Cross-border Acquisitions of High-Tech Firms in the USA by Chinese Firms: 1993-2015

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Abstract

This paper aims to examine the characteristics and determinants of the completion of cross-border mergers and acquisitions (M&As) of the U.S. companies in the high-tech industry by Chinese firms. With 221 cross-border M&As from 1993 to 2015, major characteristics of these deals (e.g., industry distribution of acquiring and target firms, percentages of diversification or government involvement, and the level of ownership) were identified. In terms of the factors affecting the likelihood of acquisition completion, acquiring firms' successful experience in cross-border M&As and host country's open attitude toward the high-tech industry were found both positive and significant; however, government involvement of acquiring firms was negative but not significant.

Firms make use of acquisition as a strategic option to sustain their growth. Recent studies on Chinese global mergers and acquisitions (M&As) have highlighted that Chinese firms are lagging behind Western firms in their development of firm-specific advantages, especially in technology and experience in innovative activities, managerial capabilities, and marketing skills (Child & Rodrigue, 2005; Cui, Meyer, & Hu, 2014). Consequently, Chinese firms are highly motivated to acquire needed strategic assets such as knowledge and capabilities that they are not able to develop themselves (Luo & Tung, 2007; Yang & Deng, 2017). Examples here include the case of Lenovo acquired IBM's PC group, TCL acquired the cellphone division of Alcatel, and Huawei's acquisition of several technology intensive firms in the USA (SDC Platinum, 2015). Because the high-tech industry[1] is globally competitive in nature and its products (or service) has the parts that can be used for military use (Farley, 2015), the concerns of national security and the potential to result in unfair competition are thus raised (Moran, 2017). For instance, President Trump recently vetoed a Chinese private-equity firm's (Canyon Bridge Capital Partners LLC) purchase of Lattice Semiconductor, an Oregon-based chip manufacturer due to Lattice's products have dual use-civil and military-potentials. In addition, this deal involves China Venture Capital Fund Corp., Ltd., an investment fund allegedly controlled by the Chinese government. While Chinese cross-border M&As in the high-tech industry have steadily increased over time, our understanding of Chinese cross-border M&As in this industry remains as anecdotal evidence, lack of support from systematic empirical analysis. More scrutiny and research is expected in this field.

This study attempts to address two fundamental questions: (1) what are major characteristics of cross-border M&As of the U.S. companies in the high-tech industry by Chinese firms? (2) what would affect the likelihood of completion of these cross-border M&As? Due to an

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[1] Compiling different lists (e.g., AeA, BLS, Census, OECD), I have used the following 2-digit SIC codes to capture high-tech industry: 28, 35, 36, 37, 38, 48, 73 and 87. Please see Table 1 for the details of these SIC codes.

increasing number of research that has examined the motives and performance of cross-border M&As by firms from China and other emerging markets (e.g., Aybar & Ficici, 2009; Boateng, Wang, & Yang, 2008; Du & Boateng, 2015; Yang, 2015), our understanding of determinants affecting the success of these cross-border M&As has greatly improved. However, prior studies have the following limitations. First, although prior studies have recognized experience of acquiring firms as important strategic resource affecting the likelihood of acquisition completion (e.g., Li, Xia, & Lin, 2017), a finer lens of experience is required for better clarifying the impact of experience on acquisition completion. Secondly, prior studies have discussed the involvement of government in cross-border M&As initiated by firms from emerging markets (e.g., Cui & Jiang, 2012), however, the impact of government involvement on a specific sensitive industry such as high-tech cross-border M&As is still unclear. Thirdly, prior studies of the influence of institutional environment on foreign expansion strategy have focused on the institutional quality of host market (e.g., Levchenko, 2007), the institutional and cultural distance between home and host countries (e.g., Liou, Chao, & Yang, 2016). However, I argue that another factor, host market's attitude toward a specific industry (e.g., openness to cross-border M&As in the high-tech industry), is important but it is yet examined in existing literature.

To fill the above research gaps, this study draws upon both resource-based view (Barney, 1991) and institutional theory (DiMaggio & Powell, 1983) to explore factors affecting the likelihood of acquisition completion of Chinese high-tech M&As in the USA. I argue that the likelihood of acquisition completion in the high-tech industry would increase when Chinese firms possess successful experience in cross-border M&As, when Chinese acquirers are not associated with government, and when the host country (USA) has high level of openness for foreign firms acquiring local firms in the high-tech industry. To empirically validate these arguments, I analyze 211 cross-border M&As in the high-tech industry by Chinese firms from 1993 to 2015. Chinese

firms are chosen because they have been recognized as an active player in cross-border M&A competition (Deng & Yang, 2015; Luo & Tung, 2007).

