs increasing from US$12 billion to US$89 billion during the same period. It is estimated that FIEs in China now employ more than 20 million people, accounting for approximately 15 percent of the country’s non-rural labour force (MOFTEC, 2001).

The main strategy of China’s industrial policy over the last two decades has been mostly targeted at developing and upgrading the manufacturing sector through the utilisation of foreign capital and
technology. As such, during the early years of FDI liberalisation (1979-1991) government policies focused on attracting foreign investments in light manufacturing industries as a means of providing employment to a large number of people. Thus, 74 percent of all FDI during the 1979-1991 period was in the manufacturing sector. By contrast, FDI in the service sector, which was still regarded as an outcome of the economic development process and was not actively promoted, accounted for only about 20 percent[3] of all foreign investments (Figure 2). Most FDI in the service sector during this period was from firms which followed their manufacturing sector clients to provide ongoing basic service support. Failure to do so risked not only losing potentially future lucrative opportunities as the business activities of their corporate clients grow in China, but also losing these clients in the home market. Thus, earlier investments in China’s service sector were concentrated mostly in industries such as hotel management, management consulting and accounting to cater for Western foreign multinationals and the growing number of expatriates in the major cities such as in Shanghai, Beijing and Tianjin.

In more recent years, however, the Chinese government has realised that the service sector can play an important role in economic growth and development of the country. In 1999, for example, the service sector created approximately six million new jobs (about 70 percent of all new jobs that year) and contributed approximately 40 percent to the country’s gross national product. Furthermore, during the 1992-1999 period, the share of FDI in service sector industries has increased to 39 percent (Figure 2). This increase is largely a result of major shifts in government policies towards actively encouraging FDI in the service sector by deregulating several key industries in this sector and also by providing major incentives to firms willing to invest in this sector. The industries in which FDI is being promoted include finance, insurance, telecommunications, retail[4], tourism, education, culture, transportation, banking, management consultancy, engineering, accounting, and other intermediary services. Generally, China’s service sector is becoming more attractive to foreign investors, thereby reversing previous trends of relatively low level of FDI into high value-added service sectors.

Modelling foreign ownership structure of EJVs in China

The ownership structure of service joint ventures remains a neglected area of research despite rapid growth in the global activities of service firms over the last decade. Studies on various aspects of the internationalisation of service firms generally suggest that there may be substantial differences in the ownership structure of manufacturing and service firms. The “non-separability” of production and delivery of services (Gummersson, 1978) and the intangible nature of services (Erramilli and Rao, 1993) also suggest that FDI in service firms could be different from manufacturing firms. Service firms have been found to use a number of different strategies to enter foreign markets (Mathe and Perras, 1994; Ekeledo and Sivakumar, 1998). They seem to prefer full-control modes, but as costs escalate, low specificity firms will increasingly seek out shared control ventures (Erramilli and Rao, 1993). Studies of the international activities of professional service firms also highlight a different pattern of internationalisation because of the very different type and significance of their resource commitments (Johanson and Deo Sharma, 1987). Consultancy firms, for instance, normally enter projects with people, knowledge and information only (Chadee and Mattsson, 1998). Complex and intricate relationships with customers are crucial to manage while sales and production cannot be separated (Gummersson, 1978). Thus, because of the unique characteristics of service firms, there are reasons to believe that the ownership structure of service and manufacturing joint ventures is quite different, and within the service sector itself, different industries would have different ownership structures. To date, no empirical evidence exists to substantiate either of these claims.
Within this context, this paper addresses the following two questions as they relate to joint ventures in China:

1. (1) Does the extent of foreign equity ownership and degree of control differ between service and manufacturing firms?

2. (2) Does the extent of foreign equity ownership and control within the service sector vary among different industries?

In order to address these two questions, we proceed as follows. First, we compare the extent of foreign equity ownership in service and manufacturing EJVs to test the null hypothesis that service firms do not seek greater equity ownership than manufacturing firms. Second, we focus on a sample of service EJVs to test the null hypothesis that the extent of foreign equity ownership and control in service EJVs does not differ significantly among different industries. Previous studies (Shan, 1991; Pan, 1996, 1997; Hu and Chen, 1993; Tse et al., 1997; Chadee and Qiu, 2001), have used a number of joint venture specific characteristics to model equity ownership in China’s manufacturing sector. Borrowing from this literature, we use firm location (LOC), the origin of the foreign partner (CO), the duration of the joint venture agreement (DUR), the size of the joint venture (SIZ), and the timing of the JV approval (Y) as the main factors influencing foreign equity ownership in Chinese EJVs.

