Capital Market Opening and Corporate Merger and Acquisition Activities

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CAPITAL MARKET OPENING AND CORPORATE MERGER AND ACQUISITION ACTIVITIES

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Abstract

In recent years, against the backdrop of RMB internationalization and capital flow control, the Chinese government has had a pressing need to continuously promote the opening of the capital market. The most important capital market opening in China in recent years is the opening of the Shanghai-Hong Kong Stock Connect in 2014 and the Shenzhen-Hong Kong Stock Connect in 2016. The implementation of the Shanghai-Shenzhen-Hong Kong Stock Connect trading system marks a new stage in the opening up of China's capital market. How will the opening of the capital market affect corporate behavior and decision-making? Mergers and acquisitions (M&A), as a form of large-scale corporate investment behavior, plays a crucial role in the long-term development of enterprises and the optimal allocation of resources. It has also been a hot topic in academic literature in recent years Therefore, under the background of capital market opening, how will the Shanghai-Hong Kong Stock Connect and the Shenzhen-Hong Kong Stock Connect affect M&A activities of Chinese enterprises? With this question in mind, this paper uses a sample of A-share listed companies in China to analyze the impact of capital market opening on corporate M&A.

Key words: Capital Market Opening; M&A; RMB Internationalization; Shanghai-Shenzhen-Hong Kong Stock Connect

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1. Research Objective and Significance

1.1. Research Objective

The report to the 19th National Congress of the Communist Party of China (CPC) emphasizes the need to "deepen financial system reform, enhance the financial sector's capacity to serve the real economy, increase the proportion of direct financing, and promote the healthy development of the multi-level capital markets." Opening up of the capital market is an important driving force for the reform of a country's financial system and the healthy development of the capital market (Zhong et al., 2018), as well as an intrinsic motivator for sustainable economic development (Bekaert et al., 2005). After the implementation of the Shanghai-Hong Kong Stock Connect trading scheme, the behavior of many experienced foreign investors and other relevant entities such as auditors, analysts, media, regulators, and managers has changed, which has an impact on corporate mergers and acquisitions (M&A); Furthermore, corporate governance, as one of the mechanisms to protect the interests of investors, can alleviate the agency problems between managers and shareholders, restrain the opportunistic behavior of management, and also have an influence on corporate M&A activities. Considering all the above, this paper examines the impact of capital market opening on M&A activities of listed companies. Furthermore, it analyzes the relationship between capital market opening and M&A activities under the influence of corporate external governance, financing constraints and corporate investment patterns.

1.2. Research Significance

From a macro perspective, the opening up of the capital market is an inevitable trend of a country's economic and trade development and plays an important role in promoting economic development and enhancing its international competitive position. From a micro perspective, enterprises, as market players, are the primary drivers of capital market development. The opening up of the capital market plays a positive influences enterprise innovation, performance

enhancement, governance optimization, and investment efficiency. Corporate M&A can fully leverage synergies, leading to more effective use of acquired assets, thus benefiting both corporate development and the broader economy. It can improve micro-level productivity and overall economic efficiency (Jiang, 2022). M&A helps enterprises activate stock assets and expand scale, serving as an important driving force for corporate growth. Through integrating high-quality domestic and international resources, M&A can elevate the overall economic development levels, contributing to stable local and national development.

1.2.1. Theoretical Significance

This study reveals the relationship between the opening up of capital market and M&A activities. This paper explores the internal mechanism between the opening up of capital market and M&A activities by combing relevant theories. Focusing on M&A behavior, M&A premium and M&A mode, this paper analyzes the influence of characteristic facts of capital market opening on M&A, a specific investment event. In addition, through in-depth analysis of the mechanism of capital market opening on M&A, explore the path of capital market opening on M&A, and study whether capital market opening can have an impact on M&A through financing constraints, external governance and enterprise investment mode. This paper can provide a more scientific explanation for the verification of corporate agency problems, premium M&A and other issues.

1.2.2. Practical Significance

This study provides a scientific reference for the opening of China's capital market and has fundamental significance for future policy formulation. Under the background of promoting industrial transformation and promoting high-quality economic development, China's capital market is in a stable state, with prominent market vitality, industrial restructuring, M&A transaction methods, financing models, and management systems are gradually improving, showing a mature and stable trend. The improvement of the capital market environment has led more and more companies to choose M&A to enhance their economic strength. Therefore, the analysis of this study meets the needs of the real economy and has practical significance for enterprises and investors.

The study provides reference for enterprise development. With the increase of

international trade activities, corporate M&A have become an important strategic choice. The opening of the capital market has an important impact on the M&A of listed companies. The management of listed companies can obtain more information, which is helpful for decision-making on M&A and avoids excessive investment behavior. Investors can use this to provide a new basis for analyzing and evaluating the results of M&A of listed companies. If the opening of the stock market can improve corporate governance, curb excessive investment behavior, and enhance the effect of M&A, it is necessary to continue to promote the opening of China's capital market and strengthen investor protection and information disclosure policies. M&A not only promote the stable development of the real economy, but also enhance the technological level and innovation capabilities of enterprises to achieve sustainable and healthy development. The opening of the capital market will strengthen the supervision of enterprises, adopt strict regulations and supervisory measures, and improve the efficiency of M&A. Therefore, the opening of the capital market effectively protects the rights and interests of investors and optimizes resource allocation and industrial restructuring through M&A.

1.3. Main Research Questions

How does the overseas M&A strategy of China's listed companies, as an important development strategy, get influenced by the implementation of the Shanghai-Hong Kong Stock Connect? Additionally, do external governance and financing constraints of China's listed companies affect the relationship between the implementation of the Shanghai-Hong Kong Stock Connect and corporate M&A? There are the main questions addressed in this paper. Building existing research, this paper innovatively combines capital market opening with corporate M&A, exploring their relationship in depth. It further analyzes how capital account opening impacts corporate M&A motivation, M&A premium, M&A patterns, and M&A efficiency, and examines the mechanisms of external governance and financing constraints in this relationship

1.4. Current Research Status in China and Internationally

Bekaert et al. (2005) believed that opening-up is not only an important driving force for the reform of a country's financial system and the healthy development of the capital market, but also an internal driving force for sustainable economic development. Quinn and Toyoda

(2008) believed that the opening up of the capital market increased the scale of enterprise investment by attracting foreign funds. Gupta and Yuan (2009) believed that the opening up of the capital market further promoted the economic growth of a country. By introducing foreign institutional investors from developed countries or regions, the level of corporate governance has been improved (Ferreira & Matos, 2008) and the quality of information disclosure has been improved (Gul et al., 2010; Fang et al., 2015). This has also promoted the stable development of the capital market (Li et al., 2011) and improved the pricing efficiency of listed companies' stocks (Bae et al., 2012). The implementation of Shanghai-Shenzhen-Hong Kong Stock Connect enhanced the guiding role of stock price on investment of underlying enterprises (Lian, et al., 2019a), promoted enterprises' domestic and foreign investment behavior (Lian et al., 2019b), and improved the investment efficiency of enterprises (Chen et al., 2019). The cash dividend payment rate of listed companies has also been improved (Chen & Huang, 2019). In addition, Wen et al. (2018) argues that foreign institutional investors in developed countries or regions pay more attention to the long-term performance and development potential of enterprises, thus encouraging domestic enterprises to increase R&D investment and improve the level of technological innovation. (Quinn & Toyoda., 2008; Gupta & Yuan, 2009) According to the research, the opening of the capital market improves the investment scale of enterprises by attracting high-quality overseas funds, thus promoting the economic growth of a country (Ferreira et al., 2008; Gul et al., 2010) Studies have shown that the introduction of foreign institutional investors from developed countries or regions improves the quality of corporate information disclosure and thus the level of corporate governance (Fang et al., 2015). In addition, the opening up of the capital market also improves the efficiency of the stock pricing of listed companies, thus promoting the stability of the capital market (Li et al, 2011; Bae et al., 2012). However, Stiglitz (2000) and Prabha et al. (2010)’s research also shows that when the capital market opening to the outside world enables a country to obtain financing facilities, the “risk contagion effect” also aggravates the volatility risk of the domestic capital market. Choe et al. (2005) and Chan et al. (2008) also found that, although foreign investors from developed countries or regions have strong information analysis and processing ability, they also have strong short-term behavior motivation due to lack of understanding of local information, which reduces the pricing efficiency of domestic stocks. Kaya et al. (2012) found

that for some developing countries, capital market opening has a “threshold effect”, that is, the level of financial development, the quality of investor protection and the degree of government intervention in the economy determine whether capital market opening can play a positive role. Even in markets with a high degree of information asymmetry, capital market liberalization will increase market volatility and exacerbate the vulnerability of the financial system (Stiglitz, 2000).

