

## **Do Sino-Foreign Joint Ventures Create Shareholder Value for Chinese Partners?**

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### **ABSTRACT**

Based on the transactional theory of international joint ventures, we examine the stock price reactions for B-shares of the Chinese partners during the Sino-foreign venture announcements. Significant and positive announcement effects are found in the Shanghai and Shenzhen stock markets. We also attempt to identify determinants of the shareholders value creation. Four variables, namely geographic origin, size of foreign partners, status of Chinese partners and China's country risk, are found to be significant in the regression models.

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## I. INTRODUCTION

One of the most striking features in China's economic life this year is the surge in overseas direct investment. The investment volume is expected to surpass \$US 50 billion this year, hitting an all-time high (MOFTEC Bulletin, 2003). This was how the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) first assessed the amount of foreign direct investment (FDI) in China for the year 2002. Such a level of foreign investment is impressive, indicating that China is the world's main recipient of foreign capital. In fact, such a record is extremely significant because the FDI flows have been increasing in China while they were generally decreasing in the rest of the world. For instance, FDI flows in the world have decreased from \$US 1,500 billion in 1999 to 700 billion in 2000, then further down to 580 billion in 2001.

European and US stock markets usually react significantly to announcements of investment in China (Gupta et al., 1991; Chen et al., 1991; Hu et al., 1992; Cheng et al., 1998; Cheng and McDonald, 2001; Meschi and Cheng, 2002; Meschi and Hubler, 2003). Results from various event studies showed that, apart from a few exceptions, Sino-European and Sino-US joint ventures create shareholder value for European and US partners (see Table 1). Even though, since 1997, international joint ventures are no longer the main FDI entry mode in China in terms of dollar value, particularly comparing with acquisitions and wholly-owned subsidiaries (MOFTEC Bulletin, 2001), they remain an important FDI channel for various strategic reasons. Generally speaking, Sino-foreign joint ventures are formed and organized as follows: the foreign partner provides the joint venture with upstream resources such as funding and production technology (Connolly, 1984; Pan, 1996). The Chinese partner provides downstream resources such as connections with local government officials, access to distribution channel and personnel, and knowledge of local regulations (Inkpen and Beamish, 1997; Kale and Anand, 2001).

As it can be observed in Table 1, many empirical studies examine the stock market reactions to international joint ventures in China. However, these studies always take the viewpoint of the foreign partners (namely, that of the European or US partners). But adopting the viewpoint of the local partners, one can raise the following research questions: do Sino-foreign joint ventures create shareholder value for Chinese partners? Is the shareholder value creation of Chinese partners similar to that of foreign partners? This article aims at addressing these different research questions. More specifically, the purpose of this article is to examine the stock market reactions to Sino-foreign joint ventures from the viewpoint of the Chinese partners. The transaction cost theory will be used as a theoretical lens to explain the shareholder value creation of Chinese partners and to gain a better understanding of its determinants.

Some empirical studies analyzed the partner performance in international joint ventures using the transaction cost theory (Nee, 1992; Yan and Gray, 1994; Mjoen and Tallman, 1997; Hennart et al., 1998). However, in these studies, the transactional analysis is made exclusively from the perspective of foreign partners. Given the differences in contributions and objectives of foreign and Chinese partners, it is unlikely that the transactional analysis of the performance of Chinese partners would result in similar findings as documented for the foreign partners. This leads us to formulate a third research question: do transaction costs incurred by Chinese partners affect their performance?

This article is structured as follows. The first part summarizes the main findings of the literature on the shareholder value creation of European and US partners in international joint ventures formed in China. The second part introduces the transactional theoretical framework and formulates research hypotheses relating the shareholder value creation of Chinese partners to variables derived from the transaction cost theory. The third part describes the event study methodology and the sample of 92 Chinese partners involved in Sino-foreign joint ventures. In a fourth part, the article presents the main findings. The conclusion discusses the shareholder value creation of Chinese partners in international joint ventures in comparison with that of foreign partners and proposes directions for future research.