The location of firms (LOC) has been used as a determinant of equity ownership in JVs in previous studies (Chadee and Qiu, 2001; Dunning, 1998; Hu and Chen, 1993; Pan, 1996; Shan, 1991). Not only are different locations endowed with different resources and infrastructure, but also in China, different locations are characterised by different degrees of autonomy, economic liberalization and marketization permitted by the central government (Shan, 1991). In addition, both local and central governments offer varying incentives to attract firms in certain locations in order to achieve specific regional economic development goals. Thus, the developed nature of different locations and their overall attitude towards FDI tend to influence the extent to which foreign investors commit themselves to particular projects. Locations which are generally more open to FDI and offer greater incentives to foreign investors are typically regarded as being safe. Consequently, foreign investors are more likely to seek a greater share of equity ownership in JVs in such locations. This study distinguishes between four broad regions according to the degree of industrial development, economic liberalization and policies towards FDI. These include:

1. (1) the 12 coastal areas and five special economic zones especially developed for light manufacturing firms (LOC1) and which offer an attractive environment for export manufacturers;

2. (2) the three metropolitan cities (LOC2) consisting of Beijing, Shanghai and Tianjin which have been the prime locations for FDI (Beamish and Wang, 1989) and where there is a high concentration of affluent consumers;

3. (3) other coastal cities (LOC3) designated as open cities; and

4. (4) all other regions not included in the three main groups above.

Service firms tend to be located close to their clients because of the inseparability of service production and delivery. In this respect, LOC2 offers more prospects to service EJVs, and as such, the share of foreign ownership in EJVs in this region is likely to be higher than in other regions.

The origin of the foreign partner is another important determinant of the extent of foreign equity ownership in EJVs (Pan, 1996; Hu and Chen, 1993). Foreign investors from different cultural, linguistic and economic backgrounds are likely to commit different amounts of FDI and assume
different levels of risks and control depending on their familiarity with the local business environment. Although scant evidence exists on the degree of control of EJVs by foreign investors from different regions, these studies tend to draw mostly on the experience of manufacturing firms in developed countries. Whether foreign ownership of service EJVs in China differs greatly according to the origin of the investor has not been investigated so far. To fill this gap, we differentiate between EJV partners from five major sources. These include investors from Hong Kong (CO1), the USA (CO2), Japan (CO3), Europe (CO4) and Singapore (CO5) which together account for approximately 95 percent of all FDI in China. Intuitively, investors from Hong Kong (CO1) are expected to own a greater share of ownership because of their linguistic, cultural and geographic closeness with China. But whether they exert more control in service EJVs has not been tested empirically so far.

The duration of EJV contract (DUR) has also been found to influence the extent of foreign ownership in Chinese JVs (Pan, 1996; Shan, 1991; Chadee and Qiu, 2001). Under Chinese investment law, EJVs are required to explicitly specify the terms of their contracts, including the duration of the agreement between the foreign and local partner. Projects of longer duration give foreign firms time to familiarise themselves with the business environment without being under time pressure to conduct business. Thus, foreigners are more likely to seek a higher level of equity ownership the longer the duration of the JV contract.

The size of a particular project can also influence the extent of foreign equity ownership. Big projects usually require large amounts of capital and are therefore more risky than smaller projects from the investor’s perspective. Thus, the level of risk rises sharply for larger projects as firms place a substantial portion of their investment overseas into one discrete chunk (Gatignon and Anderson, 1988). In addition, a large organization is exceedingly difficult to run well (Williamson, 1985). Gatignon and Anderson (1988) found evidence suggesting that foreign firms usually seek a smaller share of equity when the required investment amount is large. The risk exposure of a venture is proportionate to the total amount of the investment because when the total investment of the venture goes up, the foreign partner’s resource commitment will go up even though its equity share stays the same (Pan, 1996). Such exposure can be reduced by contributing a smaller share of capital to the venture. Thus, it is hypothesized that a negative relationship exists between the size of the project and the level of foreign ownership in EJVs in China.

