A STUDY ON THE IMPACTS OF RMB EXCHANGE RATE FLUCTUATIONS ON ENTERPRISES' CROSS-BORDER M&AS

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by
Huang Yuhui

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Examining Committee Members:

Yan Li, Advisory Chair, Finance
Gurdip Bakshi, Finance
Jonathan Scott, Finance
Sunil Wattal，Management Information System

ABSTRACT

Do renminbi (RMB) exchange rate fluctuations affect cross-border M&A activities of enterprises at the micro level? This paper centers on this major issue, and we study and analyze the impacts of RMB internationalization on the magnitude and success of cross-border M&As. We investigate the impacts of exchange rate changes on the magnitude and success of enterprise-level cross-border M&As by developing nominal exchange rate (NER) and real exchange rate (RER) volatility indicators using data from the Thomson Financial SDC Platinum Merger and Acquisitions database. By applying a variety of indicators and subsample estimates in the study, we find that exchange rate volatility (of either NER or RER) is significantly negatively correlated with enterprise-level cross-border M&As, suggesting that RMB exchange rate movements deter cross-border M&As to some extent; fluctuations in RMB exchange rate have a significant negative impact on the success of cross-border M&As, and the exchange rate risk induced by exchange rate changes increases the risk of cross-border M&As; meanwhile, exchange rate fluctuations have a significant inhibitory effect on conglomerate M&As in addition to horizontal cross-border M&As. In addition, exchange rate fluctuations have a significant inhibitory effect on the profit-oriented cross-border M&As of enterprises in non-state-owned-or-controlled industries. Therefore, we should take prudent actions to prevent the impacts of RMB exchange rate movements on cross-border M&As, actively tap the potential of bilateral investment treaties in securing cross-border M&As, promote coordination between RMB exchange rate regulation

mechanisms and the “go global” strategy, and improve the level of internationalization and competitiveness of Chinese enterprises.

Key words: nominal exchange rate (NER); real exchange rate (RER); risk exposure; M&A magnitude; M&A success; mergers and acquisitions

CONTENTS

LIST OF TABLES

CHAPTER 1

OVERVIEW

Observing the process of renminbi (RMB) internationalization, we find that RMB internationalization developed swiftly in the period from 2004, when China authorized the opening of offshore RMB bank accounts, to 2009, when the pilot scheme for cross-border trade settlement in renminbi was launched and the Settlement Agreement was signed. In particular, the strategic concept of the Belt and Road Initiative was first introduced in 2013, and strategic planning for that initiative was formally launched in 2015. Implementation of the Belt and Road Initiative, as a strategic move for Chinese enterprises to "go global," created an essential platform for raising the level of RMB internationalization. Cross-border M&A was once regarded as an exclusive right of enterprises based in Western developed countries. However, as global economic integration has advanced and the economy has developed further in recent years, Chinese enterprises, which have always been viewed as lacking control of core technologies, have attracted increasing attention in the cross-border M&A market. Chinese enterprises' cross-border M&A deals have been surging since the official launch of the "go global" strategy in 2000. According to Thomson Reuters data, the number of China's cross-border M&A deals stood at 923 in 2016, totaling USD 220.9 billion and surpassing the aggregate volume of M&A transactions over the previous 4 years. Cross-border M&A activities of Chinese enterprises have stimulated the introduction of advanced technologies, patents, and brands into the domestic market, raised the internationalization level of Chinese enterprises, and fueled the upgrading of the domestic industrial structure.

As to the exchange rate regime, international exchange rate changes will render the host-country-based target company undervalued. When a foreign currency gains value against the home currency, resulting in real purchasing power of the foreign currency in excess of its nominal value, foreign investors tend to enter the host country's market through cross-border M&A to realize low-cost expansion. Exchange rate fluctuations impose multiple effects on cross-border M&As. Among those who have conducted research studies on option theory, Dixit and Peindyck (1994) argued that drastic fluctuations of exchange rates may retard the multinational enterprise decision-making on cross-border M&A, which is unfavorable for increasing cross-border M&A flows. In contrast, Sung and Lapan (2000) asserted that the high volatility of exchange rates provides an impetus to cross-border M&A activities. Furthermore, research on risk aversion theory has revealed that the greater the exchange rate volatility is, the fewer cross-border M&A deals there will be. In contrast, Goldberg and Kolstad (1994) reported that high exchange rate volatility can spur cross-border M&As. It is apparent that there are remarkable differences and divergences in the conclusions drawn from existing theoretical models. In this paper, we methodically explain how exchange rate changes may affect enterprise-level cross-border M&As from the perspective of RMB exchange rate movements.

We investigate the above topic from two aspects. First, the samples used in this research were selected among the cross-border M&A cases of Chinese enterprises in 1996–2017 indexed by the Thomson Financial SDC Platinum Merger and Acquisitions database. The Thomson Financial SDC Platinum Merger and Acquisitions database is a

widely used database for M&A research. It contains a wide variety of M&A data from different countries worldwide and collects complete information about the two parties to each M&A deal, such as industries, industries in which the parties operate, ultimate control, and home countries. In this paper, we comprehensively examine the impacts of exchange rate movements on the magnitude and success of cross-border M&As from the perspective of RMB exchange rate changes. In this regard, this study expands and deepens the available research. Second, when measuring RMB exchange rate volatility, we take the nominal exchange rate (NER) and real exchange rate (RER) indexes for CNY to USD for illustration, measure exchange rate volatility using the moving standard deviation and logarithmic methods from multiple angles, and analyze the impacts of exchange rate movements from all aspects. The conclusions provide certain empirical evidence for guiding enterprises in guarding against the risk of exchange rate fluctuations in cross-border M&A activity.

Compared with the available studies, this research makes several specific contributions. First, few empirical studies have been conducted with respect to the impacts of exchange rate volatility on cross-border M&As; most studies have merely confirmed the correlation between exchange rates and cross-border M&As. The present study, however, addresses the topic of how exchange rate changes affect cross-border M&As. In this paper, we employ the Tobit model to comprehensively examine the impacts of exchange rate changes on cross-border M&As, forming a supplement to the available research. Second, unlike the available research that mostly uses the data of host-country-level M&A cases, this study selects the samples of enterprise-level

cross-border M&As to investigate the impacts of RMB exchange rate changes on cross-border M&As. In particular, on the basis of measuring the magnitude of cross-border M&As, we further examine the impacts of exchange rate changes on the success of cross-border M&As, enriching the available research. Third, we distinguish "conglomerate M&A" from "horizontal M&A" to explore the impacts of RMB exchange rate changes from different motivators to provide solid empirical evidence for averting exchange rate risk in cross-border M&As.

CHAPTER 2

LITERATURE REVIEW

Influence Factors of Cross-Border M&As

Cross-border M&A is one of the most important tools for enterprises in making international investments. The differences in a country's resource endowment and infrastructure construction have a significant impact on cross-border M&As. Research has shown that intraregional cross-border M&As in Asian, African, and European countries are triggered by differences in economic resources across the region (Maurer, 2017). The overall R&D strength and industrialization of a country play a critical role in cross-border M&As (Anwar, 2017). In terms of national macro factors, the market strength of a country (Bremer, 2017), the gap of market growth potential between the two sides (Jia & Zhang, 2018), and the stability of the market economy all play a key role in the magnitude and success of cross-border M&As. In terms of the impact of macroeconomic changes, existing studies show that economic recession may promote cross-border M&As (Li & Yang, 2015). When a country is in a state of "unstable market economy and sharp price fluctuations," the choice of target company will greatly affect cross-border M&A success.

By industry, the extent to which cross-border M&As are affected by economic cycles and economic fluctuations differs. Market competitiveness may affect the "investment and management" and "performance" of cross-border M&As to some extent (Mike W. Peng, 2008). Product market competition in the same industry induces

predatory behavior, leading to market share redistribution, market resource reallocation, and market restructuring (Benoit, 1984) (Bolton, 1990), while the industry environment, the industry structure, industry entry barriers, and competitor reactions also exert certain influences on the logistics and success of cross-border M&As (Buckley, 1998). Furthermore, in the choice of a cross-border M&A, if a company chooses conglomerate M&A, a combination that expands operations in nonrelated industries, the company is exposed to lower investment risk and closes the deal at a reduced cost (Hennart and Park, 1993). Further, at the enterprise level, Buch et al (2014) found that adequate capital assets raise the probability and success of cross-border M&As, while enterprise financing constraints lower the probability of success of cross-border M&As.

Research on the Impacts of Exchange Rates on Cross-Border M&As

Theoretical Basis of Exchange Rate and Cross-Border M&As

The relationship between cross-border M&As and exchange rates has long been a topic of research interest and debate. Harris (2012) theorized that international exchange rate changes result in undervaluation of the host-country-based target company. When a foreign currency gains in value against a home currency, resulting in excess real purchasing power for the foreign currency in relation to its nominal value, foreign investors tend to enter the host country's market through cross-border M&As to realize low-cost expansion. On the basis of available theoretical research, Aliber (1970) proposed the capitalization theory, stating that there are hard currencies and soft currencies in the capital markets, and the capitalization rates of hard currencies are higher

than those of soft currencies. Therefore, cross-border M&As of enterprises induce capital to flow from hard currencies to soft currencies. Besides, Kohlhagen (1977) introduced the comparative cost theory. He developed a static model to analyze the impact of home currency depreciation on cross-border M&As and found that the main impacts of home-country currency devaluation on cross-border M&A are reflected in the comparison of profit margins between overseas production and export. Furthermore, Cushman (1985) put forward the comparative cost theory based on the theory of purchasing power parity, theorizing that the changes in exchange rates affect the production cost of the host country to some degree. When other factors remain unchanged, devaluation of the host-country currency will reduce the local production costs relative to the home country, especially labor costs, which will increase the return on foreign direct investment (FDI) and in turn promote the inflow of FDI.