The key contributions of this study are twofold. First, the results of this study enrich the understanding of strategic decisions such as the choice of target firm or the ownership structure by Chinese firms in one of the most sensitive and competitive industries. Secondly, this study would discover key determinants of successfully completing cross-border M&As in the high-tech industry. In so doing, we may offer suggestions to professional practitioners such as multinational enterprise managers and policy makers with respect to effective management of cross-border M&As in the high-tech industry.

The rest of the paper is organized as follows. In the next section, we review the literature of cross-border M&A by firms from emerging markets, followed by the hypotheses. In Section 3, we describe the data sources, variables and methodology used in this study. In Section 4 and 5, we discuss results, theoretical and managerial implications, and future research directions.

2. Literature Review and Hypothesis Development

Firms from emerging markets have become important players in global business competition (Guillen & Garcia-Canal, 2009) and assumed an active role of acquirers in cross-border M&As. Recent research on the internationalization of firms from emerging markets suggests that because of limited resources in their home countries and latecomer status, firms from emerging markets seek to expand internationally quicker than their counterparts (e.g., Luo & Tung, 2007; Mathews, 2006). Therefore, opportunities to develop or get access to advanced managerial or technological capabilities in developed markets (Makino et al., 2002; Mathews, 2006; Wright et al., 2005) become the major incentive triggering the accelerated internationalization of firms from emerging markets (Makino et al., 2002). While more and more studies have focused on the outward investment by firms from emerging markets (e.g., Cui & Jiang, 2012; Yang, 2015), we still do

4

not have a clear understanding of how firms from emerging markets can successfully acquire target firms in one of sensitive and competitive industries, the high-tech industry, located in the USA.

Among all firm characteristics, firms' experience has attracted the most attention in the M&A literature. A number of studies have shown that a firm's acquisition decisions are driven by its prior acquisition experiences (Haleblian et al., 2006; Hayward, 2002). First of all, past experience provides firms with criteria for judging the efficacy of their actions, enabling them to better anticipate external threats pertaining to firms. Furthermore, past experience improves firms' abilities to perform particular tasks (Amburgey & Miner, 1992; Ingram & Baum, 1997; Levitt & March, 1988) and allows firms to develop feasible responses to implementation-related challenges. Consequently, learning from prior experience has been shown to have positive effects on acquisition completion because firms with more prior experience have accumulated more routines and relevant practices for acquisitions than those with less experience.

In the setting of high-tech acquisitions by Chinese firms, we argue that Chinese firms with *successful* experience in cross-border M&A are likely to possess specific, idiosyncratic skills and capabilities (Barney, 1991; Nelson & Winter, 1982) to overcome barriers that acquiring firms would face. Firms having more experience that is successful in cross-border M&A are equipped with better skills to craft an M&A strategy that fits their idiosyncratic situation. Consequently, prior successful experience in cross-border M&As prepares and encourages acquiring firms to optimize organizational decisions and create competitive advantages to win competition. Therefore, prior successful experience in cross-border M&As is likely to increase the likelihood of completing intended acquisition in the high-tech industry.

Drawing on this logic, I argue that the likelihood of completing an intended M&A in the high-tech industry is positively associated with acquiring firms' accumulated experience in successfully completing cross-border M&As. As a result, I generate the following hypothesis:

Hypothesis 1: Prior experience in successfully completing cross-border M&As is positively associated with the acquisition completion of high-tech M&As in the USA.

For Chinese firms, scholars (e.g., Child & Rodrigues, 2005) have well argued that government influence and support play an important role in the country's outward investment including overseas acquisitions. Government involvement includes different forms such as serving as board members or owning equity shares of acquiring firms (i.e., state-owned enterprises). For example, Lenovo is a spin-off of the Chinese Academy of Science and continues to be a state-owned enterprise. Similarly, Haier was offered by the government several preferential treatments that were not open to other Chinese private companies (Holtbrugge & Kreppel, 2012). High levels of government support, typically in the form of privileged access to important materials and other inputs, low-cost capital, subsidies and other benefits would help firms from emerging markets to offset ownership and location disadvantages abroad (Luo et al., 2010; Marinova, Child, & Marinov, 2011). While pursuing business objectives, Chinese firms with government involvement are often required to serve the political mandates of the government and align their business interests with the government economic developmental objectives (Meyer et al., 2014). In China, the acquisition of world-class technologies and brands overseas is not only a corporate strategy but also an explicit goal of government policy (Xinhua, 2011). Therefore, different from private firms, government-involved firms from emerging markets are likely to bring political and social goals into their strategic decision making such as cross-border M&As (Du & Boateng, 2015). Because Chinese government has considered the high-tech industry, especially semiconductor industry, as strategic industries to enter, government