One of the objectives of this study is to assess whether the level of foreign ownership and control in service EJVs has changed significantly over time. This issue has been either ignored in previous research (Hu and Chen, 1993) or has been dealt with inadequately (Pan, 1996) despite the fact that FDI in China has experienced major change over the last decade. Pan (1996), for example, attempts to address the longitudinal aspect of foreign ownership by using a large sample over several years, but the analysis fails to capture the changes in ownership levels over time. Similarly, Shan (1991) incorporated time in his study, but no significant effect was found on foreign ownership. When entering into frontier territories, first movers take considerably more risks in treading the untested waters (Lieberman and Montgomery, 1988). In the case of China, early entrants faced higher risks and more uncertainties due to the underdeveloped nature of the business environment compared to a much more improved overall business environment in recent years. Thus, foreign partners in EJVs formed in more recent years are more likely to seek greater control through higher shares of equity ownership than those formed in earlier years. For the purposes of this study, three main stages of FDI growth in China (see Figure 1) are distinguished according to major developments in the legal and policy environment relating to FDI as follows:
1. (1) the experimental stage (1979-1986); 
2. (2) the growth stage (1987-1991); and 
3. (3) the boom stage (1992-1996).

It is hypothesized that the more recent the approval of the EJV, the higher the level of foreign equity ownership.

Following from the discussion above, the following general form model explaining foreign ownership of equity in China’s EJVs is specified: (see equation 1) Where $\beta$ are the regression coefficients to be estimated and;

$$\text{OWN}_{i,t} = \text{foreign ownership of EJV } i \text{ at time } t \text{ (t = 1984-1996)}$$

$\text{LOC1} = 1$ if the EJV is located in the 12 coastal areas or 5 SEZs; 0 otherwise.

$\text{LOC2} = 1$ if the EJV is located in the three metropolitan cities of Beijing, Shanghai and Tianjin; 0 otherwise.

$\text{LOC3} = 1$ if the EJV is located in other coastal cities; 0 otherwise.

$\text{CO1} = 1$ if the foreign partner is from HK; 0 otherwise.

$\text{CO2} = 1$ if the foreign partner is from USA; 0 otherwise.

$\text{CO3} = 1$ if the foreign partner is from Japan; 0 otherwise.

$\text{CO4} = 1$ if the foreign partner is from Europe; 0 otherwise.

$\text{CO5} = 1$ if the foreign partner to the EJV is from Singapore; 0 otherwise.

$\text{DUR} = \text{EJV contractual duration in years}$

$\text{SIZS} = 1$ for small projects (EJV total investment < $1$ million); 0 otherwise.

$\text{SIZL} = 1$ for large projects (EJV total investment > $20$ million); 0 otherwise.

$\text{Y1} = 1$ if the EJV was approved between 1984 and 1986; 0 otherwise.

$\text{Y3} = 1$ if the EJV was approved between 1992 and 1996; 0 otherwise.

**Model estimation and results**

In order to meet the overall objective of this paper, data on 6,430 Chinese EJVs formed between 1984 and 1996 are used. The sample consists of 5,497 manufacturing and 933 service EJVs. These data have been compiled from the Almanac of Foreign Economic Relations and Trade of China, published by the Ministry of Foreign Trade and Economic Co-operation (MOFTEC). MOFTEC is an authoritative agency of the Chinese government responsible for the approval of FDI in China. As such, this data source is considered reliable and has been widely used by other researchers (Chadee and Qiu, 2001; Hu and Chen, 1993; Pan, 1996). For each EJV, the name of the foreign party, the percentage of its share in the EJV, the total amount of each investment, the duration of the EJV contract, the type of the business venture, the location of the operation and the time of approval of the EJV by Chinese authorities are provided.