In addition, Froot and Stein (1991) argued that because of currency mismatches, exchange rate changes trigger changes in total assets recorded on the financial statements of enterprises, thus affecting enterprise demand for investment in the host country. This mechanism is known as the relative wealth effect. Blonigen (1997) proposed the enterprises' proprietary asset theory, asserting that enterprises' proprietary assets, such as patents or technological innovations, can generate income in different markets and countries at the same time, and multinational enterprises take advantage of exchange rate fluctuations to acquire proprietary assets of host-country-based enterprises, which is a very appealing motive for cross-border M&As. However, Campa (1993) reported an argument contrary to Blonigen's conclusion, namely, the theory of future earnings

estimation, which states that devaluation of the host-country currency will impede the inflow of cross-border M&A assets. He claimed that the investment decision for a cross-border M&A depends on the expected value of future earnings. The stronger a country's currency, the higher will be the expected value of future earnings that will be produced by entering the country's market and the more that enterprises will be motivated to launch cross-border M&As. In contrast, currency depreciation has the opposite effect.

Research on the Impacts of Exchange Rates on Cross-Border M&As

The theoretical studies on the mechanisms underlying the influence of exchange rate changes on cross-border M&As have indicated that a country's exchange depreciation and the devaluation of the country's currency will increase the magnitude of cross-border M&A activity. Further, Whitmore et al. (1989) found that local currency gains against the USD are an important determinant of the occurrence of cross-border M&As in emerging industrialized countries. That is, appreciation of the local currency stimulates local enterprises to launch cross-border M&As. Likewise, Zhu & Liu (2003) claimed that two discounted cash flow methods, depending on the choice of exchange rate—spot rate or forward rate discount method—influence the valuation of target companies in cross-border M&As because of their different parameters and applications. Wan (2017) made a comparative analysis of M&A activities in Shanghai and Shenzhen during the period from 2000 to 2012 and studied whether long-term or short-term performance of enterprises was affected by exchange rates. He found that after exchange

rate reform, enterprises launching cross-border M&As that paid in both stock and cash gained excess returns in the short term. Additionally, he found through multivariate analysis that the short-term performance of acquiring firms and the likelihood of gaining excess returns are positively correlated with appreciation of the exchange rate.

When examining the impact of exchange rate volatility on cross-border M&A decisions, Campa (1993), Darby (1999) and Kogut (1996) developed a fuzzy model for assessing the effects of exchange rate volatility on cross-border M&As. The main theory underlying the impact of exchange rate changes on cross-border M&As is the real option theory, proposed by Dixit and Pindyck (1994), which explores the impact of exchange rate volatility on cross-border M&A decisions. According to the financial option theory, the option value will increase with the fluctuation of underlying stock, so exchange rate volatility increases the option value. In such case, firms would tend to wait for more information instead of exercising options immediately. Therefore, the fluctuations of exchange rate will hinder the inflow and outflow of cross-border M&A capitals. Sung and Lapan (2000) suggested that after exchange rate changes will urge enterprises to adjust the target location of M&A investments to that with the lowest and that option value is positively correlated with exchange rate volatility.

Brodsky (1984) developed a model of risk evasion in the related theoretical studies on the impacts of exchange rate risk on cross-border M&As. He argued that a risk-averse enterprise will be exposed to profit risk in the face of exchange rate fluctuations. The greater the fluctuations of exchange rate, the more the equivalent

reduction in the certainty of expected exchange rate will be, thus impeding the enterprise's cross-border M&A activities. With regard to the impact of exchange rate volatility on cross-border M&As, researchers on the Real Option Theory drew opposite conclusions. Dixit and Peindyck (1994) contended that drastic fluctuations of exchange rate may retard MNEs' decision-making on cross-border M&As, which is unfavorable for the increase of cross-border M&A flows; in contrast, Sung and Lapan (2000) asserted that the high volatility of exchange rate would give an impetus to cross-border M&A activities. Researchers on Risk Aversion have also reported divergent conclusions. Earlier studies suggested that the greater the volatility of exchange rate, the fewer cross-border M&A deals will be; Goldberg and Kolstad (1994) reported that high exchange rate volatility can spur cross-border M&As; and Bénassy–Quéré (2001) argued that the correlation of exchange rates between host countries has an impact on the effects of exchange rate fluctuations. We can see that the conclusions of those theoretical models are virtually in opposition. However, in the studies on short-term exchange rate fluctuations, the risk aversion theory is more convincing than the real option theory, because exchange rate volatility is lower and the MNE's international production capacity and related factor price remain relatively stable; when considering this issue from a long-run perspective, the choice provided by the real option theory seems more realistic.

Research on the Impacts of the RMB Exchange Rate on Cross-Border M&As

The impacts of RMB exchange rate changes on cross-border M&As are reflected in two aspects: (1) the level of RMB exchange rate (currency appreciation or devaluation); and (2) the volatility (amplitude of fluctuation) of RMB exchange rate.

The first aspect is the impact of the level of RMB exchange rate on cross-border M&As. Most scholars claimed that the appreciation of RMB exchange rate is conducive to the cross-border M&As of Chinese enterprises. The appreciation of RMB exchange rate, that is, the devaluation of the host-country currency, creates a favorable condition for Chinese enterprises to engage in cross-border M&A activities (Bi & Zhang, 2008). Yu (2006) surveyed the situation of textile enterprises and found that the appreciation of RMB exchange rate creates an opportunity for Chinese textile enterprises to enhance their global competitiveness and improve the situation. The reason may be that exchange rate is significantly negatively correlated with cross-border M&A activities. The more the loss of value of the host-country currency, the more active Chinese enterprise will be in launching M&As in the country in order to get cheaper labors and raw materials, thereby grabbing higher profits (Li, 2017). However, some scholars argued that this effect is not significant or is time dependent. For example, Guo (2013) asserted that RMB appreciation expectation will contribute to increasing the magnitude of Chinese enterprises' cross-border M&As, only that such effect is not significant at this stage. Some other scholars focus on the situation of RMB exchange rate devaluation. Xin (2003) surveyed Japanese enterprises' direct investments in China and found that when China's

yuan devalues against Japan's yen, the frequency of cross-border M&A by Japanese investors in China's major industrial sectors will raise significantly. Although the devaluation of the RMB will not directly affect cross-border M&A, the moderate devaluation of the RMB against other major currencies will be conducive to the export of Chinese enterprises, thereby spurring foreign cross-border M&A investments in Chinese export-oriented enterprises (Jin et al., 2010).

The second aspect is the impact of RMB exchange rate volatility on cross-border M&As. Scholars reported different findings on this topic, maintaining that RMB exchange rate volatility is negatively or positively correlated with or has no significant impact on cross-border M&As. For example, the increase in RMB exchange rate volatility will lessen the magnitude of cross-border M&As of Chinese enterprises (Guo, 2013). Xia (2010) held the opposite opinion that exchange rate volatility is positively correlated with FDI in both the short and long term. He et al. (2017) argued that exchange rate volatility has no significant effect on China's direct investment in ASEAN countries.

Theories on the Impacts of RMB Exchange Rate Fluctuations on Cross-Border M&As

Impacts of Exchange Rate Fluctuations on Cross-Border M&As

Risk Aversion Theory

From the perspective of domestic and foreign resource allocation, (1) for risk-neutral investors, there is no statistical correlation between exchange rate fluctuations and resource allocation; (2) for risk-averse investors, exchange rate

fluctuations may expand their overseas investments, since in face of limited resources, they will reduce domestic investments and let resources flow abroad (Papadopoulos & Zis, 2000). Cushman (1985) analyzed four direct investment models from the perspective of commodity export and capital allocation. To cope with risks, multinational enterprises reduce their exports, and in return offset them by increasing foreign capital inputs and production. Exchange rate fluctuations have a positive effect on cross-border capital flows, that is, stimulating outflows of cross-border M&A capital.

Real Option Theory

From the perspective of real options (Kogut & Kulatilaka, 1994), the net present value of investment projects is often affected by the future cash flow volatility and discount rate uncertainty. Under the impact of the uncertainty, investment projects can be regarded as real options, similar to financial options. The theory of financial options hold that the value of options may increase with the fluctuations of the underlying stocks. Hence, the increase in exchange rate uncertainty will raise the waiting value of real options, thus enterprises prefer to wait for more information rather than immediately exercise options. Hence, exchange rate fluctuations will inhibit the inflows of FDI and outflows of ODI.

Theoretical Mechanism of This Paper

Exchange rate fluctuations greatly increase the instability of the macroeconomic environment between countries. With regard to the issue of whether exchange rate fluctuations have an impact on cross-border M&As, a comprehensive and mature

research system has verified that the answer is yes. The impact of exchange rate fluctuations on cross-border M&As is mainly reflected in the following aspects.

First, exchange rate fluctuations may affect the production cost in the host country. As the exchange rate of the host country declines and its currency depreciates, the production cost and labor cost in the host country may fall, relative to those in the home country. Under this circumstance, home-country-based enterprises can acquire those in the host country at a low relative cost.

Second, exchange rate fluctuations may change the relative wealth of the home and host countries. Because of currency mismatches, exchange rate changes will trigger changes in the total assets recorded on enterprise financial statements, thus affecting enterprise demand for investments in the host country. When the exchange rate of the host country declines, the wealth of the home country measured in the currency of the host country will appreciate, and the financing costs and borrowing costs of the home country in the host country will decrease, thus promoting cross-border M&As of the home country.