## **II. FORMATION OF INTERNATIONAL JOINT VENTURES IN CHINA AND SHAREHOLDER VALUE CREATION OF EUROPEAN AND US PARTNERS**

The implementation of the open door policy by Deng Xiaoping in 1978 initiated a flow of FDI in China, which has never stopped growing since then. From July 1<sup>st</sup> 1979, the Chinese government authorized the formation of Sino-foreign joint ventures in China. Many studies have examined the economic and financial advantages that foreign firms could gain from such an investment. In the early 1990s, two US studies (Chen et al., 1991; Gupta et al., 1991) were among the earliest in the literature to address the issue of shareholder value creation in relation to Sino-foreign joint venture announcements. They both reached the same conclusion that US firms forming an international joint venture in China create shareholder value (see Table 1). These studies found that announcements of Sino-US joint venture have a significant and positive stock market impact. The US partners have abnormal returns of around 0.5% on the announcement day and around 1% when abnormal returns are cumulated over a relatively short period around the announcement date (see  $CAR_{1,+1}$  and  $CAR_{-5,+5}$ ). Later, other studies confirmed this initial finding using US data (Hu et al., 1992; Cheng et al., 1998; Cheng and MacDonald, 2001) and European data (Meschi and Cheng, 2002). However, Meschi and Hubler (2003) found discordant results. They reported negative cumulative abnormal returns for French firms forming Sino-French joint ventures. Nevertheless, these negative results have been largely caused by the period of study (1994-2000). Possibly the 1997 Asian economic crisis and the subsequent deterioration of the China's country risk have exercised a negative influence on stock market reactions to announcements of Sino-French joint venture during this period.

These studies also examined different factors that may affect the abnormal returns of foreign partners. Some variables were examined by several studies (namely, contract amount, industry, location in China, equity ownership of Sino-foreign joint ventures, local and international experience of foreign partners, and country risk), while other variables were only examined once (size of foreign partners and technology intensity). Concerning the variables that were examined in these studies, Table 1 shows that most of them obtained similar results. This was the case for industry, location in China, equity ownership of Sino-foreign joint ventures, local experience of foreign partners, and country risk.

Apart from the country risk, which has a negative impact on stock market valuation (Cheng and McDonald, 2001; Meschi and Hubler, 2003), all these variables

have no influence on abnormal returns of foreign partners. It is important to note that the empirical studies presented in Table 1 did not lead to the same conclusion regarding the stock market reactions to contract amount of Sino-foreign joint ventures and international experience of foreign partners. The stock market reactions to contract amount are significant and negative as reported by Chen et al. (1991), while this relationship is not found to be significant by Meschi and Hubler (2003). Among the studies that examined the stock market impact of international experience of foreign partners, Meschi and Hubler (2003) reported a significant and positive impact; Hu et al. (1992) found a significant and negative impact, while Chen et al. (1991) stated that this variable did not have a significant impact.

For the variables examined only once (namely, size of foreign partners and technology intensity), results by Chen et al. (1991) and Gupta et al. (1991) stated that Sino-foreign joint ventures that have low capital intensity or high technology intensity create shareholder value. On the other hand, no significant valuation effects are observed when joint ventures have high capital intensity or low technology intensity. The size of foreign partners is also found to have no valuation effects.

### **III. TRANSACTION COST THEORY AND SHAREHOLDER VALUE CREATION OF CHINESE PARTNERS IN INTERNATIONAL JOINT VENTURES IN CHINA: DEFINITION OF RESEARCH HYPOTHESES**

This paper draws on the transaction cost theory to gain a better understanding of the performance of Chinese partners in Sino-foreign joint ventures. More specifically, the transaction cost theory offers a theoretical framework for analyzing the shareholder value creation of Chinese partners as well as its determinants. This theory has proven to be relevant in explaining the performance of foreign partners in international joint ventures (Nee, 1992; Yan and Gray, 1994; Mjoen and Tallman, 1997; Hennart et al., 1998). Since the transaction cost theory is an appropriate theoretical framework for understanding why foreign partners in international joint ventures benefit from significant and positive valuation effects, we chose to use the same theoretical framework to analyze the shareholder value creation of Chinese partners.

According to the transaction cost theory, foreign partners aiming to access local partner's downstream resources (namely, connections with local government officials, access to distribution channel and personnel, and knowledge of local regulations) tend to privilege joint ventures over acquisitions or wholly-owned subsidiaries. Similar rationale can be applied to Chinese partners, even when the targeted resources are of a different nature. When the transfer or replication of upstream resources such as technological and financial resources is too costly, Chinese firms will choose joint venture as governance structure to access these upstream resources. However, there exists a difference in transaction costs borne by each partner (Luo et al., 2001). While transaction costs associated with international joint ventures are high for both partners, on average, transaction costs of foreign partners are higher than those of Chinese partners. This is because technological and financial resources contributed to international joint ventures by foreign partners are less tacit, more easily codifiable and thus transferable. Nevertheless, foreign partners remain "myopic" in the Chinese environment as they do not fully understand and identify the political and economic environment, local culture, and the key players. Thus, although they benefit from major