The first objective is to test whether the extent of foreign equity ownership and control in service EJVs is different from manufacturing EJVs in China. In order to fulfil this objective, a 0-1 dummy
variable (SEC) is included in equation (1) to differentiate between manufacturing and service EJVs and use the full sample (n = 6,430) for estimation purposes. The second objective is to analyse the extent of foreign equity ownership in different service industry EJVs. In order to accomplish this objective, industry specific dummy variables for different types of service industries are included in the model and use data for service sector EJVs only (n = 933) for estimation purposes.

The estimation procedure of any model depends largely on the form of the dependent variable (OWN). In the present case, the dependent variable is defined similar to Pan (1996), who categorises foreign equity ownership of EJVs into minority, equal and majority shareholders. Accordingly, EJVs with 25 to 49 percent of foreign ownership are considered as minority ownership; EJVs where foreign equity is equal to 50 percent are considered as equal ownership, while those where foreign equity ownership varies between 50 percent and 99 percent are considered to be majority owned. This classification allows us to compare the three ownership options available to prospective foreign investors (i.e. minority, majority and equal ownership). Thus, a particular investor faces three equity ownership choices, namely:

1. (1) majority vs equal;
2. (2) equal vs minority; and
3. (3) majority vs minority.

These choices can be modelled as a binomial logit model of the form: (see equation 2) Pi is the probability of choosing a particular equity ownership structure. Ln (Pi / (1–Pi)) is the log of the odds ration in favour of a choosing particular equity ownership structure, is linear in both X and the parameters. For estimation purposes, the dependent variable is coded as a 0-1 variable[5]. Equation (2) is estimated using the maximum likelihood routine of the LOGISTIC procedure available in the statistical analysis system (SAS)[6].

Discussion of results

Sample characteristics

Table I presents a summary of the descriptive statistics for EJVs in manufacturing and service sectors. The distribution of EJVs by their country of origin indicates that the present sample is fairly representative of the population as reported by the Ministry of Foreign Economic Relations and Trade of China. In the present sample, approximately 27.7 percent of service EJVs are located in Beijing, Tianjin and Shanghai, compared to 15.2 percent for manufacturing EJVs. Hong Kong accounts for approximately 68 percent of all service EJVs in China, which also tend to have longer term contracts than manufacturing EJVs. Furthermore, the extent of foreign ownership in service EJVs tends to be higher than in manufacturing EJVs. Approximately 46 percent of service EJVs are majority owned and 37 percent are minority owned. The corresponding figures for manufacturing EJVs are 28 percent and 55 percent respectively.

Multivariate analysis

The first question which this paper seeks to address is whether foreign ownership of service EJVs is different from manufacturing EJVs. For this purpose, binomial logit models of equation (1) are estimated based on the full sample and compare majority, equal and minority equity ownership of EJVs. Multicollinearity is usually a major concern in models with dummy variables such as the present one. A close examination of the Pearson correlation coefficients (see Table II) among the explanatory variables did not show any serious multicollinearity problem[7]. The maximum
likelihood estimates for the three binomial logit models along with performance statistics are presented in Table III. Overall, the three logit models perform reasonably well judging by the number of statistically significant variables and the fact that most variables have the a priori expected signs. The performance statistics (the respective $\chi^2$, tau-a statistic, and concordant values) all suggest that the three models are statistically significant ($p = 0.0001$) and that the variables as a group in each model discriminate well between majority and equal equity ownership (model A); equal and minority ownership (model B); majority and a minority ownership (model C).

Of major interest in Table III is the parameter estimate ($\beta$ 14) for the dummy variable (SEC) which compares service and manufacturing EJVs. This variable is highly statistically significant ($p = 0.0001$) in all three models, indicating that service firms are different from their manufacturing counterparts in their choice of foreign equity ownership. Model A suggests that foreign investors in service firms prefer majority ownership to equal ownership ($\text{OWN} \text{majority} > \text{OWN} \text{equal}$). In model B, foreign investors in service firms prefer equal ownership to minority ownership ($\text{OWN} \text{equal} > \text{OWN} \text{minority}$) while model C suggests that foreign investors in service EJVs prefer majority ownership to minority ownership ($\text{OWN} \text{majority} > \text{OWN} \text{minority}$). Thus, the overall results consistently show that foreign equity ownership in service EJVs tends to be higher (i.e. $\text{OWN} \text{majority} > \text{OWN} \text{equal} > \text{OWN} \text{minority}$) compared to foreign equity ownership in manufacturing EJVs. Thus, the null hypothesis that service firms do not seek a higher level of foreign equity ownership than manufacturing EJVs is rejected.

