2022-1219 IJOI
https://www.ijoi-online.org/

International Journal of
Organizational Innovation

THE INFLUENCE OF CROSS-BORDER MERGERS AND ACQUISITIONS AND FINANCIAL CRISIS ON INDUSTRIAL CAPITAL INFLOW - THE CASE OF THE UNITED STATES ACQUISITION IN CHINA

You-Syun Huang
Department of Finance, Tainan University of Technology, Tainan, Taiwan
ta0093@gm.tut.edu.tw

Yi-Chou Wang*
Department of International Business Management, Tainan University of Technology, Tainan, Taiwan
*Correspondence: t90063@mail.tut.edu.tw; Tel.:886-6-2422609

Abstract

This research reviews the 1997 Asian financial crisis and 2008 financial crisis, which have deeply traumatized the global financial system. It has not recovered for more than ten years. Cross-border mergers and acquisitions is the major form of FDI to gain strength. Financial Crisis of 2007 is an unprecedented in the history and the beginning was sub-prime mortgage crisis in the United States. The financial crises swept the world. The results illustrated that the financial crisis diminished mergers and acquisitions (M&A) capital flow from the US to China. Even a country with institutions as perfect as the US cannot avoid suffering losses to the finances and economy. Therefore, the global financial market should not over-expand credit, over speculate and seek personal gain.

Keywords: Financial & Industrial Structure, Mergers & Acquisitions, Financial Crisis

Introduction

Even China faces to financial crisis of 2007, which was the largest FDI recipient of the developing countries. Financial crisis of 2007 swept economy of the world and decrease the total number of M&A deals. Comparing the total number of M&A deals in 2008 with 2007, it declined by 13%, and the value of deals dropped by 35%. However, from January to May, 2009, the accumulation of actual foreign capital use is 789 billion US dollars in China. In different periods, the form of foreign direct investment (FDI) has different investment forms, now cross-border mergers and acquisitions (M&A) is the major form of FDI to gain strength (Wang and Boateng, 2007).

Since 1980s, China has received a lot of capital inflows from foreign direct investment (FDI) and the trends still do not change until now. In the early 1990s, the most intense mergers and acquisitions (M&A) activities carried on, when industries had strong growth prospects and high profitability (Mulherin and Boone, 2000; Andrade et al., 2001; and Andrade and Stafford, 2004). How does FDI choice areas to invest in China and the factors of decision? We consider cross-border M&A capital flow distribution to what areas in China instead of FDI. Peng (2006) indicates that national regulations of China have loosened the rules on cross-border M&A and also encouraged the development of M&A in China.

Financial Crisis of 2007 is an unprecedented in the history and made the activities of cross-border M&A more difficult to carry on. The beginning of financial crisis was sub-prime mortgage crisis in the United States (US), and it has reduced confidence of investors who invested global credit market in 2007. After that, Lehman Brothers Holdings Inc. suspended pay and applies for the chapter 11 bankruptcy protections in September 15, 2008. In addition, Merrill Lynch was purchased by American Bank and the AIG fund was in financial danger, these events made the investors tend to circumvent risks. In fact, financial crisis of 2007 to 2008 not only affects China but also influences the entire world.

The literature analyzes M&A activities from January 1, 1997 to June 30, 2009. This study is divided into two periods to analyze capital flow from the US to China. We have the following objectives: 1. Analyze the reasons of capital flow from US relative to other cross-border M&A countries. 2. Study capital flow in terms of variance in all industries pre- and post-financial crisis. 3. Analyze whether the exchange rate revaluation has influences on capital flow from the US to China.

Literature Review

Considering the factors affect cross-border M&A activities in China and the US around financial crisis. This study focuses on these factors include exchange rates policy and exchange rates, diversification, financial depth, as well as capital inflows of foreign direct investment in target country.

Exchange Rate

In cross-border M&A activity, one factor that affects cross-border M&A capital flow is the exchange rate (e.g., Quinn, 1997; Brooks et al., 2004; Tolmunen and Torstila, 2005). The renminbi (Chinese Yuan, CNY) exchange rate regime of moving to adopt a managed floating system on July 21, 2005, and we use two variables to measure exchange rate: 1. exr_1 as a dummy variable to represent fixed and managed floating exchange rate regime. 2. Real exchange rate variance represented as exr_2, which is based on the relative exchange rate of renminbi (Chinese Yuan, CNY) against the US dollar, calculated from value of at the end of years 1997 to 2009/06/30 (Harris and Ravenscraft, 1991).