Capital market liberalization can have an impact on Chinese firms' export margins by easing financing constraints. Yang (2012) uses comprehensive financing constraint indicators to show that the improvement of corporate financing can not only improve the expansion margin of corporate exports, but also significantly affect the export intensiveness margin. Zhang Jie et al. (2013) used cash flow and liquidity indicators to measure corporate financing constraints and showed that financing constraints not only inhibited the export expansion margin of Chinese enterprises, but also inhibited the intensity margin of processing trade enterprises after they were excluded. In addition, Sun et al. (2012) argued that exogenous financing constraints are an important factor limiting the export expansion margin of Chinese enterprises by using the data of the World Bank investment environment survey. Wen and Xian (2014), using the data of the 2008 economic census, believed that the stronger the financing ability of enterprises, the more their export expansion margin will be improved, and effectively promote their export intensive marginal expansion. Although different micro-enterprise data are used in the above studies, the conclusion is basically the same, that is, the improvement of financing constraints can help promote the export margin of enterprises. On the one hand, the liquidity effect of capital market opening will reduce firms' financing constraints. The opening of the “Dry Port Connect” directly drives the cross-border capital flow, provides a new source of financing for listed companies, helps improve the liquidity of the capital market, reduces the cost of equity capital for enterprises, and alleviates the problems of difficult and expensive financing. On the other hand, the information advantage of foreign investors can correct the undervaluation of enterprises and alleviate the financing constraints. As information asymmetry is the key reason for the increase of capital cost and the limitation of financing amount of enterprises, institutional investors occupy the main position among foreign investors from developed markets such as Hong Kong, China. They have richer investment experience,

strong investment team and professional investment ability. They have the advantages of capital, experience, technology and human resources in information collection, processing and analysis (Zhong & Lu, 2018 ; Zhang & Zheng, 2020) can convey the value information of enterprises to domestic investors, so as to narrow the information asymmetry between enterprises and investors and help reduce the external financing costs of enterprises.

Most scholars have shown that cross-border M&A is a means for enterprises to achieve strategic goals, including breaking the barriers to entry in overseas markets, increasing the market power of enterprises, realizing diversification, improving the response speed to the market and reducing the cost or production cycle of product innovation. In 1996, Boter & Holmquist proposed that the intensity of competition in the home industry would affect the internationalization behavior of enterprises. Dawar & Frost (1999) found that fierce internal competition in the domestic market would prompt enterprises to seek international market. UNCTAD defines “Cross-border Merger and Acquisition” as: “The merger of enterprises in one country with those in the host country; or the acquisition of more than 10 per cent of shares in an enterprise in another country, transferring control of the assets and operations of the host country enterprise to the foreign enterprise “. Academics generally adopt this definition. With the rapid expansion of cross-border M&A by Chinese enterprises, scholars have conducted extensive research on cross-border M&A. The research focuses on the motivation of cross-border M&A, location choice, integration of cross-border M&A, performance and influencing factors of cross-border M&A, risks of cross-border M&A and so on.

In the research field of transnational M&A performance, there is also a kind of literature analysis from the perspective of corporate governance. The study of Bris and Cabolis (2008) finds that the higher the investor protection level and accounting standard of the country where the M&A company is located, the higher the performance evaluation of the cross-border M&A initiated by the market will be. This is probably because through transnational M&A, good corporate governance practices can be successfully imported into the target company. Based on this, Martynova and Renneboog (2008) proposed the hypothesis that: If the corporate governance level of the country where the M&A company is located is lower than that of the country where the target company is located, the M&A company itself may voluntarily align itself with the target company and try to improve its governance level, and the market will give

a positive evaluation to the performance of such cross-border M&A. Their research also supports this hypothesis. Yan (2009) compared the changes in the financial indicators of Chinese listed companies in the three years before and after the completion of cross-border M&A, and found that cross-border M&A had a significant positive impact on the profitability of enterprises, but the growth rate of most indicators in the 1-3 years after M&A showed a trend of continuous decline, and the more comprehensive international experience and overseas M&A experience of Chinese enterprises, The smaller the cultural distance from the host country, the better the financial performance after M&A. However, Guo Yan (2010) studied the medium and long-term financial performance of 18 cross-border M&A initiated by China's banking industry and showed that the performance of most of the M&A banks had improved and showed a certain increasing trend. Gu and Reed (2011) mainly studied the long-term performance evaluation of Chinese companies' overseas M&A (including target companies in Hong Kong), and found that the 3-year performance after M&A measured by the Fama-French three-factor model was significantly positive on the whole, and overseas M&A benefited from the appreciation of RMB, and the performance of state-owned enterprises' M&A was significantly worse than that of private enterprises. The performance of Chinese overseas listed companies is better than that of mainland listed companies.

After systematically reviewing literatures on the opening of capital market and M&A by domestic and foreign scholars, the following brief comments are made: First, on the opening of capital market, existing literatures mainly study the economic consequences of the opening of capital market from the perspectives of market operation efficiency, real economy, market reaction and audit supervision. The existing research finds that, based on the firm level, the capital market opening can reduce agency costs, improve enterprise value, but also improve audit quality; At the market level, relevant studies find that the opening of the capital market can improve the efficiency of capital allocation, improve the information environment, and disperse market risks. At the level of macroeconomic development, many scholars have found that the opening of the capital market can attract foreign investment, increase domestic market investment, introduce foreign advanced technology, improve domestic enterprise technology, and thus enhance enterprise performance. Second, regarding corporate M&A, the current research on transnational M&A is still dominated by western scholars, and most of the research

objects are western developed countries. The number of studies on transnational M&A of Chinese enterprises is still very small, and the theoretical system of research is mainly that of western developed countries. At present, the research on transnational M&A of Chinese enterprises mainly focuses on the motivation, location choice and performance.

2. Data

2.1 Data Sources

At present, there are data such as Shanghai-Hong Kong Stock Connect, Shenzhen-Hong Kong Stock Connect shareholding details and the inclusion time of each stock and so on. SDC platinum M&A database, owned by Thomson Reuters, which is the most authoritative M&A database used in international journals, has been manually matched with the database of listed companies. The data used for the econometric analysis in this paper are from the CSMAR Database of listed companies, with a sample period from 2007 to 2019. The reason why the sample starting year is 2007 is to avoid the impact of convergence error between the old and new accounting standards on the estimated results, because the new accounting standards have been officially implemented in listed companies since January 1, 2007. In addition, similar to the existing literature, the original data were processed as follows before the econometric analysis: (1) Delete the sample of financial listed companies; (2) Delete the ST and *ST listed company samples (ST stock is a risky stock, and *ST stock is a stock that may be delisted); (3) Delete the samples with missing financial indicators; (4) The continuous variables were winsorize by 1%.

2.2 Variable Selection

1. Independent Variables

Capital market opening HKC refers to the companies initially included in the Shanghai-Hong Kong Stock Connect (HKC) pilot. Following the study by Zhang et al. (2020), the companies initially included are designated as the treatment group, with the variable Treat assigned a value of 1, while other companies are assigned a value of 0. Since the implementation of the Stock Connect policy was officially launched on November 17, 2014, we define the years following2014 as the post-implementation year of the Stock Connect policy, assigning the variable Post a value of 1, and other years are defined as 0.

2. Dependent Variables

As for the evaluation methods of M&A, existing research mainly include financial indicators and non-financial indicators. The analysis method of financial indicators can accurately reflect

the fund situation of enterprises after M&A, which is the choice of most scholars in the study. However, the evaluation of financial indicators reflects the performance of enterprises after M&A. This paper argues that M&A is a complicated activity, involving the investment decision before M&A, the cost problem in the process of M&A, and the performance level after M&A. Therefore, in addition to financial indicators, non-financial indicators also need to be measured and analyzed. Non-financial indicators are mainly measured by the operation of enterprises, mainly reflected in the convenient effects of enterprise operation management, business innovation and human capital on enterprises. These indicators are difficult to be measured by financial indicators, therefore, in this paper, the number, premium and performance of M&A of enterprises are measured and analyzed.

The number of M&A (MA) refers to the practice of Pan and Shen (2021) to calculate the number of M&A events in the observed years. The total number of M&A events completed by an enterprise is taken as the measurement index of the number of M&A. The number of M&A transactions completed by an enterprise within the study period is one or more times. The logarithm of the number of M&A is added by 1 and taken as the indicator variable.

According to Lv & Zhao (2007), in the calculation of M&A premium of listed companies in China, the market value of the company is generally taken as the net assets of the company. M&A premium = (bidder's offer - target company's underlying net assets) ÷ target company's underlying net assets is taken as the measurement method of M&A premium.

M&A performance (ROE), the performance evaluation methods adopted by scholars mainly include financial index analysis and non-financial index analysis. The financial index analysis method can scientifically reflect the performance of corporate M&A, which is mainly a comprehensive evaluation of the solvency, profitability, and operation capacity of the enterprise. Through a comprehensive analysis of various financial indicators at various stages before and after the M&A, the change of various indicators before and after the M&A is explored, and the performance of corporate M&A and the changing trend before and after the M&A are analyzed. Most scholars at home and abroad have shown that M&A activities are largely affected by the debt paying ability, profitability, and operation ability of enterprises, and found that these capabilities will be significantly improved after M&A. In the long run, it will have a positive impact on the sustainable development of enterprises and help to improve the overall

development strength of enterprises. Referring to the research of Liu Gang et al. (2020), this paper uses return on equity (ROE) as the measurement index of M&A performance and uses the ROE of three lagging periods to subtract the ROE of the year 2014. The M&A data are from the Wind database.