Although interesting, the results from Table III offer only limited scope for fully understanding the dynamics of foreign equity ownership and control in service firms due to the dominance of manufacturing EJVs in the sample. Thus, our next step involves focussing specifically on a sample of service EJVs.

**Foreign ownership of service EJVs**

The nature of the industry in which foreign investment is undertaken can influence investment behaviour (Gatignon and Anderson, 1988; Pan, 1996). In order to gain a better understanding of foreign equity ownership in service EJVs, equation (1) is estimated using a sample of service firms[8] only (n = 933). Four digit SIC code, the description of the activities and the business scope of each service EJV (from the Almanac of Foreign Economic Relations and Trade of China) are used to distinguish between different types of service industries. For the purposes of this paper, the majority of service EJVs can be grouped into four main industry categories. These include real estate development and management – 39 percent (REAL), power energy supply – 17 percent (POW), infrastructure design, construction and management – 13 percent (INFRA); restaurant, recreation and entertainment – 16 percent (REST) and others – 15 percent[9]. Four industry specific 0-1 dummy variables are included in equation (1) to differentiate between the five dominant industrial groups identified in the sample.

The maximum likelihood estimates of the logistic regression for the service sector model incorporating industry specific dummy variables are presented in Table IV. Generally, the models perform better at explaining the level of foreign equity ownership for service EJVs as evidenced by the statistics of fit (concordant values, tau-a and chi square). As in the previous models, multicollinearity and heteroskedasticity do not appear to be a major problem.

Location has been used as an explanatory variable in recent studies of JVs in China but these have tended to focus on manufacturing firms. The results in this paper relate specifically to service firms and show that, generally, foreign ownership of service firms tends to be higher in the first location defined as the five SEZ and 12 coastal areas (LOC1) and that foreign equity ownership of service EJVs tends to be lower in the three metropolitan cities (LOC2). Overall, service firms in LOC1 prefer
majority foreign equity ownership to both equal and minority equity ownership, whereas in LOC2, service firms prefer minority foreign equity ownership. These somewhat unexpected findings may be due to higher bargaining power of the local Chinese partner in LOC2 because of the unique locational advantages that these three cities possess (Dunning, 1988). Chinese partners are generally more knowledgeable about the structure of the local market and consumer characteristics and as such are in a strong position to leverage a higher equity ownership in service EJVs.

The extent of foreign equity ownership also differs significantly among investors from different regions. Overall, investors from Singapore tend to prefer majority ownership, while European investors (CO4) prefer the lowest share of equity in Chinese EJVs, followed by Hong Kong and the USA. The coefficient for Japan (CO3) is not statistically significant. The results are different from previous research of equity ownership in China's manufacturing EJVs which show that Hong Kong investors have the lowest share of ownership (Beamish, 1993; Hu and Chen, 1993; Pan, 1996). One potential explanation for the difference may be due to the nature of investment undertaken by investors from the respective origins. Investors from Europe generally tend to invest in larger scale projects and consequently own a smaller share of the venture as opposed to investors from Hong Kong, who focus primarily on small and medium scale ventures. Investors from Singapore (CO5) tend to prefer full control given the cultural and linguistic proximity and familiarity with the Chinese market.

The relationship between project size and foreign equity ownership is further reinforced by the statistically significant coefficient associated with the variable SIZ. Previous studies have used the actual amount of the investment as a proxy for the size of the project under consideration (Shan, 1991; Hu and Chen, 1993; Pan, 1996). However, this approach may be problematic since there is a danger that some of the firms may be outliers with unusually small or large investments. To avoid potential problems with outliers, project size is categorised as small, medium and large according to the investment amounts for each project. The results show a statistically significant relationship between project size and the level of foreign equity ownership. Generally, foreign owners of small projects prefer majority ownership to either minority or equal ownership. For large projects, foreign partners prefer minority ownership to either equal or majority ownership. This finding is consistent with a priori expectation because as the size of a project increases, unless the contribution of the foreign partner also increases, the share of foreign ownership is not likely to increase (Pan, 1996).