**Table 1**  
Summary of research literature on the valuation effects of Sino-foreign joint ventures

Study	Sample Size	Geographic Origin of Foreign Partners	Period of Study	Announcement Stock Market Effect*	Cumulative Stock Market Performance*	Explanatory Variables
1. Gupta et al. (1991)	86	USA	1979-1987	0.45%	[-1, +1] 0.97%	- Capital intensity (low – positive impact, strong – n.s.) - Technology intensity (low – n.s., strong – positive impact)
2. Chen et al. (1991)	88	USA	1980-1989	0.52%	[-1, +1] 1.12% [-5, +5] 1.32%	- Contract amount (negative impact) - Asian experience of foreign partners (n.s.) - International experience of foreign partners (n.s.) - Size of foreign partners (n.s.)
3. Hu et al. (1992)	42	USA	1983-1989	–	[-1, +1] 0,72% [-5, +5] 1,05%	- International experience of foreign partners (low – positive impact, strong – n.s.)
4. Cheng et al. (1998)	103	USA	1973-1993	0.43%	[-1, +1] 1.02% [-10, +10] 1.6%	- Industry (n.s.) - Local experience of foreign partners (n.s.) - Investment location in China (n.s.)
5. Cheng and McDonald (2001)	124	USA	1984-1993	–	[-1, +1] 0.92%	- Local experience of foreign partners (n.s.) - Country risk (negative impact)
6. Meschi and Cheng (2002)	68	Europe	1998-2001	–	[-10, +10] 1.95%	- Industry (n.s.) - Equity ownership (n.s.) - Investment location in China (coastal – n.s., mainland – positive impact) - Contract amount (n.s.) - Local experience of foreign partners (n.s.)
7. Meschi and Hubler (2003)	47	France	1994-2000	–	[-2, +2] - 0.96% [-7, +7] - 1.04%	- Industry (n.s.) - Equity ownership (n.s.) - Investment location in China (n.s.) - Country risk (negative impact) - Local experience of foreign partners (n.s.) - International experience of foreign partners (positive impact)

\* denotes statistical significance at the 5% level. n.s. means not significant.

technological and financial resources, foreign partners are highly dependent on their Chinese partners. These arguments lead to the following hypothesis:

Hypothesis 1: Chinese firms involved in an international joint venture benefit from positive valuation effects.

Several variables derived from the transaction cost theory may affect the shareholder value creation of Chinese partners. More specifically, these variables include the control of the international joint venture, joint venture experience of Chinese partners, and China's country risk. Regarding the control of international joint ventures, many studies use joint venture equity ownership as a proxy (Killing, 1983; Zeira and Shenkar, 1990; Hennart, 1991; Bleeke and Ernst, 1991). Thus, these studies assumed that the partner holding the majority equity stake has greater control over the joint venture's management. As pointed out by Mjoen and Tallman (1997: 259), equity position often determines the composition of the board of directors, and the board usually appoints high-level executives [of the joint venture]. Drawing on the transaction cost theory, one can consider that the control of the international joint venture facilitates the resources transfer and the achievement of each partner's goals while limiting their opportunistic behaviour within the venture. The need for control of the international joint venture is related to the strategic nature of the resources exchanged by the partners. In the case of Sino-foreign joint ventures, since the resources sought by foreign partners (namely, downstream resources) and Chinese partners (namely, upstream resources) are necessary for the success of their business strategy, it is in their own interests to hold a majority equity stake in order to exercise maximum control of the joint venture's management. This leads to the second research hypothesis:

Hypothesis 2: Chinese partners holding majority equity stake of the international joint venture benefit from higher stock market valuation than those who hold a minority or a 50% equity stake of the venture.

The transaction costs borne by the partners may also decrease if they have been previously involved in several international joint ventures and benefit from an experiential learning. As firms gain experience in international joint ventures, the costs of monitoring operations and managing the transactions between partners decrease. Experienced partners are likely to have fewer monitoring and managerial problems and become more efficient in transferring resources within international joint ventures. Organizational learning theory supports this argument, which suggests that organizations learn from their experience. Nevertheless, firms do not learn in the same way and at the same pace. This results in differences in the learning outcomes of experienced firms (Cohen and Levinthal, 1990). Therefore, through more and more experiences of international joint venture, partners gradually develop a specific organizational capacity that can be applied to subsequent joint ventures. Such a capacity has different definitions. Some scholars defined it as partnering skills (Barkema et al., 1997), alliance capability (Anand and Khanna, 2000) or collaborative know-how (Simonin, 1997). From the viewpoint of transaction cost theory, these learning outcomes enable firms to more easily detect and manage their partners' opportunistic behaviour, and therefore to reduce transaction costs. The impact of the

accumulation of experience on the partner performance has been examined empirically in some studies: we find strong evidence that firms learn to create more value as they accumulate experience in joint venturing (Anand and Khanna, 2000: 313). Considering that the accumulation of experience produces a positive effect to Chinese firms, we can formulate the third research hypothesis as follows:

Hypothesis 3: Experienced Chinese firms involved in an international joint venture benefit from higher stock market valuation than those who have little or no experience.