In addition, the exchange rate fluctuations may affect cooperate valuation. Both the exchange rate rise of the home country and the exchange rate decline of the host country will boost cross-border M&As between the two countries. When the exchange rate of the home country rises, home-country-based enterprises will encounter an increase in valuation so that they will be more likely to be the buyers in cross-border M&As, which will raise the success rate of cross-border M&As. Furthermore, the exchange rate

fluctuations of the home country may increase the costs of export from the home country to target countries. As a result, the home country may prefer to transfer their production and processing to the plants in target countries through cross-border M&As, so as to disperse the exchange rate risks brought by domestic production and export and obtain a certain amount of investment incomes.

Third, the impact of exchange rate risks on cross-border M&As is reflected in two aspects. On one hand, exchange rate uncertainty may directly affect the option value of acquired enterprises. The higher the exchange rate volatility is, the greater the option value of acquired enterprises will be, and the more likely the acquiring enterprises will be to wait for more information, thus affecting the success rate and efficiency of M&As. With the fluctuations in exchange rate, production options may be transferred between countries, which are called “production flexibility” options.

On the other hand, the exchange rate volatility may also have an impact on cross-border M&As. A risk-averse enterprise will be exposed to profit risk in the face of exchange rate fluctuations. The greater the fluctuations of exchange rate, the more the equivalent reduction in the certainty of expected exchange rate will be, thus impeding the enterprise’s cross-border M&A activities.

In addition, the risk of exchange rate fluctuations will also cause the net present value of investment projects to be affected by the future cash flow volatility and the discount rate uncertainty, which may cause home-country-based enterprises to consider the real value and future profit stability of host-country-based enterprises. When the

exchange rate fluctuates frequently, the risk of exchange rate fluctuations will rise, which may reduce the success rate of cross-border M&As or cause home-country-based enterprises to scale down their cross-border M&As of host-country-based enterprises.

CHAPTER 3

MEASUREMENT MODEL

Measurement Model Setup

To achieve the purpose of this paper, the measurement model of this study is set as follows based on the existing related studies:

$$ma_{ijmt} = \alpha_0 + \alpha_1 \cdot rate_{jm,t-1} + \beta \cdot bit_{jt} + \delta \cdot rule_{jt} + \varphi \cdot U_{ijmt} + \gamma_i + \eta_j + \kappa_m + \lambda_t + \varepsilon_{ijmt}$$

Where, i, j, m, and t stand for the enterprise, industry (four-digit SIC), host country and year, respectively. “Ma” stands for cross-border M&As. In the benchmark estimation, it is expressed as mava (cross-border M&A magnitude, calculated in US dollars), representing the magnitude and success of cross-border M&As. To further estimate the impact of antidumping towards China and cross-border M&As, we, on the basis of the effectiveness of cross-border M&As, build a success indicator for cross-border M&As (success: 1; failure: 0).

The core explanatory variable “rate” measures the volatility of RMB exchange rate. In this paper, we set the following indexes as the proxy variables of RMB exchange rate volatility: taking the period-average RMB nominal effective exchange rate index (i.e., the exchange rate of RMB against a basket of currencies) and the real effective exchange rate index (i.e., the period average calculated based on the consumer price index) as the benchmark, we measured the exchange rate volatility using the following methods: (1) moving standard deviation method. With reference to the moving standard deviation

method employed by Clark et al. (2004), Florian and Inmaculada (2014), we expressed the exchange rate volatility with the moving standard deviation (three phases) of logarithmic first-order difference of exchange rates, expressed as nomrate1 and effectrate1 respectively; and (2) the logarithm method. Based on related studies of Bauwens et al. (2006) and Wang & Feng (2018), we used Rt and Rt-1 to represent the current and previous exchange rate quotations respectively. The monthly RMB exchange rate volatility can be expressed in the form of $Yt = [\log (Rt/Rt\text{-}1)]^2$, that is, nomrate2 and effectrate2.

BIT refers to "bilateral investment treaty," which is measured by the validity term of the bilateral investment treaties (BITs) between China and OFI host countries in this paper. According to the *List of Bilateral Investment Treaties* published by the Ministry of Commerce,[1] China, as of 2016, has signed BITs with 104 other countries, becoming one of the countries signing the most investment treaties. Many of the BITs have taken effect and become an important system and protection mechanism for China to develop foreign economic relations. According to Desbordes and Vicard (2009), BITs are officially signed bilateral agreements. Nearly all BITs provide arbitration schemes and rules for the settlement of investment disputes, which are an important institutional guarantee for overseas cross-border M&As. Data source: BIT database of UN Conference on Trade and Development.[2]

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[1] The List of Bilateral Investment Treaties is available at: http://tfs.mofcom.gov.cn/article/Nocategory/201111/20111107819474.shtml

[2] BIT data is available at: http://investmentpolicyhub.unctad.org/IIA/CountryBits/42#iiaInnerMenu

Rule measures the institutional quality of the host countries examined in this paper. Institutional risks are the systematic risks of a country arising from imperfect or flawed political system, legal system or social structure. Although the host countries seldom employ the means of confiscation or disguised nationalization which may result in total loss of the overseas assets of home country-based enterprises, a variety of potential institutional risks may cause various losses to the assets of home-country-based enterprises (Kesternich and Schnitzer, 2010). Referring to the practices of Zong et al. (2012) and Pan & Jin (2015), we measured the institutional quality of the host countries with the World Bank's WGI (World Governance Indicator). WGI is an indicator system integrating six subindicators including voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. It is used to measure the quality of public services, the government's ability to develop and implement sound policies and regulations, allow and promote the development of the private sector, and enforce contracts, and the quality of police offices and courts in the host countries. The higher the WGI, the better the institutional quality is. Generally, WGI ranges from -2.5 to 2.5. A higher positive WGI value represents better government administration and higher institutional quality, and a negative WGI value represents poor institutional quality. In this paper, we summed up the six subindicators of each host country during 2005-2017 and then obtained the institutional quality indicator "rule." Data source: World Bank Group website.[3]

[3] Data of institutional quality is available at: https://datacatalog.worldbank.org/dataset/worldwide-governance-indicators.

Control variables also include the following: the VIX represents the SSE Composite Index, which represents the market volatility; according to Dunning (1988), the regional advantages, which are mainly the characteristics of the host countries, have an extremely important influence on the international production of enterprises. Hence, we also measured the economic development level (gdper) of the host countries by GDP per capita (in constant US dollar value in 2005); consum represents the consumer price index growth of the host countries. The variables in the aspect of cross-border M&As include (1) enterprises' attitude towards M&As. 1 represents "friendly" and 0 represents "not friendly"; (2) the type of enterprises. 1 represents "private" and 0 represents "nonprivate." In addition, we further considered fixed effects of the industry—n_j. k_m and λ_t represent the effects of the host country and the year, respectively; and ε_{ijmt} is the residual.

Descriptive Statistics of Indicators

Regarding the exchange rate measurement, we, on one hand, use the RMB exchange rate[4] of each month during 2005–2016 expressed by direct quotation approach in FRED Economic Data as the exchange rate of RMB to US dollars, and on the other hand, use the RMB exchange rate indexes of each month during 2005–2016 in csmar database, including the period-average RMB nominal effective exchange rate index (i.e., the exchange rate of RMB against a basket of currencies) and the real effective exchange

[4] Details are available at: https://fred.stlouisfed.org/series/EXCHUS.

rate index (i.e., the period average calculated based on the consumer price index). The detailed calculation is as follows.

The measurement of monthly realized volatility requires daily exchange rate data. More specifically, the log-return of the daily exchange rate should be calculated first:

$$r_t = \log(s_t) - \log(s_{t-1}),$$

where, s_t and s_{t-1} stand for the exchange rate on the t^{th} and $(t-1)^{th}$ day respectively. The realized variance is calculated based on the sum of the log-returns of N days in a month:

$$RV_t = \sum_{t-1}^{N} r_t^2.$$

The realized volatility is the square root of the realized variance:

$$Vol_t = \sqrt{RV_t}.$$

The samples used in this research were selected from the cross-border M&A cases of Chinese enterprises in 1996–2016 indexed in the Thomson Financial SDC Platinum Merger and Acquisitions database. The Thomson Financial SDC Platinum Merger and Acquisitions database is a widely used database for M&A research. It contains all sorts of M&A data from different countries all over the world, and collects complete information about the two parties to an M&A deal, such as the industries, such as the industries they operate in, ultimate control and home countries. We preliminarily selected the data of 5707 cross-border M&As of Chinese enterprises from Jul. 1, 2005 to Dec. 31, 2016,

including 2762 accomplished ones. Culling the data of M&As involving such tax havens as Bermuda and Cayman Islands, we ultimately arrived at 4947 samples. In addition, the characteristic data of the host countries (or regions) is mainly sourced from the statistical database of the World Bank.

According to modeling and indicator settings, the descriptive statistics of the indicators are as shown in Table 1.