Diversification

The motivation of cross-border

M&A activities includes diversified investment, rise in market share rate, entrance to new markets, gain of foreign skill and other resources (Vasconcellos and Kish, 1998; Wang and Boateng, 2007). Prior literatures indicate that the analysis of diversification creates the firm's performance (Tolmunen and Torstila, 2005; Wang and Boateng, 2007). Diversification can reduce risks both in operational and financial markets, especially for cross-border acquisitions (Seth, 1990; Heston and Rouwenhorst ,1994; Wang and Boateng, 2007). The existing literatures prove that the performance of diversified firm has lower relative to the performance of pure-play firm (Lang and Stulz, 1994). Fluck and Lynch (1999) also demonstrated the gain of diversified firms was less than focused stand-alone entities. Specifically, Jandik and Makhija (2005) took electric utilities as an example to make a description of diversified firms and create new investment opportunities. Comparing diversified firms with single-segment electric utilities, diversified firms exist in diversification premiums during 1980-92. Diversification premiums disappeared during 1993-97 because of partial deregulation. Regulations of utilities affect the change of diversification premiums, which is strict regulation during 1980-92. However, partial deregulation took place during 1993-97.

Financial Depth

Some empirical literatures have been proposed several methods to measure financial development. Financial development is constructed in macroeconomic and financial variables, especially cross-border M&A activities have affected by during financial crisis financial depth and economic growth is positively relationship (Mckinnon, 1973; Shaw, 1973). In this paper, the main hypothesis addresses this issue with respect to how to proper open outward foreign investment.

Two indictors measured in financial depth are considered in this study. The first indicator is SK, represents the ratio of stock capitalization to GDP. The variable delineates the influence of the size of equity markets on cross-border M&A. Global equity markets inflict heavy casualties influence cross-border investment flows decrease during the crisis period. Consideration financial crisis be affected by credit issues, we employ the indicator private sector credit variable is a typical measure of financial depth. Therefore, the second indicator is PK, represents the ratio of private sector to GDP.

Capital Inflows of Foreign Direct Investment (FDI)

M&A is a means to the market entrance of FDI (Peng, 2006). FDI has two forms: one is Greenfield investment in new overseas assets; the other one is to acquire foreign assets (Giovanni, 2005). China's capital account expands rapidly and draws the investment of FDI which exceeds 6 billion at the end of 2004. Khanna and Palepu (2000) show successful investment of multination enterprises (MNEs) in China must have a good understanding about the regulations of local authorities, which are the licensing regimes, industrial regulations, and tariff structures; i.e. different areas have different regional industrial regulations in China (Child and Tse, 2001; Ma and Delios, 2007).

Financial Crisis

Scholars suggest firms should offer higher disclosure of financial statements which impacts strongly on the performance of stock price during Asian financial crisis (Mitton, 2002; Baek, Kang and Park, 2004). Asian countries had fundamental economic problems during financial crisis of 1997 (Siegel, 2002). Previous research explained the lack of the institutional infrastructure and the firm governance in emerging countries during Asia financial crisis (Stiglitz, 1998; Rajan and Zingales, 1998). Kim (1998) and Joh (2003) show that during the Asia financial crisis of 1997, emerging countries with weak legal environments and poor governance systems tend to depend heavily upon the inflow of foreign capital and tend to open their capital markets before building regulatory restraints completely on capital flows. Global financial stability was hurt by the over-liberalization of capital accounts and unfettered capital flows (Rodrik, 1998; Bhagwati, 1998; Stiglitz, 2002). There is more stimulating cross-border M&A in financial boom of acquisitions countries more than in financial recession of acquisitions countries (Holmstorm and Kaplan, 2001; Pryor, 2003). Therefore, cross-border M&A activity will decrease during financial crisis.

Data and Methodology

Data

The empirical analysis in this paper is based on capital flows for China relative to the USA in the two periods of the pre- and post- financial crisis period (1997-2006 and 2007-2009.06.30). Cross-border M&A transaction were obtained from the Securities Data Corporation (SDC) M&A databases. We applied the first digit of the Standard Industrial Classification (SIC) to define industries categories, the capital flows data was based on the M&A announcement dates. The renminbi (Chinese Yuan, CNY) exchange rate data were taken from the Taiwan Economic Journal database (TEJ). Table 1 shows the cross-border M&A transaction deals and values data is on United States acquisitions in China, which listed statistics from 1997/01/01 to 2009/06/30.