For foreign partners, one of the main advantages of forming international joint ventures in emerging countries is that they can rely on a local partner to protect them from political and economic risk. An international joint venture helps the foreign partners to reduce or control environmental uncertainty. As Reuer (2001: 32) observed it, the local partner acts as a buffer. While foreign partners may have major technological and financial resources, they nevertheless face challenges in understanding the local environment, and having difficulty in operating the business smoothly and profitably in a long horizon. These challenges are all the more critical in emerging countries. In this context, foreign partners are highly dependent on the local partner. Many studies suggest a positive relationship between country risk and foreign partner's dependence on local partner. From the viewpoint of the Chinese partners, environmental uncertainty and country risk decrease their transaction costs by facilitating the transactions between partners and by limiting the foreign partner's opportunistic behaviour. This leads to the fourth research hypothesis:

Hypothesis 4: The China's country risk has a positive influence on the stock market valuation of Chinese partners involved in an international joint venture.

#### **IV. RESEARCH METHODOLOGY: SAMPLE DESCRIPTION, VARIABLES AND EVENT STUDY METHODOLOGY**

The initial sample comprises Chinese firms announcing the formation of joint ventures with foreign partners in China between January 1999 and January 2004. These announcements are collected from Chinese daily newspapers (South China Morning Post and China Daily) and international daily newspapers (Financial Times and Wall Street Journal). When an announcement is made by several daily newspapers, only the earlier announcement is retained. We define the announcement date (day 0) as the date of the first publication of the announcement. Another requirement is that at least one of the Chinese partners involved in the international joint ventures is listed in either Shanghai or Shenzhen stock market. We carefully checked whether each Chinese firm's share was regularly and daily traded or not. Eleven Chinese firms were removed from the sample due to infrequent trading. In the end, the research sample is made up of 92 Chinese partners for which abnormal returns are calculated. Table 2 reports the distribution of the sample by year, industry, country of foreign partners.

**Table 2**  
Sample distribution by year, industry and country of foreign partners

<b>Year</b>	<b>Joint Ventures</b>	<b>%</b>
1999	8	8.7
2000	12	13
2001	20	21.7
2002	36	39.1
2003	16	17.4
Total	92	100.0
<b>Industry (two-digit SIC code)</b>	<b>Joint Ventures</b>	<b>%</b>
20-Food and Kindred Products	4	4.3
26-Paper and Allied Products	2	2.2
28-Chemicals and Allied Products	13	14.1
29-Petroleum Refining and Related Industries	1	1.1
33-Primary Metal Industries	3	3.3
35-Industrial, Commercial Machinery and Computer Equipment	13	14.1
36-Electronic, Other Electrical Equipment and Components	4	4.3
37-Transportation Equipment	18	19.6
47-Transportation Services	2	2.2
48-Communications	8	8.7
50-Wholesale Trade-Durable Goods	5	4.3
53-General Merchandise Stores	2	2.2
58-Eating and Drinking Places	1	1.1
63-Insurance Carriers	5	5.4
67-Holding and Other Investment Offices	2	2.2
70-Hotels, Rooming Houses, Camps and Other Lodging Places	1	1.1
73-Business Services	7	7.6
75-Automotive Repair, Services and Parking	1	1.1
95-Administration of Environmental Quality	1	1.1
Total	92	100.0
<b>Country of Foreign Partners</b>	<b>Joint Ventures</b>	<b>%</b>
Australia	1	1.1
Denmark	1	1.1
France	4	4.3
Great-Britain	7	7.6
Germany	14	15.2
Italy	1	1.1
Japan	10	10.9
Malaysia	5	5.4
The Netherlands	2	2.2
Russia	1	1.1
Singapore	8	8.7
South Korea	8	8.7
Sweden	4	4.3
USA	26	28.3
Total	92	100.0

As indicated in Table 2, nearly 40% of the international joint ventures were formed during year 2002. Within this sample, the number of joint ventures follows a constant progression from 1999 to 2002. We have created a new variable for the year of joint venture announcement (coded as 1=1999, ..., and 5=2003) to capture the possible time series effect. Various industries are present in the sample. The most frequent industries are transportation equipment (19.6% of the sample), industrial, commercial machinery and computer equipment (14.1%), and chemicals and allied products (14.1%). Furthermore, Table 2 shows that most foreign investors are American, European and to a lesser extent Japanese.