Table 1 Descriptive Statistics of Indicators

Variables	Meaning	Sample size	Mean	Standard deviation	Minimum	Maximum
Explained variables						
mava	M&A magnitude	4,947	180.5	1013	0	41840
succ	M&A success	4,947	0.652	0.477	0	1
Explanatory variables						
Exchange rate indicators						
nomrate1	NER volatility by moving standard method	4,947	0.348	0.210	0.0578	1.578
effectrate1	RER volatility by moving standard method	4,947	0.406	0.244	0.0248	1.480

Table 1, continued

nomrate2	RER volatility by logarithm method	4,947	0.0029	0.0042	0.0001	0.0405
efectrate2	RER volatility by logarithm method	4,947	0.0034	0.0045	0	0.0346
Control variables						
bit	Bilateral investment treaty	4,947	8.060	10.79	0	31
vix	SSE Composite Index	4,947	2831	772.5	1083	5955
rule	Institutional quality of the host countries	4,709	6.906	3.970	-14.70	11.33
gdper	GDP per capital	4,947	37579	19021	0	101568
consum	Consumer price growth of the host countries	4,709	2.874	6.609	-22.42	392.8
attitude	Enterprises' attitude towards M&As	4,947	0.901	0.299	0	1
private	Type of enterprise	4,947	0.247	0.432	0	1

Note: data source—SDC Platinum, CEPII database, and the statistical database of the World Bank

CHAPTER 4

MODEL ESTIMATION

Benchmark Estimation

As the M&A data concerning magnitude are partially lost, the explained variables are merged to 0, which are typical "merged data." Despite a complete set of observation data, the explained variables in some observation data are compressed to a point. Hence, it is relatively reasonable to use Tobit regression model for estimation (Tobin, 1958). The results of the estimation conducted based on Tobit regression model are shown in Table 2. In this paper, we used the moving standard deviation method to calculate NER and RER volatility, expressed as nomrate1 and effectrate1, respectively; and used the logarithm method to calculate RMB NER and RER volatility, expressed as nomrate2 and effectrate2, respectively.

The estimation results in columns (1)–(4) in the table below show that the estimation coefficients of "Rate" (both NER volatility and RER volatility) are significantly negative at the statistical level, which indicates that RMB exchange rate fluctuations may greatly inhibit cross-border M&As to some extent. The great exchange rate fluctuations may intensify the instability of the macroeconomic environment between countries, which has a significant negative impact on cross-border M&As: first, the cross-border M&As of Chinese enterprises are mostly settled in RMB and their future dividends are also converted into RMB. As to the risk of currency mismatch, the cross-border M&As of Chinese enterprises may face the risk of currency mismatch due to

RMB appreciation, which is manifested by depreciation of a large amount of net foreign currency assets. Meanwhile, Chinese cross-border M&As are diversified and dispersed. As a result, RMB exchange rate volatility may greatly increase the risk of currency mismatches and thereby obstruct cross-border M&As of enterprises; second, the cost changes brought about by RMB exchange rate fluctuations may increase the difficulty of enterprises in making cross-border M&A decisions to some extent, especially for cross-border M&As that capture the abundant resources and cheap labor force in the host countries. In addition, the current cross-border financing channels include foreign currency loans, offshore bonds, and equity financing, and the financing costs of foreign currency loans mainly include fundraising costs, interest, and exchange gains and losses., all of which are affected by RMB exchange rates; finally, RMB exchange rate volatility may lead to fluctuations in production costs in China relative to those in other countries, and great changes in relative monetary wealth and proprietary enterprise values in other countries that will inhibit Chinese acquirers' cross-border M&As of foreign enterprises.

As to other key explanatory variables of the model, the estimation coefficient of "rule" shows statistically significant negative inhibition effect. The high institutional quality of the host countries and the potential "institutional barriers" facing Chinese acquirers, such as different trade unionism and institutionally discriminatory control in developed countries, impede the increase of M&A magnitude. In fact, Chinese enterprises are vulnerable to legal barriers when acquiring the enterprises of developed countries showing high institutional quality. Some developed countries even issue provisional bills in the name of safeguarding national security which consume lots of

manpower and material resources to prevent the cross-border M&As of Chinese enterprises. The estimation coefficients of "vix" (SSE Composite Index) are significantly positive, which shows from the VIX that the faster the SSE Composite Index rises, the more conducive it is to promote cross-border M&As of enterprises, that is, better market expectation can significantly promote cross-border M&As of enterprises. In addition, the estimation coefficients of "Gdper" (economic development level of host countries) and "consum" (consumer price growth of host countries) are significantly positive, that is, an economically developed host country can boost the cross-border M&As of home-country-based enterprises, and a high "consum" often represents expansion of consumer markets, which can greatly stimulate market-seeking cross-border M&As.

Table 2 Regression Estimation of Exchange Rate Volatility and Cross-Border M&A Magnitude

	(1)	(2)	(3)	(4)
	nomrate1	effectrate1	nomrate2	effectrate2
rate	-191.645***	-92.566***	-2399.169***	-2584.990***
	(-22.80)	(-13.28)	(-11.50)	(-3.68)
bit	-6.569***	-6.517***	-6.414***	-6.384***
	(-20.14)	(-19.70)	(-19.53)	(-19.34)
vix	0.019***	0.042***	0.034***	0.032***
	(15.88)	(32.29)	(26.10)	(25.26)
rule	-66.996***	-68.178***	-68.459***	-68.463***
	(-97.08)	(-92.87)	(-90.16)	(-92.50)
gdper	0.007***	0.007***	0.007***	0.007***
	(47.99)	(45.22)	(45.00)	(45.83)

Table 2, continued

consum	3.387***	3.414***	3.406***	3.408***
	(11.87)	(11.85)	(11.60)	(11.68)
attitude	78.002***	84.019***	82.092***	81.163***
	(27.66)	(25.99)	(25.21)	(25.90)
private	-213.172***	-215.543***	-214.249***	-213.918***
	(-27.99)	(-27.38)	(-27.21)	(-27.61)
_cons	-8.6e+03***	-8.8e+03***	-8.7e+03***	-8.7e+03***
	(-2289.80)	(-2060.81)	(-2009.68)	(-2098.19)
Year	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
sigma				
_cons	1293.971***	1294.290***	1294.448***	1294.411***
	(1521.71)	(1596.25)	(1663.42)	(1604.34)
N	4708	4708	4708	4708

Note: *, **, and *** represent the significance at the statistical level of 10%, 5%, and 1%, respectively. The value in parentheses is t.

Regression Estimation of Exchange Rate Volatility and M&A Success

According to the sample statistics of this paper, the number of completed cross-border M&As is 3,762, accounting for 65% of the total samples, and the number of canceled, terminated and suspended cross-border M&As accounts for more than 30%. On this basis, we further built the succ index (1 represents success, and 0 represents failure) to analyze the impact of RMB exchange rate fluctuations on the cross-border M&As of Chinese enterprises.

Table 3 shows the estimation results of the binary-choice model of RMB exchange rate volatility and cross-border M&A success. Overall, the exchange rate risks caused by RMB exchange rate fluctuations increase the risks of cross-border M&As, and significantly inhibit the success of cross-border M&As. Consistent with the benchmark estimation results, the estimation coefficients of "Rate" are significantly negative, that is, the more severely the RMB exchange rate fluctuates, the greater risks cross-border M&As will face, which is not conducive to cross-border M&As. On one hand, severe exchange rate fluctuations lead to a high uncertainty, which is unfavorable for risk-averse investors. In fact, the degree of exchange rate fluctuations is equivalent to the exchange rate risks faced by investors. Frequent exchange rate fluctuations always entail a high exchange rate to attract enterprises to conduct cross-border M&As. On the other hand, frequent exchange rate fluctuations require investors to consider more about the irreversibility of investments when making investment decisions, that is, great exchange rate fluctuations will increase the risks of ODI, in which case investors will demand a higher investment premium to offset their possible losses and they may abandon some projects, thus resulting in failure of cross-border M&As.

As to other key explanatory variables of the model, the estimation coefficient of "Rule" is statistically significantly negative, that is, high institutional quality of the host countries may hinder the success of cross-border M&As to some extent. This may indicate that the "institutional barriers" facing Chinese enterprises, such as different trade unionism and institutionally discriminatory control in developed countries, may impede the increase of M&A magnitude; in addition, the estimation coefficients of "vix" (SSE

Composite Index) are significantly positive, that is, better market expectations can significantly promote cross-border M&As by enterprises; the estimation coefficients of "Gdper" and "Consum" show no statistical significance, that is, they have no significant impact on the success of cross-border M&As.

Table 3 Regression Estimation of Exchange Rate Volatility and Cross-Border M&A Success (Probit Model)

	(1)	(2)	(3)	(4)
	nomrate1	effectrate1	nomrate2	effectrate2
nomrate1	-16.859*	-10.4174***	-4.9764*	-9.707***
	(-1.86)	(-3.09)	(-1.90)	(-18.39)
bit	0.037	0.037	0.038	0.038
	(1.08)	(1.08)	(1.09)	(1.09)
vix	0.713***	0.710***	0.714***	0.713***
	(4.36)	(4.37)	(4.41)	(4.39)
rule	-0.001	-0.002	-0.002	-0.000
	(-1.36)	(-1.13)	(-1.49)	(-1.29)
gdper	-0.304***	-0.305***	-0.302***	-0.304***
	(-3.05)	(-3.08)	(-3.02)	(-3.06)
consum	0.000**	0.000**	0.000**	0.000**
	(2.22)	(2.20)	(2.21)	(2.21)
attitude	0.001	0.001	0.001	0.001
	(0.20)	(0.22)	(0.21)	(0.21)
private	1.197***	1.206***	1.204***	1.201***
	(7.22)	(7.27)	(7.17)	(7.21)
_cons	14.103***	13.948***	14.075***	14.029***
	(12.54)	(12.46)	(12.80)	(12.67)
Year	Yes	Yes	Yes	Yes

Table 3, continued

Country	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
N	5205	5205	5205	5205

Note: *, **, and *** represent the significance at the statistical level of 10%, 5% and 1%, respectively. The value is in the parentheses is t.

Estimation and Testing of the Difference by Industry

In a cross-border M&A, the acquiring enterprise and the target enterprise are often engaged in different industries. In view of this, it is necessary to analyze the difference in the impact of conglomerate M&As. In this study, “same industry” is a binary variable, with 1 representing that the acquiring enterprise and the target enterprise are in the same industry; 0 represents that they are not in the same industry. This variable can be determined based on the first two digits of the standard 4-digit SIC in SDC Platinum: it is 1 if the two digits are the same and 0 if they are different. We conducted a regression estimation of sample partitioning on this basis, with the results shown in Tables 4 and 5.