3. Intermediary Variables

Financing Constraints (SA) is a measure of financing constraints of listed companies, following the methodology of Hadlock & Pierce (2010) of the SA index (Size-Age index). The formula is: $SA= -0.737 \times Size + 0.043 \times Size^2 - 0.04 \times Age$. The larger the absolute value of SA index is, the more serious the financing constraint is. The opening of capital market can effectively alleviate financing constraints and promote M&A.

External Governance (EG) includes Analyst Attention, Regional Marketization Process (Market) and Industry Competition Degree (Hhi). Analysts play the dual roles of information users and information providers in the capital market, influencing corporate M&A mainly through information channels and governance channels (Zhang & Lv, 2009; Yu, 2008).

Corporate Investment Structure (EIM) can be divided into financial asset investment and real economy investment. For enterprises, corporate investment activities are aimed at generating profits. According to the liquidity characteristics of enterprise investment projects, scholars divide the investment structure into financial assets and fixed assets. Financial assets are mainly represented by high liquidity investment projects, while fixed assets are mainly represented by low liquidity investment projects (Shu & Yu, 2022). Due to the limited capital of enterprises, if the profit-seeking motive exists, it will lead to the financialization of enterprises, and the entity investment of enterprises will be “crowded out”, and the ratio of financial assets to the investment of the real economy will continuously increase. Enterprises often choose financial investment in order to obtain high short-term benefits, and financial investment will lead to the imbalance of capital investment structure allocation and have adverse effects on the long-term economic development of enterprises and even the economic development of the whole society. Therefore, the difference of enterprise capital investment structure will directly affect the future development of enterprises. For corporate M&A, the purpose of M&A is to help enterprises achieve rapid development, while the choice of financial M&A is not conducive to the improvement of long-term M&A performance. Scholars have carried out a

wealth of studies on the economic consequences of enterprise financialization. As for the measurement of enterprise investment structure, according to the structural characteristics of enterprise investment projects, the ratio of enterprise financialization investment and entity investment is used to express. Scholars have carried out a large number of in-depth studies on the measurement, economic consequences and pre-causes of the financialization of real enterprises and determined the degree of financialization of enterprises. At present, the more widely used indicators of financialization degree in the literature are the proportion of transactional financial assets, derivative financial assets short-term investment net, loan issuance and advance net, net financial assets available for sale, net hold-to-maturity investment and net investment real estate in the total assets of enterprises (Chang et al., 2022). Therefore, in this paper, the real economy investment, and the proportion of enterprise financial assets investment as a measure of enterprise investment structure, the smaller the value, said that the enterprise investment structure is more biased to financial investment.

4. Adjusting the Variables

(1) At the government level, business environment (Epu) is adopted as the measurement index at the government level. In the 13th Five-Year Plan, the construction of business environment is divided into four aspects: market environment, government environment, legal policy environment and cultural environment, and the business environment evaluation index of different regions is obtained by constructing a three-level evaluation index system. The World Bank has a relatively authoritative assessment standard for the business environment of various cities. In order to accurately measure the level of business environment in different regions of China, this paper refers to the index system of measuring the business environment of Chinese cities by Li Zhijun et al. (2019) and Du Yunzhou et al. (2020). Comprehensively and objectively measure and evaluate the business environment of the cities where enterprises are located from multiple dimensions such as government, manpower, finance, market and innovation (Fan et al., 2022; Du Yunzhou et al., 2020; Li Zhijun et al. 2019; Li Zhijun, 2022).

(2) At the social level, media attention (Attention) is used as the measurement index at the social level. With the development of the Internet industry, enterprises have received attention from social groups to a large extent in the process of development, and social network platforms are important tools for the public to obtain corporate information and evaluate enterprises. The

media attention of an enterprise is directly related to the transparency of corporate information. The media attention will affect corporate governance and corporate management measurement and decision, and it can also act as a pressure on enterprises (Li & Tao 2022; Li & Lu, 2022). In this paper, Bert model of machine learning is used to analyze the emotion of news texts involving listed companies in newspapers and print media, and the total number of newspaper reports and online reports is used as an indicator to measure media attention (Yi et al., 2019; Meng & Qiu, 2020).

(3) At the enterprise level, corporate capital structure (LEV), CEO short-termism (CEO) and corporate Risk bearing capacity (Risk) are selected as the measurement indicators at the enterprise level. As for enterprise capital structure, most scholars use the asset-liability ratio as the measurement index of enterprise capital structure, which can accurately reflect the status of enterprise assets. Therefore, this paper chooses the asset-liability ratio as the substitute variable of enterprise capital structure. CEO short-termism is an important personal characteristic that reflects corporate management. This paper draws on the practice of Hu et al. (2021), takes the "short-term perspective" language disclosed in Management Discussion and Analysis (MD&A) of corporate annual report as an important analysis basis to reflect the short-termism of CEO attention, obtains the characteristics of text information in MD&A corpus by reading it, and collects texts related to "short-termism". Machine learning Bert model is used to analyze the collected words, and the obtained "short-sighted" related texts are summarized. Finally, the proportion of the total word frequency of "short-sighted" words in the total word frequency of MD&A is calculated and multiplied by 100 to obtain the index of CEO short-sighted. Corporate risk taking is the performance of an enterprise in the face of uncertain environment. The higher the level of corporate risk taking, the stronger the stability of the enterprise, the higher the level of governance and resource conditions. Some scholars have believed that the volatility of earnings, asset-liability ratio and stock mutual explosive rate can reflect the level of corporate risk taking. In this paper, referring to the practice of He et al. (2019), the volatility of return on assets is selected to measure the level of enterprise risk taking.

5. Control Variables

Based on the existing scholars' relevant studies on corporate M&A (Li Shanmin et al., 2020), relevant indicators that can measure enterprise characteristics are selected as control

variables. The capital intensity (lnKL) of an enterprise is expressed by the ratio of net fixed assets to the number of employees and the natural logarithm. The higher the capital intensity, the higher the fixed asset investment, thus improving the productivity level of listed companies, promoting their export margin, and conducive to the M&A of enterprises. Enterprise size (lnSize), expressed as the natural logarithm of the total assets of the listed company. The larger the listed company is, the easier it is to realize economies of scale effect, thus reducing production costs and obtaining more profits. As a result, the listed company has higher endogenous liquidity to overcome the fixed cost required for export and promote the M&A of listed companies. Enterprise age (lnAge), the difference between the current year and the year of establishment is added by 1, and then the natural logarithm is taken to express. The longer a listed company survives, the more experience it has in avoiding risks and gaining profits, and the more helpful it is to promote M&A. Return on assets (lnROA), the return on assets of listed companies is equal to the ratio of corporate net profit to total assets, and the natural logarithm is taken into the formula. The higher the return on assets is, the more sufficient funds the listed company has to pay the fixed costs, thus promoting its M&A. Free cash flow (FCF). The ratio of free cash flow to total assets in the year prior to the acquisition.

Table 2-1 Definitions of Variables

Variables	Variable Selection	Variable Description	Variable Symbols
Independent Variable	Capital Market Opening	Referring to the research of Zhang et al. (2020), the first batch of enterprises included in the pilot scope of the Shanghai Stock Connect are taken as the experimental group, with the value of Treat as 1, and other enterprises are defined as 0. Since the implementation of the Stock Connect policy was officially launched on November 17, 2014, we defined the years after 2014 as the implementation year of the Stock Connect policy, that is, Post is 1, and other years are defined as 0.	HKC
Dependent Variables	M&A	Add 1 to the number of M&A of enterprises to take logarithm	MA
	M&A Premium	M&A premium = (Bidder's offer - net assets of the target company) ÷ net assets of the target company	Prem
	M&A Performance	The change in return on equity in the year before and after the completion of the merger	ROE
Mediator Variables	Financing Constraints	Borrowed from Hadlock et al. (2010) Research method, SA index (Size-age index) is used as a measure of financing constraints of listed companies, namely: SA= -0.737 ×Size + 0.043 × Size2-0.04 Age. The larger the absolute value of SA index is, the more serious the financing constraint is.	SA
	External Governance Level	Analysts focus on Analyst, regional marketization process Market and industry competition degree HHI. Analysts play the dual role of information users and information providers in the capital market, mainly through information channels and governance channels (Zhang & Lv, 2009; Yu, 2008) influence corporate M&A	EG
	Corporate Investment Structure	Investment in real economy/investment in financial assets	EIM

Moderator	Business Environment	Regional business environment index	Epu
	Media Attention	The machine learning Bert model is used to conduct sentiment analysis on news texts involving listed companies in newspapers and newspapers, and the total number of newspaper reports and online reports is used as an indicator to measure media attention	Attention
	Corporate Capital Structure	Asset-liability ratio	Lev
	CEO Short-Termism	The machine learning Bert model is used to analyze the words collected by the "short-sighted" language disclosed in MD&A of corporate annual reports	Myopia
	Corporate Risk Tolerance	The degree of volatility in the return on corporate assets	Risk
Control Variables	Business Size	Total business assets	lnSize
	Enterprise Sge	Add one more to the difference between the current year and the year of establishment to take the natural logarithm	lnAge
	Corporate Capital Intensity	The ratio of net fixed assets to the number of employees is expressed as the natural logarithm	lnKL
	Yield on Corporate Assets	Return on assets equals the ratio of net profit to total assets	lnROA
	Free Cash Flow	The ratio of free cash flow to total assets in the year prior to the acquisition	FCF

3. Research Methods

3.1 Model Construction

3.1.1 The Direct Impact of Capital Market Opening on M&A

For enterprises, the opening of capital market is an external impact event, and M&A is an internal decision of enterprises. Therefore, it is necessary to solve the possible endogeneity problem when constructing the model. This paper refers to the relevant research methods of existing scholars on the existence of external impact variables and adopts the differential difference model (DID) for verification and analysis. Furthermore, differential propensity score matching (PSM-DID) is further adopted to alleviate the endogenous problems caused by the selectivity bias and possible missing variables, which can effectively solve the problem of selectivity bias (Lin et al., 2022). Heckman 's method of differential propensity score matching is based on propensity score matching and uses the differential method (Heckman et al., 1998).