Table 3 presents descriptive statistics of the three explanatory variables: equity ownership, joint venture experience of Chinese partners, and China's country risk. The «Equity Ownership of Chinese Partners» variable is recoded 0=minority ownership, 1=50/50, and 2=majority ownership. The «Joint Venture Experience» variable is measured for all 92 Chinese partners. This variable is obtained by cumulating the number of previous Sino-foreign joint ventures formed by each Chinese partner in the three years prior to the formation of the current international joint venture. This variable is logarithmically transformed. The «China's Country Risk» variable is measured using the Euromoney country risk score. The country risk score proposed by Euromoney corresponds to a weighted mean of nine indicators, of which the most important are political risk (25% of the total score), economic performance (25%) and the debt size (10%). This score is positioned on a scale ranging from 0 to 1. To make it easier for interpretation, we have reversed this score: a score of 0 means no risk and a score of 1 maximum risk.

**Table 3**  
Descriptive statistics of explanatory variables

<b>Equity Ownership of Chinese Partners</b>	<b>Joint Ventures</b>	<b>%</b>
Minority Ownership	36	39.1
50/50	31	33.7
Majority Ownership	25	27.2
Total	92	100.0
<b>Joint Venture Experience of Chinese Partners</b>	<b>Joint Ventures</b>	<b>%</b>
0-No Experience	50	54.3
1	17	18.5
2	7	7.6
3	6	6.5
4 and more	12	13.1
Total	92	100.0
China's Country Risk (after recoding)	N=92 Mean=0.6	Min.=0.55 Max.=0.63

Table 4 presents descriptive statistics of control variables: purpose, location of Sino-foreign joint ventures, listing place, status of Chinese partners, geographic origin, size of foreign partners, cultural distance between foreign and Chinese partners, and contract amount of international joint ventures. Some variables are transformed into dummy variables as follows: the «Joint Venture Purpose» variable is recoded

0=manufacturing and 1=distribution, commercial or services. The « Joint Venture Location in China » variable is recoded 0=coastal, and 1=non-coastal. The « Listing Place of Chinese Partners » variable is recoded 0=Shenzhen Stock Exchange, and 1=Shanghai Stock Exchange. The « Status of Chinese Partners » variable is recoded 0=private firm, and 1=State-owned firm. The « Geographic Origin of Foreign Partners » variable is recoded 0=developed countries and 1= foreign emerging countries. The « Cultural Distance between Foreign and Chinese Partners » variable indicates whether foreign partners come from countries with a strong Chinese cultural influence (namely, Malaysia and Singapore) or not. This variable is recoded 0=low cultural distance and 1=high cultural distance. The « Size of Foreign Partners » and « Contract Amount » variables are measured in \$US million. These variables are logarithmically transformed.

**Table 4**  
Descriptive statistics of control variables

<b>Joint Venture Purpose</b>	<b>Joint Ventures</b>	<b>%</b>
Manufacturing	81	88.0
Distribution, Commercial or Services	11	12.0
Total	92	100.0
<b>Joint Venture Location in China</b>	<b>Joint Ventures</b>	<b>%</b>
Coastal	79	85.9
Non-Coastal	13	14.1
Total	92	100.0
<b>Listing Place of Chinese Partners</b>	Joint Ventures	%
Shenzhen Stock Exchange	35	38.0
Shanghai Stock Exchange	57	62.0
Total	92	100.0
<b>Status of Chinese Partners</b>	Joint Ventures	%
Private Firm	40	43.5
State-Owned Firm	52	56.5
Total	92	100.0
<b>Geographic Origin of Foreign Partners</b>	Joint Ventures	%
Developed Countries	84	91.3
Emerging Countries	8	8.7
Total	92	100.0
<b>Cultural Distance between Foreign and Chinese Partners</b>	Joint Ventures	%
Low	11	12
High	81	88
Total	92	100.0
<b>Size of Foreign Partners (\$US m)</b>	N=92	Min.=4.3
	Mean=42 633.9	Max.=315 604
<b>Contract Amount of Joint Ventures (\$US m)</b>	N=92	Min.=1
	Mean=187.1	Max.=2 700

The standard event study methodology by Brown and Warner (1985) was used in this article. The market model is employed to examine the Shanghai and Shenzhen stock markets' reactions to announcements of Sino-foreign joint venture:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}, \quad E(\varepsilon_{it}) = 0, \quad \text{var}(\varepsilon_{it}) = \sigma_{\varepsilon_i}^2 \quad (1)$$

Where  $R_{it}$  is the return on security  $i$  ( $i=1, \dots, N$ ) and  $R_{mt}$  is the Chinese market portfolio index over the period  $t$ . We used two Chinese composite indexes: the SSEB index for Shanghai Stock Exchange and the SZSB index for Shenzhen Stock Exchange.  $\varepsilon_{it}$  is the error term for security  $i$  ( $i=1, \dots, N$ ) at time  $t$ .  $\alpha_i$ ,  $\beta_i$ , and  $\sigma_{\varepsilon_i}^2$  are the parameters of the market model and they are estimated from the daily returns of Chinese B-shares of each firm in the sample over a period ranging from 170 and 21 days before the announcement date.