involvement of acquiring firms is likely to increase the likelihood of completing high-tech M&As in the USA.

On the other hand, government-involved cross-border M&As are more vulnerable to political and public attack than non-government-involved cross-border M&As (Child & Marinova, 2014). When government-involved firms invest overseas, they can be perceived by host-country institutions not simply as business entities, but also as political actors (Du & Boateng, 2014; Globerman & Shapiro, 2009). Such a perception may post challenges to government-involved M&As in host countries (Child & Marinova, 2014). In essence, host countries are increasingly skeptical of those foreign acquirers with preferential access to resources conditional on alignment to their home government policy priorities. The case in point is Chinese failed acquisitions of several high-profile U.S. companies such as CNOOC attempted acquisition of Unocal and Huawei of 3COM. Consequently, government involvement of acquiring firms is likely to decrease the likelihood of completing high-tech M&As in the developed markets such as the USA.

When developed countries like the USA raise national security concern for government-involved cross-border M&As (Williamson & Raman, 2011), Chinese firms would thus have fewer opportunities to acquire local valuable firms and obtain approval by the host government. I therefore expect that in countries with abundant technological resources, government involvement of acquiring firms is likely to encounter adverse host country institutional pressures when pursuing acquisitions in the high-tech industry. As a result, I propose the following hypothesis:

Hypothesis 2: *Government involvement is negatively associated with the acquisition completion of high-tech M&As in the USA.*

In addition to the influence of factors generated from the strategic resources of acquiring firms, host country's institutional environment is found to affect foreign investment outflows and international acquisitions (Globerman & Shapiro, 2005; Yang, 2009; Zhang, Zhou, & Ebbers, 2011). In the context of cross-border M&As, there is a great deal of complexity due to the need to go through major procedural hurdles in host countries, such as antitrust laws and M&A regulation assessment (Dikova, Rao, & van Witteloostuijn, 2010; Li & Xie, 2013). Several studies (e.g., Zhang et al., 2011; Zhang & He, 2014) found that firms from emerging markets encounter significant institutional barriers of host countries in technology-acquiring cross-border M&A deal. Particularly, current literature have mentioned a great deal of hurdles in host countries such as anti-trust laws and M&A regulations. For example, Dikova, Sahib, and van Witteloostuijn (2010) found that there is a negative relationship between institutional distance, and the likelihood that an acquisition is completed. Another study by Serdar and Erel (2013) found that nationalist government reactions have significant impact on cross-border M&A deals in Europe. To capture how cross-border M&As are politically and ideologically embedded in international relations (Riad, Vaara, & Zhang, 2012), I argue that the attitude of host country towards the cross-border M&A in this specific industry is an important element of host country's institutional environment affecting the completion of cross-border M&As.

The attitude of host country towards cross-border M&As in a specific industry can be expressed in explicit ways such as laws and regulations. It can also be expressed in implicit ways such as emotional perceptions that eventually result in the outcome of acquisition completion. Accordingly, the attitude of host country towards cross-border M&As in the high-tech industry is an industry-level factor, representing the degree of completing cross-border M&As in this industry as opposed to that of other industries. When the attitude is high (open), the host country shows a high degree of completing cross-border M&As in the high-tech industry as opposed to

completing in other industries. It is thus expected that host countries with open attitude towards cross-border M&As in the high-tech industry would tend to attract more cross-border M&As and have low uncertainty in acquisition completion. On the contrary, when the host country is low in the openness attitude, the degree of completing cross-border M&As in the high-tech industry is relatively low as opposed to completing in other industries, it is expected that uncertainty and resistance of completing high-tech M&As increases. It would then negatively affect the acquisition completion of upcoming high-tech M&As. I thereby propose:

> ***Hypothesis 3****: Openness to the high-tech industry is positively associated with the acquisition completion of high-tech M&As in the USA.*

3. Methods

3.1 Data and data collection

I collected data on foreign acquisitions in the USA involving Chinese firms as acquirers in the high-tech industry from Thomson SDC Platinum acquisition database for the period ranging from 1993, the earliest year of valid deals in the database, to 2015. M&A deal information includes the name and the origin of the acquiring and target companies, industry, date, deal type, deal status. The final sample size is 211 cross-border M&A deals involving 160 firms from China.