1. Difference-in-Difference (DID) Model

This study focuses on the overall A-share listed companies in China, primarily examining whether listed companies targeted for the Shanghai-Hong Kong Stock Connect (HKC) engage in M&A activities. The HKC system imposes specific requirements on selected companies. To verify the impact of capital market opening on corporate M&A events, we use HKC as a representative of capital market opening. It is necessary to consider the possible bidirectional causality and sample selection bias among HKC-targeted companies to examine the differences in M&A events between HKC-targeted companies and others..

The construction of the experimental group and the control group is a widely used method in the academic circle, and the analysis of the treatment effect of the two groups can accurately identify the causal relationship. Therefore, following common academic practices, this study employs the Difference-in-Differences (DID) method. Based on the constraints of the HKC system, the sample of listed companies is divided into an experimental group (HKC-targeted companies) and a control group (non-HKC-targeted companies) (Zhang & Cui, 2022 ; Quan & Wang, 2022 ; Du Xinyu et al., 2022 ; Wang & Lu, 2022 ; Lian et al., 2019a).

The specific model settings are as follows:

(1) The impact of capital market opening on the number of M&A

$$MA_{it} = \alpha_0 + \alpha_1 HKC_i \times After_t + \alpha_2 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}1)$$

(2) The impact of capital market opening on M&A premium

$$Prem_{it} = \alpha_0 + \alpha_1 HKC_i \times After_t + \alpha_2 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}2)$$

(3) The impact of capital market opening on M&A performance

$$ROE_{it} = \alpha_0 + \alpha_1 HKC_i \times After_t + \alpha_2 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}3)$$

In the above models, models (3-1) - (3-3) respectively refer to the impact of capital market opening on the number of M&A, the impact of capital market opening on M&A premium, and the impact of capital market opening on M&A performance. Where, $MA_{i,t}$ represents the M&A frequency of listed company i in year t, represents the M&A premium level of listed company *i* in year *t*, represents the M&A performance of listed company *i* in year *t*, is the dummy variable, represents the listed company that belongs to the Shanghai-Hong Kong Stock Connect index, if it belongs to the Shanghai-Hong Kong Stock Connect index, the value is 1; otherwise, it is 0;

$$Prem_{it} ROE_{it}$$

Represents the dummy variable of the implementation time of the Shanghai-Hong Kong Stock Connect trading system. Since the implementation time of the Shanghai-Hong Kong Stock Connect trading system is 2014, the value of the year after 2014 is 1, and the value of the year before and after 2014 is 0.

$$HKC_i \times After_t$$

represents DID interaction item, and this coefficient is the focus of this paper; Represents the control variable in this paper represents the enterprise capital intensity, enterprise size, enterprise age, equity return, enterprise nature and free cash flow, respectively represents the fixed effect of individuals and time, represents the random disturbance term. Considering that the coefficient will be absorbed by the individual and time fixed effects, this paper mainly examines the coefficient.

2. PSM-DID Model

Considering that whether a company is selected into the Shanghai-Hong Kong Stock Connect is not random and exogenous, but also affected by other factors, propensity score matching (PSM) can effectively reduce the sample selection bias. Based on DID, combined with propensity score matching (PSM), PSM-DID model is constructed. Therefore, It is necessary to solve the systematic differences between companies that have joined the Stock Connect and those that have not. In addition, the further adoption of PSM+DID model in this paper can also effectively alleviate this problem. The DID model can obtain the effect of capital market opening on M&A. The treatment effect of the experimental group is the change of M&A frequency, M&A premium and M&A performance of the Shanghai-Hong Kong Stock Connect target enterprises, while the effect of the control group is the change of M&A frequency, M&A premium and M&A performance of the listed enterprises not included in the Shanghai-Hong Kong Stock Connect target enterprises. This “counterfactual” treatment effect cannot be accurately observed through data. If the treatment effect of the experimental group and the control group is measured separately, and then the combing results of the two groups of data samples are compared, the difference between the two groups of effects can be clearly seen between the target enterprises of the Shanghai-Hong Kong Stock Connect and other enterprises, and then the effect of the implementation of the Shanghai-Hong Kong Stock Connect policy on corporate M&A can be accurately identified. Specific practices: Before the difference of difference method (DID), it is necessary to carry out propensity score matching (PSM) to further obtain the "counterfactual" treatment effect, which can effectively reduce the sample selection bias problem. On the basis of DID, combined with tendency score matching (PSM) to build PSM-DID model, select the starting year 2007, the Shanghai-Hong Kong Stock Connect enterprises were defined as the treatment group, the other groups as the control group, 1:1 repeatable matching, matching radius is 0.03, retain the successful matching groups and year by year combined as samples. Then the causal relationship between the opening of the capital market and M&A is studied, which can effectively reduce the sample selection bias and endogenous problems of enterprises, and more accurately measure the substantive impact of the opening of the capital market.

The specific model is set as follows:

(1) The impact of capital market opening on the number of M&A

$$MA_{it} = \beta_0 + \beta_1 HKC_i + \beta_2 After_t + \beta_3 HKC_i \times After_t + \beta_4 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}4)$$

(2) The impact of capital market opening on M&A premium

$$Prem_{it} = \beta_0 + \beta_1 HKC_i + \beta_2 After_t + \beta_3 HKC_i \times After_t + \beta_4 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}5)$$

(3) The impact of capital market opening on M&A performance

$$ROE_{it} = \beta_0 + \beta_1 HKC_i + \beta_2 After_t + \beta_3 HKC_i \times After_t + \beta_4 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}6)$$

In the above models, models (5-4) - (5-6) are respectively models of the impact of capital market opening on the number of M&A, the impact of capital market opening on M&A premium, and the impact of capital market opening on M&A performance using differential propensity score matching method. The meanings of variables are consistent with the above. $HKC_i \times After_t$ represents DID interaction term, and this coefficient is the research focus of this paper to estimate the causal effect of capital market opening on enterprise innovation. >0 r epresents the target enterprises of Shanghai-Shenzhen-Hong Kong Stock Connect in the experimental group, and the change intensity of M&A frequency, M&A premium and M&A performance is higher than that of the control group, indicating that capital market opening has a significant processing effect on M&A. Otherwise, it means that the opening of the capital market will not have an impact on the M&A.

3.1.2 Mechanism of the Impact of Capital Market Opening on Corporate M&A

According to the DID model mentioned above, the mediation effect model is constructed to test whether the opening of the capital market affects corporate M&A through external governance level, financing constraints and enterprise investment strategies. The analysis of the mechanism between capital market opening and corporate M&A involves two steps: first, testing the impact of the explanatory variable on the mediating variable; second, testing the impact of both the explanatory variable and the mediating variable on the dependent variable. The coefficients of explanatory variables and mediating variables in these two stages are the

focus of this paper. The specific models are set as follows:

1. Mediation Effect Model Based on External Governance:

$$EG_{it} = \alpha_0 + \alpha_1 After_t \times HKC_i + \alpha_2 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}7)$$

$$MA_{it} = \beta_0 + \beta_1 After_t \times HKC_i + \beta_2 EG_{it} + \beta_3 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}8)$$

$$Prem_{it} = \beta_0 + \beta_1 After_t \times HKC_i + \beta_2 EG_{it} + \beta_3 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}9)$$

$$ROE_{it} = \beta_0 + \beta_1 After_t \times HKC_i + \beta_2 EG_{it} + \beta_3 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}10)$$

In the above equation, EG_{it} represents the external governance level of enterprise *i* at time *t*, and other variables are consistent with the above. Equation (3-7) is the regression model for the first step, where external governance is the dependent variable. Equations (3-8) to (3-10) are the regression models for the second step, where external governance is the explanatory variable.

2. Mediation Effect Model Based on Financing Constraints:

$$SA_{it} = \alpha_0 + \alpha_1 After_t \times HKC_i + \alpha_2 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}11)$$

$$MA_{it} = \beta_0 + \beta_1 After_t \times HKC_i + \beta_2 SA_{it} + \beta_3 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}12)$$

$$Prem_{it} = \beta_0 + \beta_1 After_t \times HKC_i + \beta_2 SA_{it} + \beta_3 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}13)$$

$$ROE_{it} = \beta_0 + \beta_1 After_t \times HKC_i + \beta_2 SA_{it} + \beta_3 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}14)$$

In the above equation, SA_{it} represents the level of financing constraint of firm *i* at time *t*, and other variables are consistent with the above. Equation (3-11) is the regression model for the first step, where financing constraints are the dependent variable. Equations (3-12) to (3-14) are the regression models for the second step, where financing constraints are the explanatory variable.