It is important to note that Shanghai and Shenzhen stock markets are divided into A- and B-shares. During our sampling period ([1999-2003]), the A-shares were traded in Chinese currency and were reserved exclusively for domestic Chinese investors. The B-shares were open to foreign investors and were traded in \$US for Shanghai shares and in \$HK for Shenzhen shares. In this paper, we analyzed only stock market reactions for B shares of the Chinese firms. During our sampling period, the A- and B-share Chinese markets were still segregated. In other words, B-shares were still only available (legally) to foreign investors while A-shares were limited to domestic Chinese investors. However, this rule has been changing as the Qualified Foreign Institutional Investors (QFII) scheme was officially implemented by the end of 2003 allowing selective international financial services firms to accept foreign funds to invest in A-shares through a mutual fund structure in China. Thus, under the two-tier market before 2004, the market movement and behavior of the A- and B-shares markets are quite different. It is because B-shares are invested by foreign institutional investors, mostly in the form of mutual funds registered in other countries. These international investors have a longer investment horizon than the domestic A-shares investors who are more interested in short-term speculative trading. In addition, B-share investors' behavior are more in line with the US and European market participants in terms of how they process information and react to announcements. As in this paper, we want to compare our results with the existing joint venture literature which focuses on US and European markets, using B-shares in our study will be appropriate for making comparison between our announcements with those reported in the literature.

A Durbin-Watson test was performed for each market model in order to control for serial correlation (Copeland and Weston, 1988). Only four cases reveal significant serial correlation in the residuals. As the number of cases affected appears to be small in comparison with the total sample size, the impact of serial correlation biases on the estimation of normal returns was considered to be negligible. Finally, Chinese stock market reactions to announcements of Sino-foreign joint venture were measured by estimating average abnormal returns (ARs) and cumulative average abnormal returns (CARs) over two distinct event windows (see  $CAR_{-1,+1}$  and  $CAR_{-1,+3}$ ). Short event windows are selected here because they are more appropriate than longer ones in avoiding statistical biases and confounding effects (MacWilliams and Siegel, 1997). More specifically, ARs were calculated as follows:

$$\hat{AR}_{it} = \hat{\varepsilon}_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt} \quad (2)$$

$$\overline{AR}_t = \frac{1}{N} \sum_{i=1}^N \hat{AR}_{it} \quad (3)$$

Where  $N$  is the total number of Chinese firms in the sample and  $\overline{AR}_t$  is the average abnormal returns for day  $t$ . Cumulative average abnormal returns, CARs, for Chinese firm  $i$  from time  $t_1$  to time  $t_2$  were calculated as follows:

$$\overline{CAR}(t_1, t_2) = \sum_{t=t_1}^{t_2} \overline{AR}_t \quad (4)$$

Statistical tests ( $z$  statistics and cumulative  $z$  statistics) were conducted on these different abnormal returns and cumulative abnormal returns (ARs and CARs) for assessing the statistical significance of Chinese stock market reactions.

#### V. SHAREHOLDER VALUE CREATION OF CHINESE PARTNERS IN INTERNATIONAL JOINT VENTURES IN CHINA: MAIN RESULTS AND DETERMINANTS

Table 5 summarizes abnormal returns (ARs and CARs) for the various event windows.

**Table 5**  
Abnormal returns (ARs) and cumulative abnormal returns (CARs) of Chinese partners

Days	ARs
-3	-0.25%
-2	-0.29%
-1	0.3%
0-Announcement	0.43%*
1	0.3%
2	0.25%
3	0.32%
CAR <sub>-1,+1</sub>	1.05%**
CAR <sub>-1,+3</sub>	1.62%**

\* and \*\* denote statistical significance at the 10% and 5% level, respectively (two-tailed tests)

Significant and positive ARs are found on the announcement day (0.43%). It appears that both the Shanghai and Shenzhen stock markets react positively to announcements of Sino-foreign joint venture, but these reactions are mainly observed on the day when they are made official. Table 5 also indicates that this result is robust to the choice of the event window over which abnormal returns are cumulated: statistical significance of CAR<sub>-1,+1</sub> and CAR<sub>-1,+3</sub> confirm the positive valuation effects of Chinese firms. Therefore, our results show that Chinese stock markets reward

Chinese firms collaborating with foreign firms in international joint ventures. These announcements have a significant and positive impact on shareholder value creation of Chinese partners. These results support Hypothesis 1, which argued that Chinese firms involved in an international joint venture benefit from positive abnormal returns. With a 0.43% stock market effect on the announcement day and CARs above 1%, Chinese stock market reactions have shown similarities with those observed particularly by Chen et al. (1991), Gupta et al. (1991) or Cheng et al. (1998) in the US stock market