As in previous research, the duration of the EJV agreement is an important determinant of the share of foreign equity ownership. The results indicate that foreign investors in service EJVs generally prefer higher equity ownership the longer the joint venture agreement. This finding is consistent with those of Pan (1996), Shan (1991) and Hu and Chen (1993). Similarly, the temporal effects, captured by the variable Y3, is both positive and statistically significant. This suggests that over time, the general trend has been toward higher shares of foreign ownership since 1992. This finding is consistent with casual observations that the foreign ownership level of service EJVs in China has increased gradually over time; perhaps as a result of foreigners becoming more acquainted with China's business and investment environment as time goes by.

The variation in equity ownership among the four main industrial groupings considered is also quite interesting as the results appear to suggest that the extent of foreign equity ownership is influenced by the size of the project and the extent of buyer-seller interaction involved in the business. In the restaurant and recreation (REST) and real estate management (REAL), foreign partners appear to prefer majority ownership over both minority and equal ownership. By contrast, in the infrastructure (INFRA) and power supply (POW) businesses, the results suggest that foreign partners prefer minority ownership over both majority and equal ownership. Both REST and REAL involve relatively
smaller investments compared to INFRA and POW. Furthermore, restaurants and recreation businesses involve a high degree of close buyer-seller relationship and success is largely determined by the quality of the service delivered. In order to ensure high quality of service delivery and customer satisfaction, foreign partners opt for full control through majority equity ownership in these businesses. Overall, foreign partners in service EJVs which involve a higher degree of customer interaction seem to prefer higher equity ownership.

**Conclusion and discussion**

This paper sets out to investigate the ownership structure of service EJVs in China. The paper adds to the existing literature in two ways. First, although previous research has pointed out that service firms are inherently different from manufacturing ones and that they may pursue different internationalisation strategies (Mathe and Perras, 1994), no empirical evidence exists to date relating to the ownership issue. Second, there is a general lack of research on China’s service sector, despite the fact that this country is the second largest recipient of FDI in the world and an increasing proportion of this is in the service sector. Most studies of the activities of multinationals in China have tended to draw on the experience of manufacturing firms because China’s open door policy was first applied to the manufacturing sector. As a result, FDI in the manufacturing sector has increased rapidly while the service sector was still highly protected from foreign competition. For some time, China has gradually liberalised FDI into its service sector in preparation for its admission as a full member of the World Trade Organization. As a result, the proportion of FDI in service sector industries has experienced rapid growth over the 1990-2000 period. Now that China is a full member of the WTO, it is expected that further and faster deregulation of a number of key service sector industries is imminent. As such, greater opportunities are likely to arise for foreign service firms to invest in China in the future. For many managers of MNEs, entering the Chinese market is their first experience with joint ventures in a planned economy developing country (Beamish, 1993). Like other planned economies, China offers both opportunities and challenges to foreign investors. One of the challenges to managers who plan to enter the Chinese service sector is how to structure the venture, making the ownership arrangement in a JV an important decision variable. Equity ownership is a strategic issue because it offers the foreign partner a means of maintaining managerial control over the JV. In many service EJVs, such control is critical for the success of the venture.

Our review of the literature suggests that previous studies of joint ventures in China may have overlooked the importance of service sector industries by failing to differentiate properly between service and manufacturing EJVs. Our results confirm that the structure of foreign equity ownership in service firms is different from manufacturing firms. Generally, the results suggest that service sector firms prefer majority ownership to equal and minority ownership where the amount of interaction with customers is high. By contrast, foreign partners prefer minority ownership in service JVs, which involve large investments and where the context in which the service is being rendered does not require close interaction between buyer and seller. In addition, some of our findings also contradict some previously held beliefs about service firms based on the experience of manufacturing firms. For example, foreign equity ownership of service firms in LOC1 are generally higher than in LOC2 and LOC3 while investors from different locations behave differently in the two sectors under consideration. The extent of foreign equity ownership tends to vary inversely with the size of the project, suggesting that the larger the investment involved, the lower the foreign equity share is likely to be. Finally, the results also confirm that the gradual opening up of the service sector over time has generally increased confidence in China’s economy and as a result, foreign partners were more likely to seek a higher proportion of equity ownership in more recent times. The overall
findings on foreign equity ownership strengthen our previous contention that service firms follow a different pattern of internationalisation.