3. Mediation Effect Model Based on Corporate Investment Strategy**:**

$$EIM_{it} = \alpha_0 + \alpha_1 After_t \times HKC_i + \alpha_2 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}15)$$

$$MA_{it} = \beta_0 + \beta_1 After_t \times HKC_i + \beta_2 EIM_{it} + \beta_3 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}16)$$

$$Prem_{it} = \beta_0 + \beta_1 After_t \times HKC_i + \beta_2 EIM_{it} + \beta_3 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}17)$$

$$ROE_{it} = \beta_0 + \beta_1 After_t \times HKC_i + \beta_2 EIM_{it} + \beta_3 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}18)$$

In the above equation, EIM_{it} represents the corporate investment strategy of firm *i* at time *t*, and other variables are consistent with the above. Equation (3-15) represents the regression model for the first step, where corporate investment strategy is the dependent variable. Equations (3-16) to (3-18) are the regression models of for the second step, where corporate investment strategy is the explanatory variable.

3.1.3 Analysis on Countermeasures of Capital Market Opening Affecting Corporate M&A

Under the different conditions of the government, society and enterprises, the paper analyzes the difference of the influence of capital market opening on corporate M&A. Therefore, on the basis of the benchmark model in Chapter 5, the moderating effect model is constructed, and the corresponding indicators selected from the three levels of government, society and enterprises are selected as the moderating variables to analyze their moderating effects between the capital market opening and corporate M&A. The moderating effect model mainly focuses on the influence of the interaction term between the moderating variable and the explanatory variable on the explained variable. In this chapter, the selected moderating variable at the government, society and enterprise levels and the interaction term coefficient of the capital market opening are the key points of investigation. The specific model is set as follows:

1. Countermeasures analysis model based on the government level:

$$MA_{it} = \delta_0 + \delta_1 After_t \times HKC_i + \delta_2 Epu_{it} + \delta_3 After_t \times HKC_i \times Epu_{it} + \delta_4 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}19)$$

2. Countermeasure analysis model based on social level:

$$MA_{it} = \delta_0 + \delta_1 After_t \times HKC_i + \delta_2 Attention_{it} + \delta_3 After_t \times HKC_i \times Attention_{it} + \delta_4 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}20)$$

3. Strategy analysis model based on enterprise level:

$$MA_{it} = \delta_0 + \delta_1 After_t \times HKC_i + \delta_2 C_{it} + \delta_3 After_t \times HKC_i \times C_{it} + \delta_4 Controls_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (3\text{-}21)$$

In the above models, (3-19)- (3-21) respectively table the regulatory effect models based on the government level, the social level and the enterprise level, where, Epu_{it} represents the regulatory variable of the government level business environment, $Attention_{it}$

represents the measurement indicator of the social level media attention, C_{it} represents the regulatory variable of the enterprise level. CEO Myopia (Mytopia), corporate capital structure (LEV), corporate risk-taking level (Risk), the other variables are the same as above.

3.2 Key Questions and Research Assumptions of the Study

This paper aims to clarify the relationship between capital market opening and M&A, deeply understand the mechanism between them, analyze the function characteristics of capital market opening on different aspects of M&A, and find out the action path between the two. In the further analysis, for different types of enterprises, will there be differences in the impact of capital market opening on M&A? That is, which enterprises should be included in the opening of the capital market first, and which enterprises should be delayed? Will the opening of the capital market affect the M&A of enterprises at the same time will be affected by other factors?

In order to answer the above questions, this paper proposes the following research hypotheses:

H1:The efficient market hypothesis holds that corporate investors are rational enough to grasp market information quickly and make accurate responses, while the opening degree of the capital market can provide more information and investors can grasp more information to meet the purpose of obtaining super profits from cross-border M&A. Therefore, the opening of the capital market is conducive to promoting enterprises to complete M&A.

H2: The principal-agent theory explains the economic impact of information asymmetry. In an open capital market environment, information asymmetry exists to a large extent between the two sides of the M&A, which will increase the price of the merger. Therefore, the opening of the capital market will increase the premium level of the M&A.

H3:Transnational M&A can help enterprises to expand market share rapidly and possess various resource conditions. The opening of capital market can bring more resources and technologies to enterprises, and the choice of M&A methods will increase. Therefore, the opening up of capital market affects the choice of M&A mode;

H4: Through the establishment of the heterogeneous enterprise trade model, the new trade theory explains the reason why only some enterprises choose export and foreign direct investment in reality. Corporate M&A can realize effective allocation of resources. Therefore, the opening of the capital market helps to improve the performance of enterprises' short-term M&A.

H5: This paper argues that the implementation of the “Shanghai-Hong Kong Stock Connect” policy can bring more free cash flow to enterprises and further promote corporate M&A by easing financing constraints.

H6: Whether the opening up of the capital market can bring in foreign investors to improve the external governance environment, so the opening up of the capital market can further promote corporate M&A by strengthening external governance;

H7: The opening up of the capital market can bring more possibilities for enterprise investment, and further promote corporate M&A by promoting the diversification of enterprise investment methods.

3.3 Expected Results

After the implementation of the Shanghai-Hong Kong Stock Connect trading mechanism, the exchanges between regions will be closer, the quality of information disclosure for enterprises will be improved, and the information environment will be improved, which can provide investment basis for investors and promote corporate M&A. The opening up of the capital market can provide enterprises with more diversified financing channels and solve the financing dilemma of enterprises. Enterprises can get more choices of M&A modes, but it may bring higher premium. By introducing foreign institutional investors from developed countries or regions to introduce more advanced technology and management concepts into the enterprise, it is beneficial to the corporate governance level and optimize the corporate governance model; The implementation of the Shanghai-Shenzhen-Hong Kong Stock Connect trading system enhances the guiding role of stock price on the investment of the underlying enterprises, promotes the domestic and foreign investment behavior of enterprises, enables enterprises to obtain more diversified investment methods, improves the investment efficiency of enterprises,

and then promotes the M&A of enterprises.

Based on the above analysis, the expected conclusions of this paper are as follows:

1. The opening up of the capital market is conducive to the promotion of M&A, and the number of M&A transactions increases.

2. The opening up of the capital market will generate merger premium and increase the level of merger premium.

3. The opening up of capital market will help enterprises to carry out M&A that are more in line with their development.

4. The opening of the capital market will help improve the performance of M&A.

5. Capital market opening can promote corporate M&A by easing financing constraints.

6. Capital market opening can promote corporate M&A by strengthening external governance.

7. Capital market opening can promote corporate M&A by enhancing enterprise investment diversification.

4. Result Analysis

4.1 Analysis of the Causal Relationship between Capital Market Opening and Corporate M&A

4.1.1 Analysis of Benchmark Regression Results

According to the differential model constructed above, after the implementation of the Shanghai-Hong Kong Stock Connect system is tested, Table 5-3 shows the impact of capital market opening on the number of M&A, M&A premium and M&A performance. The results show that the influence coefficient of capital market opening on the number of M&A is significantly positive at the 1% level, and the influence coefficient in column (1) is 0.025, indicating that the opening of capital market can significantly improve the number of M&A of the target enterprises of the Shanghai-Hong Kong Stock Connect will increase by 2.5% compared with other enterprises. The research results verify hypothesis 1, that the opening of the capital market can promote the number of M&A and increase the number of M&A.

The influence coefficient of capital market opening on M&A premium is significantly positive at the 1% level. The influence coefficient in column (2) is 0.101, indicating that capital market opening can significantly increase the M&A premium level of enterprises. Compared with other enterprises, the M&A premium level of enterprises under the Shanghai-Hong Kong Stock Connect will increase by 10.1%. The opening up of the capital market will generate M&A premium, which will increase the level of M&A premium. The implementation of the "Shanghai-Hong Kong Stock Connect" policy leads to a large amount of foreign capital inflow, which has an impact on the M&A behavior of enterprises. The information asymmetry in the open capital market environment will increase the agent cost of the M&A party, and the investment behavior of international investors may lead to the increase of the M&A premium in the payment link.

The influence coefficient of capital market opening on M&A performance is significantly positive at the 1% level. The influence coefficient in column (3) is 0.014, indicating that capital market opening can significantly improve the M&A premium level of enterprises. Compared with other enterprises, the M&A performance level of the target enterprises of the Shanghai-Hong Kong Stock Connect will increase by 1.4%. The opening up of the capital market helps to improve the performance of M&A. After the opening of the Stock

Connect system, a more diversified investment market has been formed, and the competition in the capital market has been deepened continuously. In the face of a more complex capital market environment, it has an impact on the behavior of M&A, and finally becomes an effective driving force to improve the performance of M&A.