Table 4 shows the regression results of exchange rate volatility and conglomerate M&A magnitude. The estimation coefficients of both NER and RER volatility show no statistical significance, which indicates that RMB exchange rate volatility does not have an adverse impact on cross-border horizontal M&As. Great exchange rate fluctuations suggest high risks of the macroeconomic environment. However, cross-border horizontal M&As may hedge the exchange rate risks of M&As to some extent. The reason may be

that the industry risks of cross-border horizontal M&As are controllable. Therefore, in spite of great fluctuations in exchange rate, that is, high risks of the macroeconomic environment, cross-border M&As can reduce the risks caused by the changes in the external macroeconomic environment.

Table 4 Regression Estimation of Horizontal M&A Magnitude

	(1)	(2)	(3)	(4)
	nomrate1	effectrate1	nomrate2	effectrate2
rate	-244.010	69.999	-1.4e+04	-1.8e+04
	(-0.93)	(0.25)	(-1.16)	(-1.30)
bit	37.839	36.993	39.950	39.388
	(1.03)	(1.01)	(1.04)	(1.06)
vix	-0.064	-0.027	-0.083	-0.082
	(-0.65)	(-0.29)	(-0.75)	(-0.83)
rule	-114.909	-117.812	-117.379	-118.093
	(-0.84)	(-0.86)	(-0.86)	(-0.88)
gdper	0.004	0.004	0.005	0.004
	(0.44)	(0.41)	(0.51)	(0.48)
consum	-14.626	-16.119	-15.479	-15.540
	(-1.41)	(-1.53)	(-1.51)	(-1.51)
attitude	272.093**	286.727**	280.117**	272.539**
	(2.00)	(2.10)	(2.05)	(2.05)
private	-401.694**	-406.478**	-402.236**	-402.692**
	(-2.54)	(-2.52)	(-2.50)	(-2.47)
_cons	3041.729	3459.069	3267.584	3248.471
	(0.86)	(0.94)	(0.93)	(0.92)
Year	Yes	Yes	Yes	Yes

Table 4, continued

Country	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
sigma				
_cons	1568.984***	1569.932***	1569.326***	1567.996***
	(3.73)	(3.72)	(3.73)	(3.73)
N	1779	1779	1779	1779

Note: *, **, and *** represent the significance at the statistical level of 10%, 5%, and 1%, respectively. The value in parentheses is t.

As to the relationship between exchange rate fluctuations and cross-border conglomerate M&As, the estimation results in columns (1)–(4) in Table 5 show that the estimation coefficients of "Rate" (both NER volatility and RER volatility) are significantly negative, that is, great exchange rate fluctuations may intensify the instability of the macroeconomic environment between countries, which has a significant negative impact on cross-border conglomerate M&As: first, Chinese cross-border M&As are diversified and dispersed. As a result, China's US dollar-based foreign exchange fund structure faces a certain risk of currency mismatch. Obviously, RMB exchange rate volatility may greatly increase the risk of currency mismatch of conglomerate M&As, and thereby obstruct cross-border M&As; second, from the perspective of cost effect, the cost effect brought by RMB exchange rate fluctuations may be greatly intensified due to the great uncertainty of conglomerate M&As, thus increasing the difficulty of enterprises in making cross-border M&A decisions and inhibiting cross-border conglomerate M&As; third, from the perspective of production costs, RMB exchange rate volatility may lead to fluctuations in production costs in China relative to those in other countries, and great

changes in the relative monetary wealth and proprietary enterprise asset values in other countries, which will inhibit Chinese acquirers' cross-border conglomerate M&As of foreign enterprises.

Table 5 Regression Estimation of Conglomerate M&A Magnitude

	(1)	(2)	(3)	(4)
	nomrate1	effectrate1	nomrate2	effectrate2
rate	-87.985***	-138.652***	-4813.008***	-5960.618***
	(-11.94)	(-29.19)	(-10.97)	(-14.35)
bit	-30.639***	-30.622***	-30.103***	-30.138***
	(-89.98)	(-89.53)	(-85.02)	(-86.18)
vix	0.070***	0.081***	0.090***	0.087***
	(85.40)	(102.47)	(116.58)	(112.51)
rule	22.445***	22.311***	20.137***	19.379***
	(58.94)	(55.85)	(48.33)	(47.52)
gdper	0.012***	0.012***	0.012***	0.012***
	(218.95)	(210.87)	(215.04)	(214.80)
consum	2.271***	2.400***	2.313***	2.302***
	(4.17)	(4.41)	(4.39)	(4.35)
attitude	-19.392***	-17.208***	-21.022***	-18.931***
	(-13.04)	(-12.62)	(-14.84)	(-13.97)
private	-135.272***	-137.062***	-136.652***	-137.338***
	(-25.44)	(-26.63)	(-26.69)	(-26.24)
_cons	-6.3e+03***	-6.3e+03***	-6.3e+03***	-6.3e+03***
	(-3345.73)	(-3615.88)	(-3586.15)	(-3547.81)
Year	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
_cons	1021.619***	1021.023***	1021.553***	1021.330***

Table 5, continued

	(1713.46)	(1769.75)	(1883.84)	(1840.76)
N	2929	2929	2929	2929

Note: *, **, and *** represent the significance at the statistical level of 10%, 5%, and 1%, respectively. The value in parentheses is t.

Heterogeneity Difference of Different Industries

From the industrial characteristics of cross-border M&As, China's cross-border M&A industries mainly gather in energy resources and infrastructure construction and other fields (Leung and Zhao, 2013). From the distribution of samples in this paper, the cross-border M&As of enterprises mainly occur in energy, traffic and transport, real estate, finance, etc. Based on the above, the cross-border M&As in fields such as energy resources and infrastructure construction tend to be conducted by powerful state-owned enterprises as investment subjects that are more reflective of national strategies or interests, and industrial investments show a strong investment risk preference (Sheng Sixin, Cao Wenlian, 2015); moreover, in order to avoid the impact of local government demands, it is often necessary to establish joint ventures with the enterprises of the host countries, which will significantly reduce the return on investment of the investors. Whereby, we set the virtual variable for the subject industries of the cross-border M&As of state-owned enterprises such as energy, traffic and transport as 1, and other industries as 0, in order to clarify the impacts of RMB exchange rate volatility on different industries.

According to the estimates by sample of the state-owned-or-controlled industries and non-state-owned-or-controlled enterprises in Table 6, there are significant differences in the impacts of exchange rate volatility on the cross-border M&As of enterprises, that is, exchange rate fluctuations significantly inhibit the scale of cross-border M&As of the non-state-owned controlled industries. Specifically, from the columns (1) - (4) in Table 6, the estimation coefficients of "Rate" (both NER volatility and RER volatility) are significantly negative, that is, the violent fluctuation of RMB exchange rate increases the uncertainty of the macroeconomic environment among countries, which significantly inhibits the cross-border M&As of enterprises in the non-state-owned-or-controlled industries to some extent, and, under exchange rate fluctuations, there is a certain risks of currency mismatch in the pattern of foreign exchange funds dominated by US dollars for the profit-oriented cross-border M&As of non-state-owned-or-controlled industries, which will significantly inhibit the scale of the cross-border M&As of enterprises. From the columns (5) - (8), the estimation coefficients of the "Rate" (both NER volatility and RER volatility) are not statistically significantly negative, which shows that the cross-border M&As in the fields such as energy resources and infrastructure construction tend to be conducted by powerful state-owned enterprises as the investment subject, which more reflect the national strategies or interests, and the industrial investments shows a strong investment risk preference, and exchange rate volatility does not have a significant inhibitory effect on cross-border M&As in state-owned-or-controlled industries. From the above estimation results with significant differences, it can be found

that the rises of exchange rate risk level significantly inhibit the cross-border M&As of enterprises in the non-state-owned-or-controlled industries.

Table 6 Regression Estimation of State-Owned-or-Controlled Industries and Non-State-Owned-or-Controlled Industries

	Non-state-owned-or-controlled industries				State-owned-or-controlled industries			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	nomrate1	effectrate1	nomrate2	effectrate2	nomrate1	effectrate1	nomrate2	effectrate2
rate	-268.525***	-33.789***	-2.6e+03*	-4.2e+03***	99.216***	166.412***	-955.639	-757.506
	(-25.29)	(-3.92)	(-1.90)	(-5.10)	(5.77)	(12.44)	(-0.59)	(-0.75)
bit	6.541***	7.040***	7.115***	7.206***	-64.778***	-63.893***	-64.361***	-64.307***
	(17.92)	(18.51)	(19.21)	(19.45)	(-108.66)	(-105.77)	(-96.53)	(-97.17)
vix	-0.019***	0.008***	0.004**	-0.003**	0.237***	0.231***	0.221***	0.219***
	(-13.40)	(4.89)	(2.38)	(-2.02)	(109.71)	(104.57)	(110.07)	(111.57)
rule	-11.001***	-13.812***	-13.881***	-13.898***	-148.206***	-144.517***	-146.530***	-146.548***
	(-13.56)	(-15.64)	(-15.94)	(-16.20)	(-77.10)	(-74.32)	(-78.07)	(-76.97)
gdper	0.000***	0.001***	0.001***	0.001***	0.019***	0.019***	0.019***	0.019***
	(2.65)	(3.92)	(3.92)	(4.06)	(110.46)	(109.60)	(108.23)	(108.17)
consum	4.445***	4.506***	4.489***	4.482***	-34.763***	-35.066***	-34.392***	-34.370***