**Table 6**  
Correlation matrix (explanatory and control variables)

Variables	1	2	3	4	5	6	7	8	9	10	14
<b>1. Time Trend</b>	-										
<b>2. Listing Place of Chinese Partners</b>	0.03	-									
<b>3. Geographic Origin of Foreign Partners</b>	0.02	-0.08	-								
<b>4. Cultural Distance</b>	0.01	-0.06	0.65 <sup>§</sup>	-							
<b>5. Contract Amount</b>	-0.05	0.15	-0.14	-0.26 <sup>ψ</sup>	-						
<b>6. Size of Foreign Partners</b>	0.17	0.16	-0.34 <sup>§</sup>	-0.44 <sup>ψ</sup>	0.50 <sup>§</sup>	-					
<b>7. Status of Chinese Partners</b>	-0.01	0.19 <sup>*</sup>	-0.12	-0.08	0.10	0.07	-				
<b>8. Joint Venture Purpose</b>	0.02	-0.06	-0.2 <sup>*</sup>	0.08	-0.34 <sup>§</sup>	-0.01	0.04	-			
<b>9. Joint Venture Location in China</b>	0.12	0.13	-0.01	-0.07	-0.09	-0.01	0.10	0.01	-		
<b>10. Equity Ownership of Chinese Partners</b>	-0.04	-0.22 <sup>ψ</sup>	-0.15	-0.17	-0.07	-0.08	-0.18 <sup>*</sup>	0.01	0.10	-	
<b>11. Joint Venture Experience</b>	0.34 <sup>§</sup>	-0.09	0.10	0.12	0.15	0.04	0.12	0.03	-0.16	-0.02	-
<b>12. China's Country Risk</b>	0.22 <sup>ψ</sup>	0.1	-0.01	0.18 <sup>*</sup>	-0.11	-0.06	0.14	-0.09	0.04	0.06	-0.01

<sup>\*</sup>, <sup>ψ</sup> and <sup>§</sup> denote statistical significance at the 10%, 5% and 1% level, respectively (two-tailed tests)

Table 6 presents a correlation matrix with explanatory and control variables. This correlation matrix does not raise any particular problems of colinearity among the different variables. Table 7 reports the results of multiple regression models that examine the impact of explanatory and control variables (see Tables 2, 3 and 4) on  $AR_0$ ,  $CAR_{-1,+1}$  and  $CAR_{-1,+3}$ . For each dependent variable ( $AR_0$ ,  $CAR_{-1,+1}$  and  $CAR_{-1,+3}$ ), Table 7 includes two regression models. Multicollinearity is checked by using the tolerance level of variance inflation factor (VIF) values. All VIF values were less than 2.5 and lower than the recommended cut-off value of 10 (Mendenhall and Sincich,

1986). Thus, it is unlikely that multicollinearity biases the multiple regression models presented in Table 7.

**Table 7**  
Multiple regression models

Variables	AR <sub>0</sub>		CAR <sub>1,+1</sub>		CAR <sub>1,+3</sub>	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Constant	-0.002	0.119*	0.013	0.176*	0.033	0.12
Time Trend	0.002	0.003	0.002	0.005	0.004	0.007
Listing Place of Chinese Partners	-0.001	-0.004	0.002	0.001	0.002	-0.002
Geographic Origin of Foreign Partners	-0.27 <sup>w</sup>	-0.034 <sup>§</sup>	-0.032	-0.039*	-0.047*	-0.052*
Cultural Distance	0.012	0.014	0.014	0.022	0.026	0.027
Contract Amount	-0.006	-0.007	-0.002	-0.002	-0.001	0.0001
Size of Foreign Partners	0.006 <sup>w</sup>	0.005*	0.001	0.0001	-0.005	-0.006
Status of Chinese Partners	-0.013 <sup>w</sup>	-0.013 <sup>w</sup>	-0.014	-0.011	-0.017	-0.017
Joint Venture Purpose	-0.01	-0.012*	-0.002	-0.004	-0.001	-0.001
Joint Venture Location in China	0.001	0.002	0.006	0.004	-0.001	-0.001
Equity Ownership of Chinese Partners		-0.009*		-0.003		-0.01
Joint Venture Experience		-0.007		-0.018		-0.021
China's Country Risk		-0.184*		-0.275		-0.13*
R <sup>2</sup>	0.183	0.3	0.067	0.113	0.092	0.132
Adjusted R <sup>2</sup>	0.093	0.194	0.035	0.021	0.008	0.001
F	2.037 <sup>w</sup>	2.822 <sup>§</sup>	0.656	0.841	0.918	1.003
N	92	92	92	92	92	92

\*, <sup>w</sup> and <sup>§</sup> denote statistical significance at the 10%, 5% and 1% level, respectively (two-tailed tests).