Table 4-1 Analysis of the Impact of Capital Market Opening on the Number of M&A

	(1)	(2)	(3)
	MA	Prem	ROE
DID	0.025***	0.101***	0.014***
	(0.007)	(0.011)	(0.002)
ln_size	0.001	0.063	0.011
	(0.007)	(0.042)	(0.001)
ln_kl	0.005	0.003	0.003***
	(0.005)	(0.023)	(0.001)
ln_age	0.039	0.103	0.022
	(0.052)	(0.231)	(0.009)
ROA	0.072*	0.301	0.066
	(0.040)	(0.302)	(0.009)
FCF	0.077	0.071	0.000
	(0.009)	(0.043)	(0.001)
Constant term	0.068	0.814	0.274***
	(0.219)	(1.162)	(0.037)
Individual Fixed Effect	Yes	Yes	Yes
Time Fixed Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	22256	1602	14476
adj. R^2	0.150	0.132	0.196

*Note: For the verification results of the empirical analysis model (DID model) constructed in this paper, stata 16. **, ** and * are significant at the 1%, 5% and 10% levels respectively, and heteroscedasticity robust standard error is shown in brackets.*

4.1.2 Tests for Endogeneity and Robustness

1. Parallel Trend Test

In order to verify the robustness of the model, it is necessary to conduct parallel trend test on the differential model, mainly to verify whether there are significant differences between the M&A of the experimental group and the control group before and after the implementation of

the Shanghai-Hong Kong Stock Connect policy. Only the control group can be used as the control group if it has similar characteristics with the experimental group. This paper mainly constructs a two-stage difference model to test the prior parallel trend. This paper carries out empirical analysis on the data of several periods before and after the implementation of the Shanghai-Hong Kong Stock Connect policy, and builds the parallel trend test model:

$$Y_{it} = \beta_0 + \sum_{k\geq -7}^{4} \beta_k D_{it}^k + \sum_j \beta_j X_{ijt} + u_i + \alpha_t + \lambda_{ind} + \varepsilon_{it} \quad (4\text{-}1)$$

D_{it}^k Represents the establishment of this policy event in the pilot year of the Shanghai-Hong Kong Stock Connect. Its assigning rules are as follows: denotes the specific year of the establishment of the pilot city of the Shanghai-Hong Kong Stock Connect; if, it is defined; otherwise, the previous period of the year of the establishment of the pilot year of the Shanghai-Hong Kong Stock Connect is taken as the benchmark year in this paper. $s_i \ (t - s_i) = k$

$D_{it}^k = 1 \, D_{it}^k = 0$

Table 4-2 reports the influence of the number of M&A, the premium of M&A and the performance of M&A in several periods before and after the implementation of the Shanghai-Hong Kong Stock Connect policy. d1, d2, d3 and d4 represent after the implementation of the Shanghai-Hong Kong Stock Connect policy, while d_2, d_3, d_4, d_5, d_6 and d_7 represent before the implementation of the Shanghai-Hong Kong Stock Connect policy. It is found that before the implementation of the Shanghai-Hong Kong Stock Connect policy, the influence on the number of M&A, the premium of M&A and the performance of M&A is not significant, but after the implementation of the Shanghai-Hong Kong Stock Connect policy, the number of M&A, the premium of M&A and the performance of M&A show significance at different levels. Indicating that the influences of the number of M&A, the premium of M&A and the performance of M&A before the implementation of the Shanghai-Hong Kong Stock Connect policy accord with the parallel trend, which verifies the stability of the model.

Table 4-2 Test of Parallel Trends

	(1)	(2)	(3)
	MA	ROE	Prem
d4	0.013***	0.000	0.054
	(0.004)	(0.000)	(0.123)
d3	0.003***	0.000	0.002
	(0.001)	(.).	(0.112)
d2	0.015***	0.006**	0.146***
	(0.005)	(0.003)	(0.011)
d1	0.030**	0.015***	0.146***
	(0.015)	(0.003)	(0.016)
current	0.000	0.003	0.068
	(0.029)	(0.003)	(0.105)
d_2	0.033	0.001	0.050
	(0.030)	(0.003)	(0.121)
d_3	0.070	0.000	0.065
	(0.132)	(0.004)	(0.134)
d_4	0.034	0.001	0.165
	(0.032)	(0.004)	(0.143)
d_5	0.022	0.000	0.083
	(0.033)	(0.004)	(0.176)
d_6	0.002	0.000	0.117
	(0.034)	(0.004)	(0.171)
d_7	0.014	0.002	0.056
	(0.034)	(0.004)	(0.182)
ln_size	0.001	0.011	0.055
	(0.008)	(0.001)	(0.042)
ln_kl	0.005	0.003***	0.007
	(0.005)	(0.001)	(0.023)
ln_age	0.035	0.023	0.091
	(0.052)	(0.009)	(0.238)
ROA	0.069*	0.066	0.218
	(0.040)	(0.009)	(0.309)
FCF	0.077	0.000	0.063
	(0.009)	(0.001)	(0.044)
Constant term	0.040	0.277***	0.777
	(0.222)	(0.038)	(1.200)
Individual Fixation Effect	No	Yes	Yes
Time Fixation Effect	No	Yes	Yes

Industry Fixed Effect	No	Yes	Yes
N	22256	14476	1602
adj. R^2	0.128	0.151	0.112

*Note: The parallel trend test results of the empirical analysis model (DID model) constructed in this paper were adopted by stata 16. ***, ** and * were significant at the level of 1%, 5% and 10%, respectively, with heteroscedasticity robust standard error in brackets.*

2. Endogeneity Test

In this part, PSM-DID model is used to test the impact of capital market opening on the number of M&A, M&A premium and M&A performance. This model can effectively solve the endogeneity problem. First, it is necessary to match data samples to effectively reduce sample selection bias.

(1) Propensity Score Matching PSM

Figure 4-1 and Figure 4-2 respectively show the probability density distribution of the experimental group and control group samples before and after matching obtained by the propensity score matching method. When using the propensity score matching method, the probability of M&A of individuals will be calculated based on the observed characteristics of individuals, that is, the propensity score. Based on these propensity scores, the researchers then matched firms that chose to acquire (experimental group) with those that did not (control group) to obtain similar experimental and control groups. The purpose of this step is to simulate the conditions of a randomized experiment and reduce selection bias due to differences in individual characteristics. This paper takes 2007 as the base year, defines the enterprises included in the Shanghai-Hong Kong Stock Connect policy as the experimental group, other enterprises as the control group, carries out 1:15 nearest neighbor kernel matching with a matching radius of 0.03, and retains the successfully matched groups. The distributions of the two groups become very close after matching, indicating that the matching was successful.

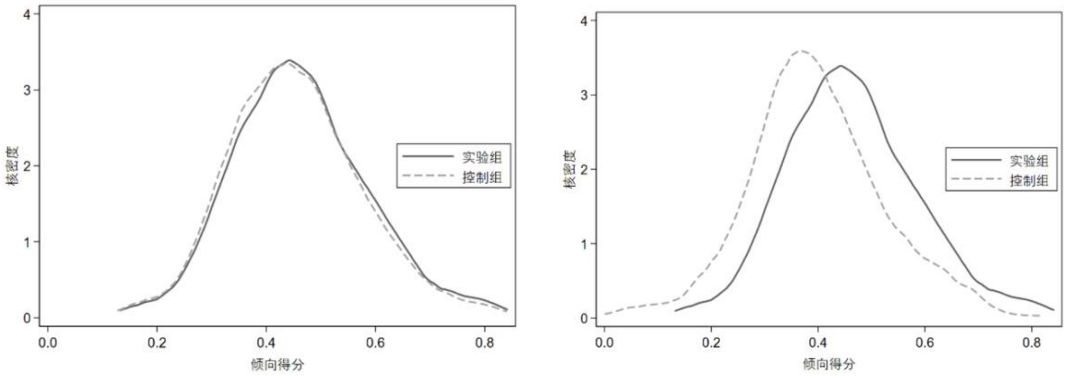

Figure 4-1 PSM Probability Kernel Density Distribution (Influence of Capital Market Opening on M&A Performance)

Note: stata 16 was used to test the kernel density results of the empirical analysis model (DID model) constructed in this paper. The left side is before matching and the right side is after matching.