Table 6, continued

	(17.17)	(17.27)	(17.16)	(17.20)	(-20.88)	(-21.06)	(-21.37)	(-21.31)
attitude	-24.846***	-16.891***	-17.884***	-19.129***	446.987***	446.087***	444.528***	443.250***
	(-6.10)	(-3.62)	(-3.87)	(-4.27)	(243.78)	(213.71)	(158.25)	(184.45)
private	-195.802***	-197.154***	-196.778***	-196.162***	-345.368***	-346.392***	-343.207***	-342.585***
	(-17.56)	(-17.04)	(-17.06)	(-17.24)	(-26.73)	(-26.68)	(-29.69)	(-28.15)
_cons	-8.6e+03***	-8.7e+03***	-8.7e+03***	-8.7e+03***	-1.1e+04***	-1.1e+04***	-1.1e+04***	-1.1e+04***
	(-1715.24)	(-1519.44)	(-1540.63)	(-1587.91)	(-2536.86)	(-2396.64)	(-2744.55)	(-2764.81)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
sigma								
_cons	1238.814***	1239.657***	1239.678***	1239.535***	1400.961***	1400.427***	1401.022***	1401.077***
	(1260.25)	(1343.29)	(1315.23)	(1311.50)	(1184.27)	(1159.86)	(1071.12)	(1059.97)
N	3799	3799	3799	3799	909	909	909	909

CHAPTER 5

ROBUSTNESS ESTIMATION

Estimation of Samples Not Involving Hong Kong, Macao, or Taiwan

With regard to the cross-border M&As involving different countries and regions, we found that the overseas M&As involving Hong Kong, Macao and Taiwan show a significant motive of "institutional speculation," that is, investors make investments in Hong Kong, Macao or Taiwan so as to enjoy more preferential policies (e.g., tax avoidance) in Chinese Mainland as "foreign investors." In view of this, we further culled the cross-border M&A samples involving Hong Kong, Macao and Taiwan, and analyzed the impact of RMB exchange rate volatility on cross-border M&As with the Tobit model. The results are shown in Table 6.

The estimation results in columns (1)–(4) in the table below show that the estimation coefficients of "Rate" (both NER volatility and RER volatility) are significantly negative, consistent with the benchmark estimation results. Thus, it can be seen that RMB exchange rate fluctuations may greatly inhibit cross-border M&As. Great exchange rate fluctuations may intensify the instability of the macroeconomic environment between countries, and raise the difficulty of enterprises in making cross-border M&A decisions by increasing the risk of currency mismatches and changes in production costs, which limit cross-border M&A growth. In addition, the current cross-border financing channels include foreign currency loans, offshore bonds and equity financing, all of which are affected by RMB exchange rate. Hence, RMB

exchange rate volatility may result in fluctuations in the production costs in China relative to those in other countries, and great changes in relative monetary wealth and proprietary enterprise assets, which will inhibit Chinese acquirers' cross-border M&As of foreign enterprises.

As to other key explanatory variables of the model, the estimation coefficient of "Rule" is significantly negative at the statistical level, that is, high institutional quality of the host countries may limit the magnitude of cross-border M&As. It may indicate that the "institutional barriers" facing Chinese acquirers, such as different trade unionism and institutionally discriminatory control in developed countries, may impede increased M&A activity. In addition, the estimation coefficients of "vix" (SSE Composite Index) are significantly positive, that is, better market expectations can significantly promote cross-border M&As of enterprises; In addition, the estimation coefficients of "gdper" (economic development level of host countries) and "consum" (consumer price growth of host countries) are significantly positive, that is, an economically developed host country can boost the cross-border M&As of home-country-based enterprises, and a high "consum" often represents expansion of consumer markets, which can greatly stimulate market-seeking cross-border M&As.

Table 7 Regression Estimation of Exchange Rate Volatility and Cross-Border M&A Magnitude (with Samples not Involving Hong Kong, Macao and Taiwan)

	(1)	(2)	(3)	(4)
	nomrate1	effectrate1	nomrate2	effectrate2
rate	-262.134***	-217.731***	-1.5e+03***	-263.577
	(-29.28)	(-30.39)	(-2.59)	(-0.43)
bit	-13.918***	-13.209***	-13.107***	-13.234***
	(-37.28)	(-34.32)	(-33.42)	(-34.43)
vix	0.012***	0.046***	0.033***	0.038***
	(7.33)	(24.80)	(17.69)	(20.89)
rule	-133.110***	-135.100***	-136.149***	-136.214***
	(-152.00)	(-143.78)	(-144.95)	(-147.05)
gdper	0.011***	0.011***	0.011***	0.011***
	(61.77)	(58.89)	(59.33)	(60.12)
consum	2.898***	2.911***	2.903***	2.896***
	(8.54)	(8.43)	(8.48)	(8.48)
attitude	220.813***	219.455***	220.118***	220.211***
	(67.96)	(56.83)	(57.50)	(59.91)
private	-263.528***	-269.792***	-266.346***	-266.694***
	(-24.10)	(-23.78)	(-23.66)	(-23.96)
_cons	-9.2e+03***	-9.4e+03***	-9.4e+03***	-9.4e+03***
	(-1725.12)	(-1566.06)	(-1577.23)	(-1624.71)
Year	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
sigma				
_cons	1361.330***	1361.155***	1362.087***	1362.070***
	(1852.66)	(2029.63)	(1939.14)	(1903.33)
N	3515	3515	3515	3515

Note: *, **, and *** represent the significance at the statistical level of 10%, 5% and 1%, respectively. The value in parentheses is t.

Exchange Rate Level and Cross-Border M&As

On the basis of "Rate" regression, we use variables "nomrate" and "effectrate" to represent the RMB exchange rates (RATE) measured by the nominal effective exchange rate index and the real effective exchange index, respectively, and analyze the correlation between RMB exchange rate level and cross-border M&As using tobit model. The results are shown in Table 8.

The estimation results in columns (1)-(4) in the table below show that the estimation coefficients of "Rate" (both NER and RER) are significantly positive at the statistical level, which means that the exchange rate rise of the home country can promote the cross-border M&As of host-country-based enterprises. On one hand, if the home country's exchange rate rises, home-country-based enterprises will have an increased valuation, which will promote their overseas M&As; if the host country's exchange rate declines and the currency depreciates, the production costs in the host country will fall relative to those in other countries, and the relative monetary wealth and proprietary enterprise asset values in other countries will increase relative to those of the host country, which will promote cross-border M&As of host-country based enterprises by enterprises in other countries.

Table 8 Regression Estimation of Exchange Rate Level and Cross-Border M&A Magnitude

	(1)	(2)	(3)	(4)
	nomrate	effectrate	nomrate	effectrate
RATE	15.222***	8.352***	3.946***	3.571**
	(403.62)	(219.33)	(99.74)	(2.07)
bit	-3.761**	-5.831***	-3.788**	-5.575***
	(-2.08)	(-18.05)	(-2.08)	(-17.26)
vix	0.061*	0.054***	0.060*	0.062***
	(1.91)	(43.98)	(1.89)	(50.53)
rule	-1.833	-89.629***	-1.415	-89.769***
	(-0.16)	(-121.54)	(-0.12)	(-121.19)
gdper	0.006**	0.007***	0.006**	0.007***
	(2.08)	(49.67)	(2.05)	(50.13)
rate	-1.121	9.609***	-1.124	9.429***
	(-1.39)	(47.63)	(-1.39)	(46.76)
attitude	86.420	82.640***	85.190	84.049***
	(1.35)	(27.49)	(1.33)	(27.64)
private	-231.492***	-216.113***	-230.942***	-217.725***
	(-2.90)	(-27.82)	(-2.91)	(-27.95)
_cons	-1.2e+03***	-9.5e+03***	-1.2e+03***	-1.0e+04***
	(-3.54)	(-2342.92)	(-3.73)	(-2459.88)
Year	No	Yes	No	Yes
Country	No	Yes	No	Yes
Industry	No	Yes	No	Yes
sigma				
_cons	1312.291***	1294.070***	1312.233***	1293.527***
	(5.78)	(1695.05)	(5.78)	(1709.63)
N	4709	4709	4709	4709

Note: *, **, and *** represent the significance at the statistical level of 10%, 5%, and 1%, respectively. The value in parentheses is t.

Reevaluation of Exchange Rate Volatility Indicator for Cross-Border M&As

In the above benchmark estimation, the moving average and logarithm methods are used. On this basis, we build an indicator based on the finite-difference ratio to measure RMB exchange rate volatility. With reference to the studies of Huang Zhigang and Chen Xiaojie (2010), we adopt the following calculation method of exchange rate volatility—the difference and the ratio of the current rate to the previous rate. In this paper, nomrate, and effectrate are used to express the nominal effective exchange rate and the real effective exchange rate, respectively, and the difference and the ratio of the current rate to the previous rate are used as indicators (nomrate3 and effectrate3) measuring exchange rate volatility.

The estimation results in columns (1)–(4) in the table below show that the estimation coefficients of "Rate" (both NER volatility and RER volatility calculated by the ratio method) are significantly negative. With the fixed effects of country, industry, and year considered, the estimation coefficients of both nomrate3 and effectrate3 are significantly negative, consistent with the benchmark estimation results. This indicates that RMB exchange rate fluctuations may greatly hinder cross-border M&As. Further, great fluctuations in RMB exchange rates may increase the risk of currency mismatches and lead to great changes in costs, thus making enterprise-level cross-border M&A decisions more difficult. Meanwhile, great fluctuations in RMB exchange rates may also result in fluctuations in production costs in China relative to those in other countries, thus hindering Chinese acquirers' cross-border M&As of foreign enterprises.

As to other key explanatory variables of the model, the estimation coefficient "Rule" is significantly negative, that is, high institutional quality of host countries may limit cross-border M&A magnitude. This may indicate that the "institutional barriers" facing Chinese acquirers may impede increases in M&A activity; in addition, the estimation coefficients of "vix" (SSE Composite Index) are significantly positive, which shows that the faster the SSE Composite Index rises, the more conducive it is to promoting cross-border M&As; the estimation coefficients of "gdper" and "consum" are significantly positive, that is, an economically developed host country with a high "consum" can boost cross-border M&As.