3.2 Measures

3.2.1. Dependent variable

The dependent variable in this study is *Acquisition completion*. This study defines acquisition completion as whether the M&A under study was finished. Hence, it was operationalized as a dummy variable, which was coded as 1 for completing M&As and 0 for not completing M&As (such as pending, withdrawal…etc.).

3.2.2. Independent variables

The measure *Success experience* refers to the number of completed cross-border M&As undertaken by the acquiring firm. Following prior studies that have examined acquisition experience (Haleblian et al., 2006; Haunschild, 1993; Hayward, 2002), we measured *Success experience* by counting the cumulative number of completed cross-border M&As executed by the acquirer before the focal acquisition under study. The measure *Gov. Involvement* indicates whether (or not) the acquiring firm under study has involved with any government agencies. It was coded as 1 if the acquiring firm is marked as "Y" under government owned/involvement flag by SDC database; otherwise, zero was coded.

The measure *Openness to high-tech industry* is the degree of completing cross-border M&As in this industry as opposed to that of other industries. It was measured by the sum of completed cross-border M&As in the high-tech industry as a percentage of that the total completed cross-border M&As across all industries in the USA, as of one year prior to the year of the dependent variable. It is expected that high *Openness to high-tech industry* would be associated with high *Acquisition completion*.

In terms of control variables, I first controlled for deal-specific factors such as the size of cross-border M&A deal (*Dealsize)* and the industry relatedness of acquiring and target firms (*Relatedness*). Large or small CBMA deals are expected to associate with the likelihood of completion (Aybar and Ficici, 2009). Following prior studies (e.g., Beckman & Haunschild 2002), I took the natural log of the total value of the transaction to measure this variable. Considering that firms pursuing related M&As are under different motives and face fewer challenges as opposed to those pursuing unrelated M&As (e.g., Yang, 2015), I also included a dummy variable (*Relatedness*) showing if the SIC codes of acquiring and target firms are the same; a value of 1 was assigned for the same industry, and the value of 0 for different industries. In addition to deal variables, like Buckley et al. (2007) and Rossi and Volpin (2004), I included

the size of the host economy in the analysis (Lg*GDP*), measured by the natural logarithm of gross domestic product of the USA. I also incorporated a home country variable of China that serve as pushing forces of cross-border M&As. Specifically, I used *Home GDPGW* to capture the effect of home country (China) economic environment on cross-border M&As (Tolentino, 2010). It is argued that multinationals located in large markets are more inclined to invest abroad because their position in a large domestic economy has brought them resources and competitive advantages for international competition (Luo & Wang, 2012). Finally, to verify whether or not the effects of different time periods on Chinese high-tech M&As in the USA, I took the recent years of 2013-2015 as the base and created three dummy variables "Before 2000", "2001-2006" and "2007-2012" by coding these years as 1 and all years as zero.

Statistical Method and Analysis

To analyze the likelihood that a firm will complete a cross-border M&A, I used the following logistic regression model, a common maximum likelihood method of estimation (Amemiya, 1981).

Logit: (Acquisition completion $_i$ =1 $\mid$ $\mathbf{x_i}$)=exp ($\mathbf{x_i}$ β) / (1+ exp ($\mathbf{x_i}$ β))

As noted, I coded the dependent variable 1 if the deal is completed and 0 if the deal is not completed. I regressed this variable on $\mathbf{x_i}$, a vector of explanatory variables, with β being a vector of parameter estimates.

The concern of common-actor effect (Lincoln, 1984), meaning that deals initiated by the same firm may not be independent, needed to be addressed. I corrected this problem by treating M&A deals that were initiated by the same firm together so that the error terms of these deals were clustered on each unique acquiring firm.