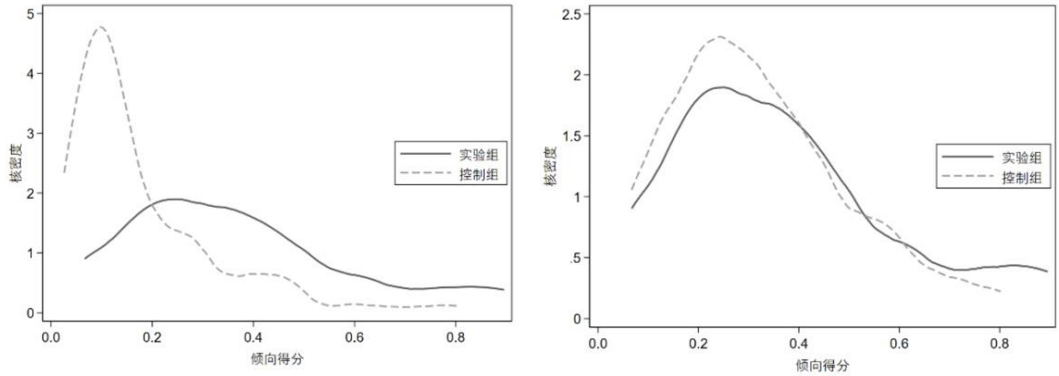

Figure 4-2 PSM Probability Kernel Density Distribution (Influence of Capital Market Opening on M&A Premium)

Note: stata 16 was used to test the kernel density results of the empirical analysis model (DID model) constructed in this paper. The left side is before matching, and the right side is after matching

(2) Analysis of Test Results of PSM-DID Model

Table 4-3 reports the regression results of endogeneity test conducted by PSM-DID model. The influence coefficients of capital market opening on the number of M&A, M&A performance and M&A premium are all positive and pass the test at the significance level of 1%, which is consistent with the above regression results of the benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-3 Influence of Capital Market Opening on M&A -PSM-DID Model

	(1)	(2)	(3)
	MA	ROE	Prem
DID	0.008***	0.011***	0.114***
	(0.002)	(0.001)	(0.029)
ln_size	0.009	0.004	0.093
	(0.013)	(0.001)	(0.045)
ln_kl	0.017	0.000	0.008
	(0.008)	(0.000)	(0.023)
ln_age	0.217	0.010	0.109
	(0.110)	(0.006)	(0.242)
ROA	0.013	0.046	0.116
	(0.071)	(0.005)	(0.329)
FCF	0.051	0.007	0.063
	(0.015)	(0.001)	(0.042)
Constant term	0.408	0.054**	1.391
	(0.399)	(0.022)	(1.165)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	8119	6053	1320
adj. R^2	0.106	0.128	0.125

*Note: stata 16. Test results of the empirical analysis model (PSM-DID model) constructed in this paper. ***, ** and * are significant at 1%, 5% and 10% levels respectively, and heteroscedasticity robust standard error is shown in parentheses.*

2. Placebo Test

Placebo test. In order to test whether the results of differential analysis were affected by other policies or random factors, placebo test was conducted on the DID model in this section. In order to eliminate the impact of some unobstructed related factors on the implementation effect of the Shanghai-Hong Kong Stock Connect policy as far as possible, this paper uses Bai Junhong et al. (2022) 's placebo test method on the multi-period DID model to investigate the significance of the interaction coefficient between the time dummy variable and the treatment group in the basic regression of policy generation, and randomly selects 183 Shanghai-Hong Kong Stock Connect enterprises. Then randomly selected 616 Shanghai-Hong Kong Stock Connect enterprises from 2007 to 2018, randomly selected the treatment group 500 times, and

then constructed dummy variables of the pseudo-policy impact experimental group and pseudo policy impact time variables to analyze the DID processing effect. Figures 4-3, 4-4 and 4-5 respectively show the results of the placebo test on the impact of capital market opening on M&A premium, M&A quantity and M&A performance of the differential model. It can be found that the coefficient estimation of the pseudo-Shanghai-Hong Kong Stock Connect policy is generally near 0, and the estimated coefficient in this paper is significantly far away from the 0 line. The robustness of the conclusion is verified.

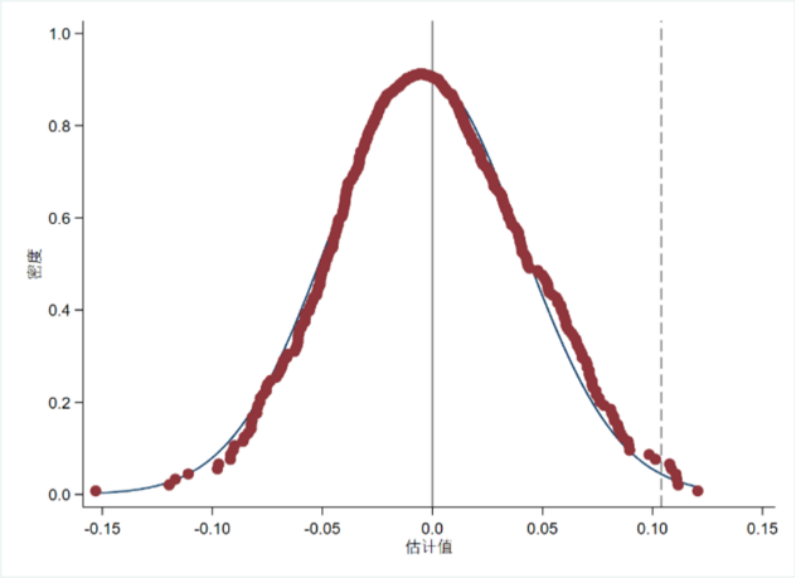

Figure 4-3 Placebo Test for M&A Premium

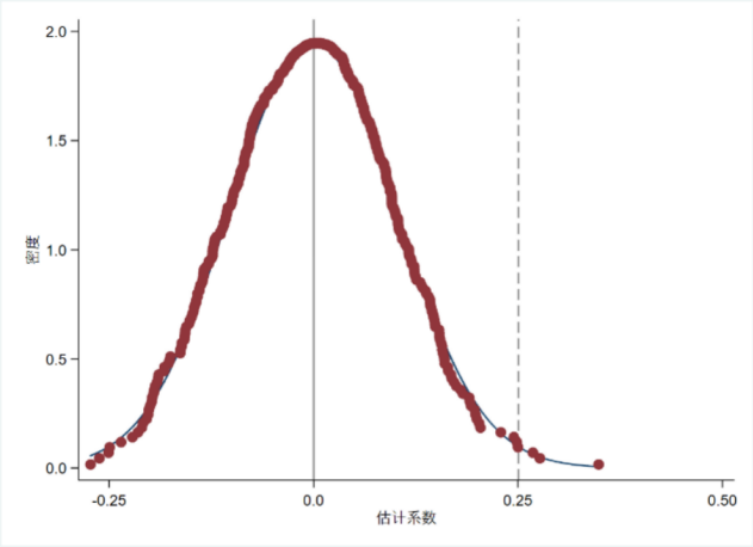

Figure 4-4 Placebo Test for the Number of M&A

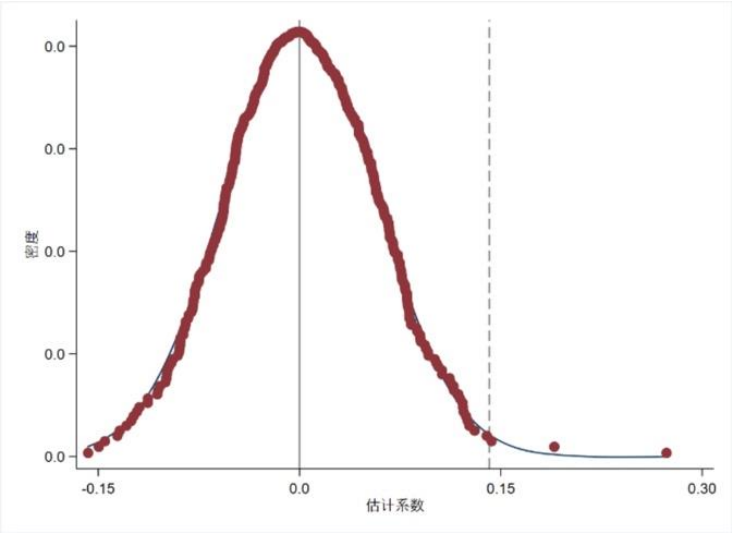

Figure 4-5 Placebo Test for M&A Performance

Note: stata 16 was used to test the results of the placebo test for the empirical analysis model (DID model) constructed in this paper.

4.1.3 Heterogeneity Analysis

1. Enterprise Equity Heterogeneity Analysis

There are obvious differences in the nature of ownership in Chinese enterprises, which are mainly reflected in the ownership structure, including state-owned enterprises in which the state plays a leading role and private enterprises in which private enterprises play a leading role. The relatively concentrated shareholder structure of state-owned enterprises limits the enthusiasm and creativity of employees. Therefore, in the absence of supervision by other major shareholders, the management of enterprises mainly seek to improve performance during their term of office, and the nature of ownership is a factor that cannot be ignored. For state-owned enterprises and non-state-owned enterprises, whether there is a difference in the impact of capital market opening on M&A and what the effect is still needs to be further explored. Table 5-8 reports the heterogeneity analysis based on the nature of corporate ownership and divides the sample data into private enterprises and state-owned enterprises respectively to test the impact of capital market opening on corporate innovation. Table 4-4 shows the empirical analysis results of capital market opening on the number of M&A, M&A performance and M&A premium. It can be seen from the results that capital market opening has a significant positive effect on the number of M&A, M&A performance and M&A premium of private enterprises and state-owned enterprises. Passing the test at the significance level of 1%,

From the perspective of coefficient size, the positive effect of capital market opening is stronger in state-owned enterprises.