Table 9 Robustness Test of Exchange Rate Volatility Indicators

	(1)	(2)	(3)	(4)
	Nomrate3	effectrat3	Nomrate3	Effectrate3
rate	-3.554**	-6.505***	-3.554**	-6.397***
	(-1.99)	(-20.48)	(-1.99)	(-19.98)
bit	5.833	14.859***	7.620	17.660***
	(0.32)	(5.50)	(0.56)	(9.14)
	0.066**	0.041***	0.066**	0.041***
	(2.22)	(30.79)	(2.20)	(30.32)
rule	-1.688	-68.561***	-1.720	-68.784***
	(-0.16)	(-90.92)	(-0.16)	(-91.09)
gdper	0.006**	0.007***	0.006**	0.007***
	(2.19)	(44.74)	(2.18)	(44.26)
consum	0.993	3.382***	0.965	3.379***

Table 9, continued

	(0.72)	(11.58)	(0.70)	(11.75)
attitude	94.618	80.373***	94.529	80.025***
	(1.48)	(24.48)	(1.48)	(23.68)
private	-232.963***	-215.367***	-233.061***	-215.561***
	(-2.85)	(-27.08)	(-2.85)	(-26.73)
_cons	-1.1e+03***	-8.7e+03***	-1.1e+03***	-8.7e+03***
	(-5.17)	(-1984.86)	(-5.17)	(-1959.31)
Year	No	Yes	No	Yes
Country	No	Yes	No	Yes
Industry	No	Yes	No	Yes
sigma				
_cons	1312.745***	1294.395***	1312.709***	1294.299***
	(5.78)	(1647.94)	(5.78)	(1641.58)
N	4708	4708	4708	4708

Note: *, **, and *** represent the significance at the statistical level of 10%, 5%, and 1%, respectively. The value in parentheses is t.

CHAPTER 6

EXPECTED CONTRIBUTION

Main Conclusions

In this paper, from the perspective of RMB exchange rate fluctuations, we analyze the impacts of exchange rate fluctuations on the magnitude and success of enterprise-level cross-border M&As using the samples selected among the cross-border M&A cases of Chinese enterprises in 1996–2016 indexed by the Thomson Financial SDC Platinum Merger and Acquisitions database. Based on the changes in the nominal effective exchange rate and real effective exchange rate and by applying a variety of indicators and subsample estimates, we find the following.

First, exchange rate (either NER or RER) volatility is significantly negatively correlated with enterprise-level cross-border M&As, suggesting that RMB exchange rate movements deter cross-border M&As to some extent. In addition, large exchange rate fluctuations intensify macroeconomic instability between countries. Further, due to the diversity and dispersion of Chinese cross-border M&As, China's US dollar-based foreign exchange fund structure faces a certain risk of currency mismatches, and the cost effect brought about by RMB exchange rate fluctuations occur within a wide range , which increases the difficulty for enterprises to make cross-border M&A decisions and thereby hinders Chinese acquirers' cross-border M&As of foreign enterprises.

Second, RMB exchange rate volatility significantly inhibits the success of cross-border M&As, and the exchange rate risks caused by RMB exchange rate

fluctuations increase the risks of cross-border M&As. The more severe the RMB exchange rate fluctuations are, the greater are the risks that cross-border M&As will face. Excessive exchange rate fluctuations are not conducive to risk-averse investors, and the degree of exchange rate fluctuations is equivalent to the exchange rate risks faced by investors. Great or frequent exchange rate fluctuations always have a negative impact on risk-averse cross-border M&As. They may result in high uncertainty that requires investors give greater consideration to the irreversibility of investments when making investment decisions. When risks increase, investors demand a higher investment premium to offset possible losses and may abandon some projects, thus resulting in failure of cross-border M&As.

Third, to some extent, exchange rate volatility significantly limits cross-border conglomerate M&As. On one hand, large exchange rate fluctuations intensify macroeconomic instability between countries, which markedly increases the risks of currency mismatches in conglomerate M&As and thereby deters cross-border M&As; on the other hand, fluctuations in RMB exchange rates lead to fluctuations in production costs in China relative to those in other countries, and great changes in the relative monetary wealth and proprietary enterprise asset values in other countries, thus inhibiting Chinese acquirers' cross-border conglomerate M&As of foreign enterprises.

Four, exchange rate fluctuations significantly inhibit the scale of cross-border M&As of non-state-owned-or-controlled industries. Violent fluctuations in RMB exchange rates increase macroeconomic uncertainty among countries, which in part

significantly inhibits the profit-oriented cross-border M&As of non-state-owned-or-controlled industries. Considering powerful state-owned enterprises as investment is more reflective of national strategies or interests, industrial investments show a strong investment risk preference, and exchange rate volatility does not have a significant inhibitory effect on cross-border M&As in state-owned-or-controlled industries.

Five, the characteristics of the host country play a key role in affecting cross-border M&As. The analysis in this paper shows that an economically developed host country can boost the cross-border M&As of home-country-based enterprises, and a high consumer price index growth of the host country often represents expansion of consumer markets, which can greatly stimulate market-seeking cross-border M&As.

Main Targeted Policies

(1) Take prudent actions to prevent the impacts of RMB exchange rate volatility on cross-border M&As.

When making M&A strategy, Chinese enterprises should fully consider the impacts of RMB exchange rate volatility on M&As, especially on M&A success. On one hand, we should use a variety of hedging tools to mitigate and prevent the adverse impacts of exchange rate volatility on cross-border M&As; on the other hand, we should analyze and have a full understanding of the trends and characteristics of RMB exchange rate fluctuations and reduce the adverse impact of exchange rate risks to achieve excellent performance in cross-border M&As.

(2) Actively tap the potential of BITs in securing cross-border M&As.

BITs should not be signed and implemented only to increase the magnitude of and expand the range of cross-border M&As. More effective measures should be taken to guarantee the results from ODI, especially for the industries vulnerable to the impact of local government demand. Therefore, we should tap the potential of BITs in securing cross-border M&As, especially increasing the attention and policy support given to high-risk industries such as energy and transportation, constantly improve the risk control system for the "go global" strategy, and sign a series of investment treaties with host countries to reduce the investment risks of M&A projects.

(3) Promote the coordination between the RMB exchange rate regulation mechanism and "go global" strategy.

By analyzing the impacts of RMB exchange rate on cross-border M&As of Chinese enterprises, we can see that RMB internationalization promotes the enterprise internationalization. In the context of RMB appreciation, the Chinese government should encourage Chinese enterprises to choose newly industrializing countries with low expected nominal wage levels and high expected economic growth rates when conducting cross-border M&As, and it should attempt to reduce the sunk costs of M&As and comprehensive risks of ODI by all means possible. When promoting the "go global" strategy, the Chinese government should formulate policies and regulations particular to specific industries, clearly specify the form of acquisition, the corporate status of enterprises, the settlement of disputes and the method of M&A investment, and improve

supporting regulations such as the *Law on Asset Management of Overseas Enterprises* and *the Law on Sole Proprietorship of Chinese Enterprise at Abroad.* Based on national laws and regulations, relevant departments of all provinces and cities should also formulate local laws and regulations for cross-border M&As and ODI that are consistent with those issued by the central government. By improving policies and regulations, enterprises will be guided to give priority to cross-border M&As in host countries with low nominal wage growth and high economic growth.

(4) Make M&A strategies according to enterprise type.

Chinese enterprises should develop M&A strategies according to their actual situations. Due to imperfect market mechanisms, low R&D input, and unsound enterprise systems in China, most Chinese enterprises have no core competitiveness. Furthermore, China lacks a reasonable industrial structure. As a consequence, the government should adjust the strategic structure as quickly as possible and actively guide sustainable cross-border M&As. When carrying out cross-border M&As, Chinese enterprises should give careful consideration to all aspects, weigh the advantages and disadvantages, and scientifically evaluate their own strengths, the value of the target enterprise, and the value of the combined enterprise after M&A to avoid excessive ambition and myopia in pursuing M&As. In addition, Chinese enterprises should develop M&A strategies according to their business structure. For example, large state-owned enterprises, which are monopolies relying heavily on government support, usually lack core competitiveness; hence, the modern corporate governance system needs further improvement. In the initial

stage of cross-border M&As, Chinese enterprises should adopt the method of separated integration, recognize the culture of acquirers, and on this basis, absorb the advantages of both sides. As a matter of fact, the success of M&As is to some degree affected by the culture integration strategy.

(5) Actively promote reform of the foreign exchange system and further improve China's foreign exchange market at the macro level.

China should deepen the reform of the foreign exchange system to accelerate the realization of the "go global" strategy and advance the marketization of exchange rates. At present, China's current account is fully convertible, but policies on the use and investment of foreign exchange need to be further eased. Therefore, China should loosen restrictions on the ODI of enterprises and individuals and encourage domestic capital to disperse risks by making full use of the international financial markets so that a foreign exchange market with balanced supply and demand can be achieved to maintain the RMB exchange rate at a reasonable and balanced level. Learning from market supply and demand experience in the foreign exchange markets, China should further improve the foreign exchange market and strengthen the construction of the foreign exchange derivatives market. The marketization of exchange rates will inevitably result in increased exchange rate risks and stalled ODI. In order to avoid market risks, it is necessary to establish the foreign exchange derivatives market. Diversified financial products can help to alleviate the impact of liquidity on speculation in the stock and housing markets. In addition, enterprises can avoid risks in their investment portfolios,

prevent frequent inflows and outflows of large amounts of hot money based on short-term arbitrage, optimize the overseas investment market environment, and further improve China's financial markets.