3.3 Empirical Findings

3.3.1 Descriptive statistics

Table 1 shows the number and total amount of value (in millions) of cross-border M&As in the high-tech industry of the USA by Chinese firms from 1993 to 2015. As shown, before year 2006, the number of deals stay low (e.g., under ten deals per year). Starting 2007, the number of deals increases and reaches two peaks in year 2012 and 2014. From 1993 to 2015, there are more years that the number of completed deals are higher than that of incomplete deals, except year 1995, 1998 and 2012 (half completed, half incomplete), year 2000 (all are incomplete deals), and year 2008 and 2015 (more incomplete than completed deals).

Insert Figure 1 about here

Similarly, Figure 1 shows that the value of deals stays low before year 2006. After 2007, the value of deals keeps increasing and reaches the peak in 2012, then declines a little bit in 2013 but increases again to reach another peak in 2014.

Table 1 displays several characteristics of these deals. First, using the first 2-digit SIC codes to analyze the industries of acquiring firms, 46.92% of Chinese firms are from the manufacturing industry, followed by the finance industry (23.70%) and the service industry (20.38%). In terms of the industries of target firms, 27.49 % of target firms are in computer programming services, followed by electronic equipment (23.70%), transportation equipment (12.32%) and chemicals and allied products (11.85%).

Insert Table 1 about here

Among these 211 deals, 133 deals (63.03%) are completed and 78 deals (36.97%) are incomplete. For the percentage of government involvement, 29 deals (13.74%) are positive. For the percentage of the industry relatedness between acquiring and target firms, 119 deals (56.40%) are related, and 92 deals (43.60%) are unrelated.

Finally, in terms of the distribution of ownership, 157 deals (74.31 %) are full ownership, and 19 deals (9.17%) are majority ownership, which together takes 83.48% (see Table 1). The choice of minority ownership is popular, too, which takes up 15.60%.

3.3.2 Factors affecting acquisition completion

Table 2 reports the means, standard deviations, and correlations for the independent and dependent variables in the decision of acquisition completion. For the most part, the independent variables are not highly correlated with each other in bivariate relationships, except the -0.59 correlation between *LgGDP* and *Before 2000*. To assess whether multi-collinearity is a major concern, we examined variance inflation factor (VIF) scores (Belsely, Kuh, & Welsch, 1980) and found no major violation.

Insert Table 2 about here

Table 3 displays the logistic regression results for the decision of acquisition completion. Model 1 presents the results for all control variables. Model 2 to 4 capture the results for each proposed hypothesis. Model 5 presents the results when all the independent variables are put together. The likelihood ratio test confirmed that all of these models are statistically significant and that three independent variables have different relative influences on the decision of acquisition completion.

Hypothesis 1, which state that the likelihood of completing an intended M&A in the high-tech industry is positively associated with acquiring firms' accumulated experience in successfully completing cross-border M&As, was supported by the data. Model 2 and Model 5 show that the likelihood of completing a high-tech M&A significantly increased with the acquiring firm's past successful experience in cross-border M&As (p<.05).

Insert Table 3 about here

Results shown in the Model 3 and Model 5 indicate that the impact of government involvement was negative but not significantly associated with the likelihood of completing high-tech M&As in the USA (($p>.05$). Hence, Hypothesis 2, which argues that the involvement of Chinese government will decrease the likelihood of completing high-tech M&As in the USA, was not supported. A possible explanation is that the measurement of this dummy variable may not reflect the entire influence of government involvement in this setting.

Moreover, Model 4 and Model 5 on Table 3 show that *Openness to the high-tech industry* had significant positive association with the dependent variable ($p<.05$), which suggested that the open attitude of host country (the USA) toward cross-border M&As in the high-tech industry would increase the likelihood of completing high-tech M&As in the USA initiated by Chinese firms. This result supported Hypothesis 3.

4. Discussion and Conclusion

With an increasing importance of Chinese firms in global investment (UNCTAD 2015), more and more researchers are interested in what factors affecting the success (completion) of high-tech cross-border M&As by Chinese firms. This study draws upon both resource-based view and institutional theory to explore factors affecting the likelihood of acquisition completion of Chinese high-tech M&As in the USA.

In terms of the trend and characteristics of cross-border M&As in the high-tech industry by Chinese firms from 1993 to 2015 in the USA, the results of this study show that before year 2006, the number and value of deals stay low. Starting 2007, both the number and value of deals increase and reach two peaks in year 2012 and 2014. Moreover, in terms of the industry distribution of acquiring firms, most of them are from the manufacturing industry, followed by the finance industry. In terms of the specific high-tech industry of target firms, most of them are

in computer programming services, followed by electronic equipment. Finally, the most popular (over 70%) choice of ownership is the full ownership, followed by the minority ownership.