Like most research, this study also has some limitations. Conducting research on the Chinese economy is not easy because data are not generally available as in most Western industrialised countries. Even where data are available, questions about their reliability and accuracy become a major concern. In this study our analysis is based on data provided by the Government of China. These data contain only a limited amount of firm specific information that could be used for the purposes at hand, thereby limiting the extent to which these results can be generalised. Ideally, modelling equity ownership on a sectoral basis should include firm specific characteristics such as sales, number of employees, age of company, management competencies, and financial information. Also, because the service firms under consideration are among the first to be allowed to enter the Chinese market, the sample is somewhat biased towards real estate management companies. But in recent years more service industries have been allowed to invest in China. It is recommended that future modelling of equity ownership in the service sector use a broader sample of firms, including JVs in consultancy, insurance, finance, banking, telecommunications and retailing. These industries have only been opened to international competition since 1997, a period not covered by this study. Finally, it is suggested that future analysis uses data derived from structured firm level surveys, although fully acknowledging the difficulties and costs of such an undertaking.

Notes

1. Under Chinese Law, FDI can take place through five main channels, namely: EJVs; wholly foreign-owned enterprises; cooperative joint ventures; joint development agreement; and other foreign investment. An EJV requires that the foreign partner contributes between 25 and 99 percent to the total cost of the project and usually takes the form of a limited liability company.

2. A review of the literature reveals only five empirical investigations of ownership structure of JVs in China over the last ten years (Shan, 1991; Hu and Chen, 1993; Wei, 1993; Pan, 1996; Chadee and Qui, 2001) with only the latter two focusing explicitly on EJVs.

3. During the early days of open door policy, FDI in real estate was the single largest investment by foreigners in China. When FDI in real estate is excluded, the average share of FDI in the service sector during the 1979-1991 period was a mere 5 percent.

4. The retail sector is one of the fastest growing service sectors in China. Foreign firms in this sector include France’s Carrefour with 26 large supermarkets in 15 cities, Germany’s Metro AG and US retailer Wal-Mart. With rapid expansion in the retail sector expected, the wholesale sector is also poised to grow.

5. For an explanation of the dependent variable, see notes from Tables III and IV.

6. When the dependent variable is ordered as in the present case, the LOGISTIC procedure in SAS fits a parallel lines regression model that is based on the cumulative distribution probabilities of the response categories, rather than on their individual probabilities (SAS/STAT manual, 1990, Ch. 27, p 1073). Thus, under such conditions, the estimated intercept terms are different while the slope parameters are exactly the same. Theoretically, the total probability must add up to one and therefore the number of intercept estimated is always one less than the number of categories under consideration. The base intercept can be derived as a residual.

7. An examination of the Pearson correlation coefficients (Table II) indicates that only two variables were highly correlated with each other (SIZM/SIZL = 0.76) and could potentially lead to
multicollinearity if both are included in the model. On this basis, SIZS and SIZL were chosen for inclusion in the model. Heteroskedasticity did not appear to be a major problem based on the Glejser (1969) test.

8. Comprehensive data on service firms are only available for the period 1992-1996. Consequently, in the service model, we test the temporal effects by defining \( Y \), the time variable, as follows: 1992 = 1, ... 1996 = 5 to correspond to the year in which EJVs were approved.

9. The “others” category includes EJVs in the financial and banking sector, insurance, foreign trade, export and import, telecommunication, retail and wholesale, accounting services, transportation and freight forwarding and legal services. Because of the small number of firms in each category, it is not possible to consider them separately in the model.

![Figure 1. FDI in China, 1979-2000](image1)

![Figure 2. Sectoral distribution of FDI in China (1979-2000)](image2)

(see equation 1)

(see equation 2)

Table I. Sample characteristics (n = 630)
Table II. Correlation coefficient matrix

Table III. Maximum likelihood estimates of logit models (full sample)

Table IV. Maximum likelihood estimates for service sector models (n = 933)

References and further reading