Note: cell entries are standardized coefficient estimates.

Overall, most multiple regression models were not statistically significant. Only models 1 and 2 using AR<sub>0</sub> as dependent variable were significant (at  $p < 0.01$ ). More specifically, the results in Table 7 do not provide support for Hypothesis 2, which argued for a positive impact of the percentage of the Sino-foreign joint venture's equity stake held by the Chinese partners on shareholder value creation. The standardized coefficient estimate for the « Equity Ownership of Chinese Partners » variable is not statistically significant. Nor do the results support Hypothesis 3. Likewise, there is no evidence to support the assumption that Chinese partners with stronger joint venture experience in Sino-foreign joint ventures benefit from greater stock market valuation than those who have little or no experience. In contrast, the results for AR<sub>0</sub> and CAR<sub>1,+3</sub> do not support Hypothesis 4 but the standardized coefficient estimate for the « China's Country Risk » variable is statistically significant. There is an impact of the China's country risk on abnormal returns of Chinese partners but this impact is opposed to that hypothesized. In other words, the China's country risk has a significant and

negative influence on the stock market valuation of Chinese partners involved in Sino-foreign joint ventures.

Regarding control variables, the « Geographic Origin of Foreign Partners » is the only variable displaying a statistically significant impact on abnormal returns for nearly all models. The standardized coefficient estimates for « Geographic Origin of Foreign Partners » are negative, indicating that Chinese partners forming a joint venture with foreign firms originating from developed countries receive higher abnormal returns than Chinese partners teaming up with firms originating from emerging countries. Two other control variables, « Size of Foreign Partners » and « Status of Chinese Partners », stand out but their statistically significant impact remains limited to models 1 and 2 using  $AR_0$  as dependent variable.

## VI. CONCLUSION

Many event studies have investigated the stock market reactions to Sino-foreign joint ventures from the viewpoint of the European and US partners. The literature review of these event studies shows that European and US partners involved in an international joint venture in China create shareholder value (see Table 1). Comparing abnormal returns of Chinese partners with those of European and US partners leads us to conclude that there is a similarity between European, US and Chinese stock market reactions to announcements of Sino-foreign joint venture: we find evidence that Shanghai and Shenzhen stock markets react significantly and positively to announcements of Sino-foreign joint venture.

Drawing on the transactional theory of international joint ventures (Nee, 1992; Yan and Gray, 1994; Mjoen and Tallman, 1997; Hennart et al., 1998), this paper has sought to identify determinants of the shareholder value creation of Chinese partners. In this study, we were able to identify and define three variables derived from the transaction cost theory as determinants of partner performance in international joint ventures. More specifically, we have considered the stock market reactions to percentage of the Sino-foreign joint venture's equity held by the Chinese partners, joint venture experience of Chinese partners, and China's country risk. When we examine the impact of transactional and control variables on the announcement day, 3-day (see  $CAR_{-1,+1}$ ) and 5-day (see  $CAR_{-1,+3}$ ) abnormal returns, only four determinants – geographic origin, size of foreign partners, status of Chinese partners, and China's country risk – are found. It is important to note that China's country risk have a significant impact on  $AR_0$  and  $CAR_{-1,+3}$ , but its effect on abnormal returns of Chinese partners is opposite to that predicted. Consequently, Hypotheses 2, 3 and 4, assuming that the main determinants of abnormal returns are related to transactional variables, are not supported. These findings provide evidence for a modest or very limited role for transactional variables in influencing the shareholder value creation of Chinese partners.

These findings question the applicability of the transaction cost theory to the analysis of the stock market performance of Chinese partners and its determinants. They show that transaction cost theory is a theoretical framework that is more appropriate for analyzing the performance of foreign partners (Nee, 1992; Yan and Gray, 1994; Mjoen and Tallman, 1997; Hennart et al., 1998) than that of Chinese partners involved in international joint ventures. Regarding the non-significance of

transactional variables in this setting, transaction cost theory seems to provide a theoretical lens that is less suitable for local or Chinese partners than for foreign partners.

Future research could consider the performance of Chinese or local partners using explanatory variables derived from other theories of the firm. The resource-based view, organizational learning theory, and bargaining power theory could be used as alternative theoretical lenses for analyzing the performance of local partners. This could be a first extension of this research. A second extension could be to examine these different theoretical frameworks by adopting other measurements of the performance of Chinese partners. By adding to the analysis other performance proxies such as the joint venture survival or satisfaction of Chinese partners with the joint venture, the results obtained in this paper could be cross-checked and given additional validity. A last extension of this research would be to extend the analysis of the shareholder value creation of Chinese partners to other Asian local partners.

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