Methodology

Period

For cross-border M&A capital flow, the focus was on the acquirers' motive influenced by financial variables and other institutional factors (Giovanni, 2005). For measuring the extent of the shock of the financial crisis to M&A activity, we yield a panel with two time periods, the pre- and during financial crisis period (July 21, 2005 to December 31, 2007 and January 1, 2008 to July 5, 2009).

Model

This study is divided into two periods to analyze capital flow from the US to China in the logit model and obtains the results listed in Table 2 using the E-View program. The dependent variable *PRi* follows a binomial probability distribution and the data on different industries in different areas cross-border M&A grouped or replicated according different industries and all of cross-border M&A capital flow China. We consider the following representation of location in China.

Table 1. The Cross-Border M&A Transaction Deals And Values Data Is On United States Acquisitions In China, Which Listed Statistics From 1997/01/01 To 2009/06/30.

Year of Acquisition Announced	Number of M&A transaction deals	Average value ($ millions)
1997	2	61.13
1998	0	0.00
1999	3	449.82
2000	3	35.42
2001	14	118.90
2002	6	10.13
2003	16	74.17
2004	21	149.96
2005	25	40.35
2006	25	224.44
2007	29	42.74
2008	19	88.42
2009*	5	58.93
Total	168	1308.32

Note: *The data of 2009 is from 2009/01/01 to 2009/06/30.
Source: SDC database.

$$PRi=\frac{n_i}{N_i}$$

The logit model as following:

$$\ln(\frac{PRi}{1-PRi})=\gamma_0+\gamma_1 exr_1+\gamma_2 exr_2+\gamma_3 Xi+\gamma_4 size+r_5 SK+\gamma_6 PK+\mu_i$$

Where exr_1 is a dummy variable. 0 denotes fixed and 1 represent managed floating exchange rate regime. exr_2 is based on the relative exchange rate of renminbi (Chinese Yuan, CNY) against the US dollar, calculated from value of at the end of years 1997 to 2009/06/30. Xi is a dummy variable. 0 denotes foreign investment in South of China and 1 represent others areas. Size is a dummy variable . 0 denotes value of M&A transaction are small than average level and 1 represent value of M&A transaction are large than average level. SK represents the ratio of stock capitalization to GDP. PK represents the ratio of private sector to GDP.

The regression model as following:

$$\ln(MA_T)=\gamma_0+\gamma_1 exr_1+\gamma_2 exr_2+\gamma_3 D_1*\ln(ave)+\gamma_4 D_2*\ln(ave)+$$
$$\gamma_5 D_3*\ln(ave)+\gamma_6 D_4*\ln(ave)+\gamma_7 D_5*\ln(ave)+\gamma_8 D_6*\ln(ave)+\mu_i$$

Where MA_T indicates M&A capital flows from US to China, exr_1 is a dummy variable. 0 denotes fixed and 1 represent managed floating exchange rate regime. exr_2 is based on the relative exchange rate of renminbi (Chinese Yuan, CNY) against the US dollar, calculated from value of at the end of years 1997 to 2009/06/30. D_1 is a dummy variable defined by the first digit 1 of the SIC code. D2 is a dummy variable defined by the first digit 2 and 3 of the SIC code. D_3 is a dummy variable defined by the first digit 4 of the SIC code. D_4 is a dummy variable defined by the first digit 5 of the SIC code. D_5 is a dummy variable defined by the first digit 6 of the SIC code. D_6 is a dummy variable defined by the first digit 7 and 8 of the SIC code. *ave* is the mean all cross-border M&A transaction values for individual industry in China per year. μ_i is a residual item.

Estimation and Empirical Results Analysis

Table 2 shows that ex_1 has a positive but not significant correlation to M&A capital flows from US to China in the first period (1997 to 2006). The results show that, after the renminbi exchange rate policy reform, there were increases in M&A capital flow from US to China. The variable ex_2 reveals that renminbi appreciation is not significantly correlated to M&A capital flows from the US to China in two periods. In the first period, M&A capital flow to China from the United States is significantly positively related to the mean cross-border acquisition in all industries. However, M&A capital flow to China from the United States is not significantly correlated to the mean cross-border acquiring in all industries. The results illustrated that the financial crisis diminished M&A capital flow from the US to China. Simultaneously, the US has decreased relative to other countries of M&A market share rate in China.