For factors that affect the likelihood of completing high-tech M&As in the USA by Chinese firms, this study confirms the resource-based argument that acquiring firms' past successful experience in cross-border M&A is a source of strategic capability, which would increase the likelihood of acquisition completion in the context of high-tech industry. Contrary to the prediction, the result of this study does not find the support of the other salient factor of strategic resource, the involvement of government, in decreasing the likelihood of acquisition completion. Therefore, the concern of national security associated with the involvement of Chinese government in high-tech cross-border M&As remains in anecdotal cases, not empirical support with large data. Finally, this study confirms the institutional argument that the environment of host country, particularly the attitude of openness to the high-tech industry, increases with the likelihood of completing high-tech M&As in the USA by Chinese firms.

4.1 Theoretical contributions and managerial implications

This study contributes to the literature of cross-border M&As and firms from emerging markets in the following ways. First, the results of this study enrich the understanding of strategic decisions such as the choice of target firm or the degree of ownership by Chinese firms in the high-tech industry, one of the most sensitive industries in the global competition. Secondly, this study discovers key determinants of successfully completing high-tech cross-border M&As initiated by firms from emerging markets such as China. The results of this study have contributed to the existing literature by showing *what* and *how* the success of these cross-border M&As depend both on the strategic resources of acquiring firms and the environment of host country as well.

In addition to theoretical contributions, our study has far-reaching implications for policy makers and managers who are actually implementing or potentially contemplating foreign acquisitions in the high-tech industry in the USA. To better verify the concern of national security associated with the involvement of Chinese government in cross-border M&As, a close examination of various forms of government involvement in cross-border M&A setting is advised. In the meantime, to successfully complete high-tech M&As, managers are encouraged to accumulate their experience in relevant M&As and continuously monitor the sensitivity (or openness) of the U.S. environment toward foreign acquisitions in the high-tech industry.

4.2 Limitations and future research

This study has several limitations that may offer promising avenues for future research. Due to data availability, only transactions with sufficient information in deal characteristics are included in this sample. In addition, there are many factors affecting M&A completion that could be included in the future research. Factors such as institutional or cultural distance (Meyer & Peng 2005; Nicholson & Salaber 2013) at country-level and target firm status and absorptive capability at firm-level (Dikova et al. 2010; Lebedev et al. 2015; Xie & Li 2013) should be considered. Moreover, in addition to considering the individual effect of factors, future studies may consider the combined or integrated effects of these factors affecting the likelihood of acquisition completion, thus getting a comprehensive picture on the surge of high-tech cross-border acquisitions by Chinese firms. Finally, future research may consider Chinese high-tech M&As in other developed countries such as Germany and compare the results to this study. In so doing, we may find robust or new insights into the study of acquisition completion in this setting.