REFERENCES

Aguiar M, Gopinath G. Fire-Sale Foreign Direct Investment and Liquidity Crises[J] . Review of Economics & Statistics, 2005, 87(3):439-452.

Anwar A I, Mughal M Y. Out of Africa? Locational determinants of South African cross-border mergers and acquisitions[J] . Applied Economics, 2017, 49.

Bauwens L,Rime D,Sucarrat G. Exchange Rate Volatility and the Mixture of Distribution Hypothesis[J] . Empirical Economics,2006,30 (4): 889-911.

Benoit J P. Financially Constrained Entry in a Game with Incomplete Information[J] . Rand Journal of Economics, 1984, 15(4):490-499.

Bi Hongyi, Zhang Jinqing. Appreciation of RMB Exchange Rate and Cross-Border M&As of Chinese Enterprises [J] . Theory Journal, 2008 (01): 60-63.

Blonigen B A.Firm-Specific Assets and the Link Between Exchange Rates and Foreign Direct Investment[J].American Economic Review, 1997, (03) :447-465.

Bolton P, Scharfstein D S. A Theory of Predation Based on Agency Problems in Financial Contracting[J] . American Economic Review, 1990, 80(1):93-106.

Bremer M, Hoshi A, Inoue K, et al. Uncertainty avoiding behavior and cross-border acquisitions in the Asia-Pacific region ☆[J] . Japan & the World Economy, 2017, 41:99-112.

Brodsky, David A. "Fixed versus flexible exchange rates and the measurement of exchange rate instability." Journal of International Economics 16.3-4 (1984): 295-306.

Buch C M, Kesternich I, Lipponer A, et al. Financial Constraints and Foreign Direct Investment: Firm-Level Evidence[J] . Review of World Economics, 2014, 150(2):393-420.

Buckley P J, Casson M C. Analyzing Foreign Market Entry Strategies: Extending the Internalization Approach[J] . Journal of International Business Studies, 1998, 29(3):539-561.

Campa, Jose, and Linda S. Goldberg. "Investment in manufacturing, exchange rates and external exposure." Journal of International Economics 38.3-4 (1995): 297-320.

Campa， J. M. Entry by Foreign Firms in the United States un- der Exchange Rate Uncertainty[J] . Review of Economics and Statis- tics，1993(75) : 614 - 622.

Clark, P.B. et al., 2004. Exchange Rate Volatility and Trade Flows - Some New Evidence. International Monetary Fund Occasional Paper, No. 235.

Cushman, D. (1985). Real Exchange Rate Risk, Expectations, and the Level of Direct Investment. The Review of Economics and Statistics, 67(2), 297-308. doi:10.2307/1924729

Darby, Julia, et al. "The impact of exchange rate uncertainty on the level of investment." The Economic Journal 109.454 (1999): 55-67.

Dikova D, Sahib P R, Witteloostuijn A V. Cross-border acquisition abandonment and completion: The effect of institutional differences and organizational learning in the international business service industry, 1981–2001[J] . Journal of International Business Studies, 2010, 41(2):223-245.

Dixit， A. and Pindyck， R. Investment under Uncertainty [M] . Princeton University Press， Princeton，NJ，1994

Dunning, J.H, 1988., The Eclectic Paradigm of International Production-A Restatement and Some Possible Extension. Journal of International Business Studies, Vol.19, No.1:1-31.

Florian Johannsen,Inmaculada M.Z . Exchange rate volatility, euro effect and the two margins of trade:evidence from monthly trade data[R] . FREIT Working Paper No. 761,2014.

Goldberg L S, Kolstad C D.Foreign Direct Investment, Exchange Rate Variability and Demand Uncertainty[J] .International Economic Review, 1994, (04) :855-873.

Guo Kun. Research on the Impacts of RMB Appreciation on China's Outward Direct Investments [D] . Northeast Normal University, 2013.

Harris R S, Ravenscraft D. The Role of Acquisitions in Foreign Direct Investment: Evidence from the U.S. Stock Market[J] . Journal of Finance, 2012, 46(3):825-844.

He Rong, Lian Zeng, Li Chao, Liu Yang. The Role of Exchange Rate Factors in China's Direct Investments in ASEAN: Theoretical and Empirical Research [J] . Economic Survey, 2017, 34 (04): 74-80.

Hennart J F, Park Y R. Greenfield vs. Acquisition : the strategy of Japanes investors in the United states[J] . Management Science, 1993, 39(9):1054-1070.

Huang Zhigang, Chen Xiaojie. Evaluation of the Elastic Space of RMB Exchange Rate Fluctuations [J] . Economic Research Journal, 2010, 45 (05): 41-–54.

Iris Kesternich,Monika Schnitzer. Who is afraid of political risk? Multinational firms and their choice of capital structure[J] . Journal of International Economics, 2010,82(2).

Jin Hongfei, Jian Yongjun, Chen Lixian. Impact Mechanism and Countermeasures of International Financial Crisis on China's Foreign Direct Investments [J] . Contemporary Finance & Economics, 2010 (02): 105-112.

Kenneth A. Froot, Jeremy C. Stein; Exchange Rates and Foreign Direct Investment: An Imperfect Capital Markets Approach, The Quarterly Journal of Economics, Volume 106, Issue 4, 1 November 1991, Pages 1191–1217.

Kogut, Bruce and Nalin Kulatilaka, 1994.Options Thinking and Platform Investments:Investing in Opportunity[J] .California Management Review (Summer) , 36 (4) :52-71.

Kogut, Bruce, and Sea Jin Chang. "Platform investments and volatile exchange rates: Direct investment in the US by Japanese electronic companies." Review of Economics and statistics 78.2 (1996): 221-231.

Kohlhagen, Steven W. Exchange Rate Changes， Profitability， and Direct Foreign Invesrinent[J] . Southern Economic Journal，1977(44) : 43 - 52.

Li Fengyu, Yang Mozhu. Does Economic Policy Uncertainty Inhibit Enterprise Investments? -- An Empirical Study Based on China's Economic Policy Uncertainty Index [J] . Journal of Financial Research, 2015 (4): 115-129.

Li Hongjie, Zhang Yuanzhao. Analysis on the Influencing Factors of Location Selection for Cross-Border M&As of Chinese Enterprises [J] . Asia-Pacific Economic Review, 2012 (05): 70-75.

Li Shaojia. System, Tax Burden, Exchange Rate, Market Potential and Location Selection for Cross-Border M&As [D] . Zhejiang University of Technology, 2017.

Maurer M R. Supply chain trade and technological transfer in the ASEAN + 3 region [J] . China Economic Review, 2017, 46.

MLA Bénassy-Quéré, Agnès, Lionel Fontagné, and Amina Lahrèche-Révil. "Exchange-rate strategies in the competition for attracting foreign direct investment." Journal of the Japanese and international Economies 15.2 (2001): 178-198.

Pan Jiadong. Research on the Influence of RMB Exchange Rate Changes on China's Export Trade [D] . Zhejiang University, 2017.

Pan Zhen, Jin Zhongkun. Bilateral Political Relations, Institutional Risk of Host Country and China's ODI [J] . Finance & Trade Economics, 2015 (06): 85-–97.

Papadopoulos, A. & Zis, G. “A monetary analysis of the Drachma/ECU exchange rate determination, 1980–1991.” Empirical Economics (2000) 25: 653. https://doi.org/10.1007/s001810000040

Peng M W, Wang D Y L, Jiang Y. An institution-based view of international business strategy: A focus on emerging economies[C] // Journal of International Business Studies. 2008.

R. Z. Aliber. A Theory of Direct Foreign Investment， in C. P. ， Kindlebergered. The International Corporation: Symposium[M] . ChapterICambridge MA: MIT Press，1970.

Rodolphe Desbordes,Vincent Vicard. Foreign direct investment and bilateral investment treaties: An international political perspective[J] . Journal of Comparative Economics,2009,37(3).

Sung, Hongmo, and Harvey E. Lapan. "Strategic foreign direct investment and exchange‐Rate uncertainty." International Economic Review 41.2 (2000): 411-423.

Wan Shaokai. An Empirical Study on the Impacts of Exchange Rate Reform on the Performance of Cross-Border M&As of Listed Companies [J] . Communication of Financial and Accounting, 2017 (02): 52-–56.

Wang Aijian, Feng Chao. Exchange Rate Fluctuation, Transaction Size and Effectiveness of Tobin Tax: STR Model from the Perspective of Offshore RMB Exchange Rate [J] . Studies of International Finance, 2018 (03): 77-–86.

Whitmore, K.et al.Foreign Direct Investment from Newly Industrialized Economies[J] .Working Paper, Washington DC:World Bank Industry and Energy Dept, Industry Series 22, 1989

Xia Liangke. Exchange Rate, Exchange Rate System and Outward Direct Investments [D] . Nankai University, 2010.

Xing Yuqing, Wu Guiying. Exchange Rate and Japan's Direct Investments in China [J] . World Economic Papers, 2003 (06): 23-–33.

Yu Shanping. A Study on Countermeasures to Textile Trade Friction under the Background of RMB Exchange Rate Appreciation [J] . Journal of Southeast University (Philosophy and Social Science), 2006 (02): 14-–17 + 126.

Zhu Nanjun, Liu Hao. Analysis of Relevant Problems in the Application of Discounted Cash Flow Technology in Cross-Border M&As [J] . Nankai Economic Studies, 2003 (02): 17-–19 + 29.

Zong Fangyu, Lu Jiangyong, Wu Changqi. Bilateral Investment Treaty, Institutional Environment and Location Selection for Enterprises' ODI [J] . Economic Research Journal, 2012, 47 (05): 71-–82 + 146.