Conclusion

From 1997 to 2009, there were two financial crises in the world. The financial crises swept the world. Financial sectors play a prominent role to M&A activities, because firms enter into a foreign market development. Governments of all the countries placed restraints on regulation of capital flows because of financial crises. China is an emerging country, which has a lot of regulation to capital flow. In the past, the renminbi exchange rate regime adoption in a fixed exchange rate policy which undervalued the renminbi. A fixed exchange rate policy would be inadvisable with the substantial opening of capital flow (Prasad and Wei, 2005). On July 21, 2005, People's Bank of China announced the reform of the renminbi exchange rate regime by moving to adopt a managed floating system.

Recently, Yuan per US Dollar exchange rate has always appreciated. The renminbi revaluation does not have the influence on FDI or the Chinese capital inflow. In this study, Chinese capital inflow was only affected by exchange rate policy, not exchange rate variance. This result indicates that restraints on M&A activity only affect the efficacy of legislation. In financial crisis of 2007 to 2008, capital flow was affected not only by a few industries but also all industries from the US to China. Even a country with institutions as perfect as the US cannot avoid suffering losses to the finances and economy. Therefore, the global financial market should not over-expand credit, over speculate and seek personal gain. This research mainly uses capital inflows from the U.S. to China to illustrate the risk of excessive credit expansion. This research also shows that since the 2008 financial crisis, it has been more than 10 years, and the world is still in a state of failure due to the imperfections of the financial system. In the future, government authorities should control international capital movement to avoid another serious financial blow.

Table 2. Baseline Estimation

Dependent variable: Values of M&A from US to China			
Regressor	Coefficient	1997-2006	2007-2009.06.30
Intercept	γ_0	0.848540 (0.173808)	15.96584 (9.785235)***
exr_1	γ_1	0.170513 (0.217852)	-
exr_2	γ_2	-7.191371 (-0.500352)	-0.070410 (-0.154001)
D_1*ln(ave)	γ_3	0.800709 (2.718404)***	0.074846 (0.700015)
D_2*ln(ave)	γ_4	0.858861 (3.482285)***	0.015981 (0.157800)
D_3*ln(ave)	γ_5	0.903115 (3.490535)***	-0.026164 (-0.267060)
D_4*ln(ave)	γ_6	0.914948 (3.730918)***	0.037399 (0.255634)
D_5*ln(ave)	γ_7	0.888863 (3.549564)***	0.083407 (0.892087)
D_6*ln(ave)	γ_8	0.828231 (3.207069)***	0.023979 (0.226494)
AR(1)	γ_9	-	-0.347475 (-2.305276)**
R-squared		0.195563	0.244893
Adjusted R-squared		0.134850	0.104408
Durbin-Watson statistic		1.959973	2.073328

Note: Table shows coefficient estimates from regressions $lnMA_T=\gamma_0+\gamma_1 exr_1+\gamma_2 exr_2+\gamma_3 D_1*\ln(ave)+\gamma_4 D_2*\ln(ave)+\gamma_5 D_3*\ln(ave)+\gamma_6 D_4*\ln(ave)+\gamma_7 D_5*\ln(ave)+\gamma_8 D_6*\ln(ave)+\gamma_9 AR(1)$. Figures in brackets below coefficient estimates are t-statistic. *, ** and *** indicate statistic significance at the 10%, the 5%and the 1%, respectively.

Reference

Andrade, G., Mitchell, M., Stafford, E., (2001). New evidence and perspectives on mergers. Journal of Economic Perspectives 15, 103–120.

Andrade, G. and Stafford, E. (2004). Investigating the economic role of mergers. Journal of Corporate Finance, 1–36.

Baek, J.-S., Kang, J.-K. and Park, K. S., (2004). Corporate governance and firm value: evidence from the Korean financial crisis. Journal of Financial Economics 71(2), 265-313.

Breinlich, H. (2008). Trade liberalization and industrial restructuring through mergers and acquisitions. Journal of international Economics, 254-266.