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Figure 1 Frequency and value of high-tech cross-border M&As by Chinese firms in the USA, 1993-2015
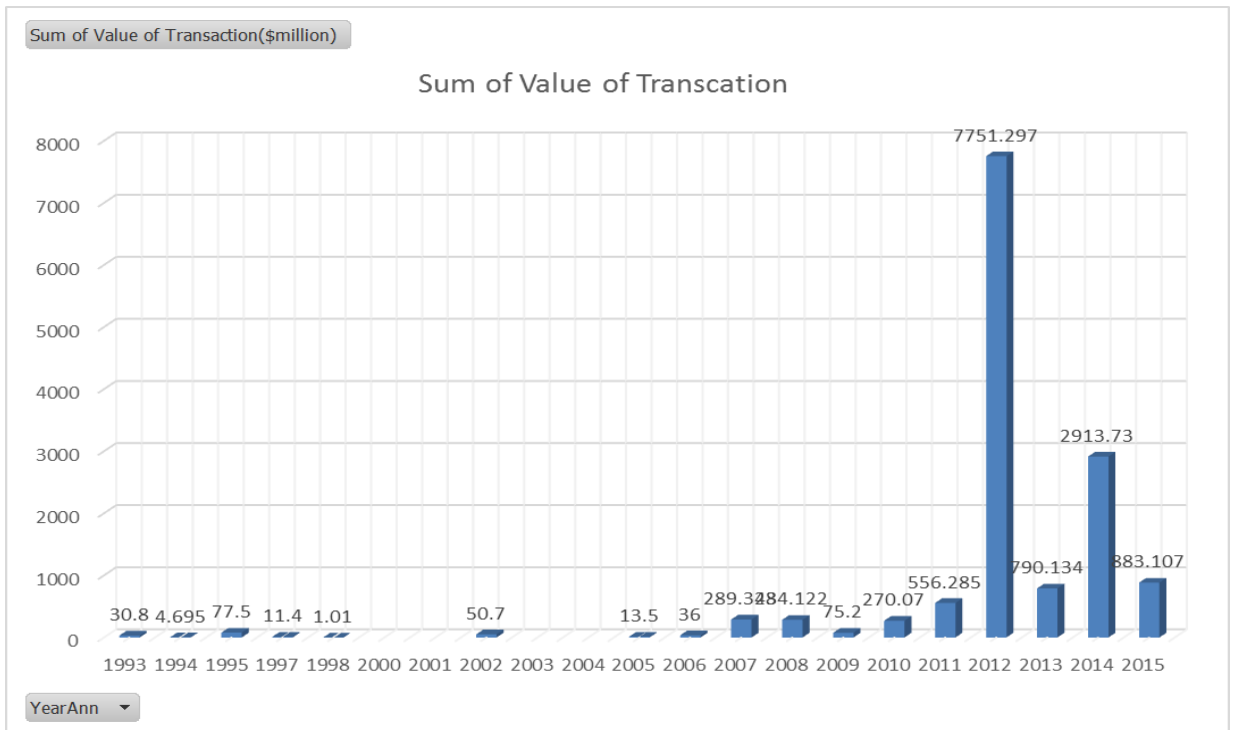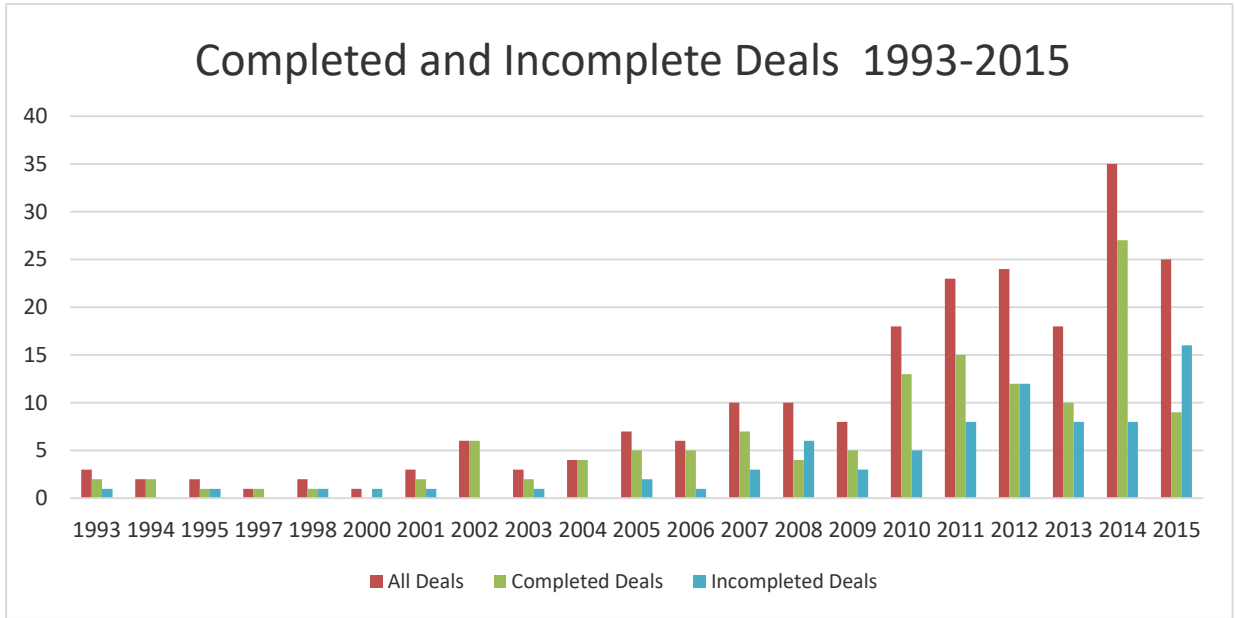