Brooks, R., Edison, H., KUMAR, A., and Sløk, T., (2004). Exchange Rates and Capital Flows. European Financial Management. 511-533.

Child, J., and Tse, D., (2001). China's transition and its implications for international business. Journal of International Business Studies, 32, 5-21.

Fluck, Z. and Lynch, A. W., (1999). Why Do Firms Merge and Then Divest? A Theory of Financial Synergy. Journal of Business, 319-346.

Giovanni, Julian di, (2005). What drives capital flows? The case of cross-border M&A activity and financial deepening. Journal of International Economics, 127-149.

Harris, S. and D. Ravenscraft, 1991. The Role of Acquisitions in Foreign Direct Investment: Evidence from the US Stock Market. Journal of Finance 46, 825-844.

Heston S. L. and Rouwenhorst, K. G. (1994). Does industrial structure explain the benefits of international diversification? Journal of Financial Economics 36(1), 3–27

Jandik, T. and Makhija, A. K. (2005) Can Diversification Create Value? Evidence from the Electric Utility Industry. Financial Management, 61-93.

Jefferson, G. H. (1998). China's State Enterprises: Public Goods, Externalities, and Coase. *The American Economic Review.* 428-432.

Joh, S. W., (2003). Corporate governance and firm profitability: evidence from Korea before the economic crisis. Journal of Financial Economics 68, 287–322.

Khanna, T. and Palepu, K. (2000). The future of business groups in emerging markets: Long-run evidence from Chile. Academy of Management Journal, 268-285.

Kim , E. H., (1998). Globalization of Capital Markets and the Asian Financial Crisis. Journal of Applied Corporate Finance 11, 30-39.

Kim, E. H., and Singal V., (2000). Stock Market Openings: Experience of Emerging Economies. The Journal of Business, 25-66.

Kose, M. A., Prasad, E. and Rogoff, K., and Wei, S.-J., (2009). Financial Globalization: A Reappraisal. IMF Working Paper.06/189.

Lang, L. H. P. and Stulz, R. M. (1994). Tobin's q, Corporate Diversification, and Firm Performance. Journal of Political Economy. 1248-1280.

Ma, X., and Delios, A., (2007). A new tale of two cities: Japanese FDIs in Shanghai and Beijing, 1979-2003. International Business Review, 16, 207-228.

Mckinnon, R. C., (1973). Money and Capital in Economic Development, Brookings Institution, Washington, DC.

Mitton, T., (2002). A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis. Journal of Financial Economics 64 (2), 215-241.

Mulherin, J. and Boone, A., (2000). Comparing acquisitions and divestitures. Journal of Corporate Finance 6, 117–139.

Peng, , Mike W. (2006). Making M&A Fly in China. Harvard Business Review.

Prasad, E. S. and Wei, S.-J., (2005). The Chinese Approach to capital inflows: Patterns and Possible Explanations. IMF Working Paper No. 05/79

Quinn, D., (1997). The correlates of change in international financial regulation, American Political Science Review, 531–551.

Rajan, R., Zingales, L., (1998). Which capitalism? Lessons from the East Asian crisis. Journal of Applied Corporate Finance 11, 40-48.

Ravichandran, K. (2009). Effect of Financial Crisis over Mergers and Acquisitions in GCC countries. Working Paper.

Seth, A., (1990). Value creation in acquisition: A re-examination of performance issues. Strategic Management Journal, 99-111.

Shaw, E., (1973). Financial Deepening in Economic Development, London: Oxford University Press.

Siegel, Jeremy J., (2002). Stocks for the Long Run. Third Edition, McGraw Hill.

Stiglitz, J., (1998). The role of international financial institutions in the current global economy. Address to the Chicago Council on Foreign Relations, February 27.

Stulz, R. M., (2005). The Limits of Financial Globalization. The Journal of Finance. 1595-1638

Tolmunen, P. and Torstila, S. (2005). Cross-Listings and M&A Activity: Transatlantic Evidence. Financial Management, 123-142.

Wang, Q., and Boateng, A. (2007). Cross-Border M&A by Chinese Firms: An Analysis of Strategic Motivation and Performance. International Management Review. 19-29.

Woodard, K., and Wang, A. Q., (2004), Acquisitions in China: A view of the Field. The China Business Review. 34-38.