Completed and Incomplete Deals 1993-2015

■ All Deals   ■ Completed Deals   ■ Incompleted Deals

Sum of Value of Transaction($million)

Sum of Transcation

YearAnn

Table 1 Major characteristics of the sample

Acquirers' industry	Percentage based on the number of deals
Manufacturing	46.92%
Finance	23.70%
Service	20.38%
Transportation	5.21%
Trade	2.37%
Mining/Construction	1.42%

Target firms' industry by first two-digit SIC code	
28 Chemicals And Allied Products	11.85%
35 Industrial, Commercial Machinery, Computer Equipment	9.48%
36 Electronic Equipment	23.70%
37 Transportation Equipment	12.32%
38 Measuring, Analyzing, Controlling Instruments	5.69%
48 Communications	3.32%
73 Computer programming Services	27.49%
87 Engineering, Accounting, Research, Related Services	6.16%
Outcome	
Completed	63.03%
Incomplete	36.97%
Government involvement	
Yes	13.74%
No	86.26%
Diversification	
Related	56.40%
Unrelated	43.60%
Ownership decision	
Full	74.31%
Majority	9.17%
Equal	0.92%
Minority	15.60%

Table 2 Descriptive Statistics and Correlations for Completion of Hi-Tech M&As in the USA by Chinese Firms, 1993-2015[a]

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10
1. Acquisition completion	.63	.48										
2. Success experience	.26	.41	.15*									
3. Gov. Involvement	.14	.34	-.01	.11								
4. Openness to Hi-tech industry	.58	.14	.13*	-.02	.01							
5. Relatedness	.44	.49	.04	.06	.04	.02						
6. Deal size (log)	1.31	.77	.09	.21**	.04	-.04	.12+					
7. LgGDP	1.47	2.45	-.14*	-.04	-.17*	.06	-.24***	-.05				
8. Home GDPGW	9.48	1.96	.03	-.01	.08	-.35***	.18**	-.04	-.55***			
9. Before 2000	.05	.22	.01	.10	.15*	-.01	.18**	-.01	-.59***	.31***		
10. 2001-2006	.14	.35	.16*	-.08	.01	.08	.12+	.09	-.50***	.05	-.09	
11. 2007-2012	.44	.49	-.05	.03	.01	-.33***	.01	-.07	.03	.52***	-.21**	-.35***

a : N = 211 (160 firms)
*p<0.05; **p< 0.01 ; ***p< 0.001

Table 3 Results of the Logistic Analysis for the Likelihood of Completion of Hi-Tech M&As in the USA by Chinese Firms, 1993-2015

Variables	Model 1	Model 2 H1	Model 3 H2	Model 4 H3	Model 5 All	Hypotheses testing
Relatedness	.269	.231	.262	.283	.244	
	(.465)	(.471)	(.465)	(.468)	(.476)	
Deal size (log)	.336	.185	.341	.441	.289	
	(.327)	(.338)	(.327)	(.335)	(.346)	
LgGDP	-.065*	-.064*	-.066*	-.058*	-.059*	
	(.028)	(.028)	(.028)	(.028)	(.028)	
Home GDPGW	-.083	-.069	-.085	-.003	-.006	
	(.128)	(.129)	(.128)	(.135)	(.135)	
Before 2000	-5.607*	-5.709*	-5.657*	-5.029*	-5.265*	
	(2.551)	(2.561)	(2.561)	(2.562)	(2.581)	
2001-2006	-1.806	-1.714	-1.850	-1.558	-1.536	
	(1.387)	(1.391)	(1.396)	(1.402)	(1.415)	
2007-2012	-.923	-.975	-.934	-.743	-.808	
	(.626)	(.631)	(.627)	(.641)	(.648)	
Success experience (H1)		.833*			.898*	H1 is supported
		(.407)			(.420)	
Gov. involvement (H2)			-.127		-.233	H2 is not supported
			(.445)		(.458)	
Openness to Hi-tech industry (H3)				2.579*	2.653*	H3 is supported
				(1.308)	(1.311)	
Log likelihood	-131.22	-129.01	-131.18	-129.12	-126.66	
LR Chi2	15.56*	19.98*	15.64+	19.75*	24.68**	
psudo R^2	0.15	0.17	0.15	0.17	0.19	

N=211, +p<.10; *p<0.05; **p< 0.01 ; ***p< 0.001
Due to space limit, the results of industry dummies are not shown above.