Table 4-4 Regression Results Based on Equity Heterogeneity

	MA State-owned enterprises	MA Non-state-owned enterprise	ROE State-owned enterprises	ROE Non-state-owned enterprises	Prem State-owned enterprises	Prem Non-state-owned enterprises
DID	0.015***	0.004**	0.020***	0.001***	0.174***	0.062***
	(0.003)	(0.002)	(0.005)	(0.000)	(0.022)	(0.018)
ln_size	0.022	0.020**	0.003	0.020	0.031	0.051
	(0.013)	(0.010)	(0.001)	(0.003)	(0.114)	(0.047)
ln_kl	0.015	0.002	0.001**	0.005***	0.003	0.021
	(0.008)	(0.007)	(0.000)	(0.002)	(0.055)	(0.026)
ln_age	0.051	0.007	0.001	0.013	0.232	0.244
	(0.090)	(0.068)	(0.006)	(0.017)	(0.677)	(0.250)
ROA	0.220**	0.008	0.072	0.056	0.383	0.223
	(0.086)	(0.047)	(0.006)	(0.015)	(0.668)	(0.345)
FCF	0.066	0.082	0.002	0.000	0.076	0.080
	(0.016)	(0.011)	(0.001)	(0.003)	(0.118)	(0.047)
Constant Term	0.360	0.322	0.057**	0.380***	0.961	0.041
	(0.377)	(0.324)	(0.023)	(0.078)	(2.763)	(1.154)
Individual Fixation Effect	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
N	10017	12239	7258	7218	520	1082
adj. R^2	0.115	0.154	0.106	0.192	0.127	0.122

*Note: ***, ** and * are significant at 1%, 5% and 10% levels respectively, and are heteroscedasticity robust standard error in parentheses.*

2. Enterprise Size Heterogeneity Analysis

The size of enterprises means the difference of production structure and management mode. Large enterprises often have more perfect management mechanism and technical level, and the overall development situation is relatively stable. The purpose of this study is to analyze the influence of capital market opening on M&A under the action of enterprise size heterogeneity. In this paper, the median method is used to divide firm size. Table 4-5 reports the regression results based on firm size heterogeneity. The results show that capital market

opening has a significant positive effect on the number of M&A, M&A performance and M&A premium. The opening of capital market has a greater impact on the number, performance and premium of large-scale firms.

Table 4-5 Regression Results Based on Firm Size Heterogeneity

	MA	MA	ROE	ROE	Prem	Prem
	Large scale	Small scale	Large scale	Small scale	Large scale	Small scale
DID	0.019***	0.014***	0.103**	0.013**	0.132***	0.049***
	(0.021)	(0.027)	(0.002)	(0.006)	(0.012)	(0.011)
ln_size	0.040	0.015	0.007	0.024	0.025	0.058
	(0.017)	(0.013)	(0.002)	(0.003)	(0.087)	(0.075)
ln_kl	0.007	0.008	0.000	0.003**	0.066	0.019
	(0.009)	(0.007)	(0.001)	(0.001)	(0.044)	(0.039)
ln_age	0.023	0.047	0.003	0.032	0.064	0.436
	(0.100)	(0.069)	(0.008)	(0.013)	(0.508)	(0.355)
ROA	0.488***	0.027	0.074	0.064	0.562	0.460
	(0.108)	(0.039)	(0.010)	(0.011)	(0.493)	(0.504)
FCF	0.113	0.055	0.004	0.006	0.085	0.012
	(0.018)	(0.010)	(0.001)	(0.002)	(0.073)	(0.072)
Constant Term	0.832*	0.240	0.181***	0.559***	0.095	0.359
	(0.488)	(0.314)	(0.041)	(0.065)	(2.187)	(1.697)
Individual Fixation Effect	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
N	11128	11128	6554	7922	801	801
adj. R^2	0.171	0.214	0.213	0.230	0.151	0.162

*Note: ***, ** and * are significant at 1%, 5% and 10% levels respectively, and are heteroscedasticity robust standard error in parentheses.*

3. Heterogeneity Analysis of Enterprise Risk Taking Level

According to the standard deviation of industry-adjusted return on assets in the observation period, listed enterprises are divided into high-risk enterprises and low-risk enterprises. Table 4-6 reports the regression results based on the heterogeneity of enterprise risk taking. The results show that the opening of capital market has a significant positive effect on the number of M&A, M&A performance and M&A premium. Capital market opening has a greater impact on the number of M&A, M&A performance and M&A premium of enterprises with high risk taking.

Table 4-6 Heterogeneity Analysis Based on Firms' Risk Taking Level

	MA High risk assumption level	MA Low level of risk taking	ROE High risk level	ROE Low risk level of risk-taking	Prem High risk level	Prem Low level of risk taking
DID	0.033***	0.008***	0.007***	0.003**	0.079***	0.018***
	(0.011)	(0.002)	(0.002)	(0.002)	(0.007)	(0.003)
ln_size	0.000	0.023	0.003	0.006	0.125	0.001
	(0.010)	(0.015)	(0.001)	(0.001)	(0.061)	(0.080)
ln_kl	0.000	0.007	0.000	0.001	0.021	0.007
	(0.007)	(0.010)	(0.001)	(0.001)	(0.038)	(0.039)
ln_age	0.030	0.132	0.000	0.010	0.376	0.411
	(0.077)	(0.087)	(0.007)	(0.008)	(0.415)	(0.449)
ROA	0.087**	0.004	0.045	0.048	0.495	1.544
	(0.042)	(0.255)	(0.005)	(0.021)	(0.361)	(1.362)
FCF	0.035	0.200	0.002	0.004**	0.180	0.009
	(0.010)	(0.021)	(0.001)	(0.002)	(0.067)	(0.077)
Constant Term	0.133	0.047	0.054**	0.159***	1.404	1.538
	(0.298)	(0.416)	(0.026)	(0.037)	(1.573)	(1.990)
Individual Fixation Effect	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
N	11128	11128	7076	7400	801	801
adj. R^2	0.273	0.257	0.358	0.371	0.126	0.173

Note: ***, ** and * are significant at 1%, 5% and 10% levels respectively, and are heteroscedasticity robust standard error in parentheses.

4.2 An analysis of the Mechanism of the Influence of Capital Market Opening on M&A

4.2.1 External Governance Effect

According to the mediation effect model based on external governance effect constructed above, Table 4-7, 4-8 and 4-9 respectively report the influence of capital market opening based on external governance effect on the number of M&A, M&A premium and M&A performance. In Table 4-7, As can be seen from the empirical results, the influence coefficient of external governance on the number of M&A is positive and passes the test at the significance level of 1%; the influence coefficient of capital market opening on the number of M&A is

positive and passes the test at the significance level of 1%; the influence coefficient of capital market opening on external governance is positive and passes the test at the significance level of 1%. It shows that the opening of the capital market can improve the level of external governance and significantly promote the participation of enterprises in M&A events.

In Table 4-8, As can be seen from the empirical results, the influence coefficient of external governance on M&A premium is negative and passes the test at 1% significance level; the influence coefficient of capital market opening on M&A premium is positive and passes the test at 1% significance level; the influence coefficient of capital market opening on external governance is positive and passes the test at 1% significance level. It shows that the opening up of the capital market can improve the level of external governance, significantly inhibit the agent conflicts caused by the Shanghai-Hong Kong Stock Connect trading system and alleviate the corporate M&A premium.

In Table 4-9, As can be seen from the empirical results, the influence coefficient of external governance on M&A performance is positive and passes the test at 1% significance level; the influence coefficient of capital market opening on M&A performance is positive and passes the test at 1% significance level; the influence coefficient of capital market opening on external governance is positive and passes the test at 1% significance level. It shows that the opening of capital market can significantly improve the performance of M&A by strengthening the level of external governance of enterprises.

After the opening of the capital market, the implementation of the Shanghai-Hong Kong Stock Connect system and other policies will attract a large number of foreign investors from the mature capital market, who often have relatively mature investment concepts and strong protection consciousness. Therefore, after purchasing the target stocks of the policy, they will actively exercise the rights of shareholders and play an external governance role for the target companies to avoid their own interests being encroachment. Therefore, the opening of the capital market is conducive to alleviating the agency problems of the target companies, improving the level of corporate governance, effectively promoting the participation of enterprises in M&A, and inhibiting the premium problems generated in M&A activities, so as to improve the performance of enterprises in M&A.

Table 4-7 Influences of Capital Market Opening on the Number of M&A Based on External Governance Effect

	(1)	(2)	(3)
	MA	MA	HHI
DID	0.030***	0.025***	0.003***
	(0.009)	(0.008)	(0.001)
HHI	0.011***	0.014***	
	(0.003)	(0.003)	
Ln_size		0.001	0.006
		(0.007)	(0.001)
Ln_kl		0.005	0.003***
		(0.005)	(0.000)
Ln_age		0.039	0.027
		(0.052)	(0.004)
ROA		0.072*	0.015***
		(0.040)	(0.003)
FCF		0.077	0.001
		(0.009)	(0.001)
Constant Term	0.000	0.071	0.247***
	(0.101)	(0.220)	(0.018)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	22256	22256	22256
adj. R^2	0.129	0.134	0.111

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

Table 4-8 Influence of Capital Market Opening on M&A Premium Based on External Governance

	(1)	(2)	(3)
	Prem	Prem	HHI
DID	0.097***	0.103***	0.012***
	(0.024)	(0.021)	(0.003)
HHI	0.177	0.183	
	(0.045)	(0.051)	
ln_size		0.061	0.009
		(0.042)	(0.005)
ln_kl		0.002	0.005
		(0.023)	(0.003)
ln_age		0.107	0.025
		(0.231)	(0.028)

ROA		0.284	0.096***
		(0.304)	(0.037)
FCF		0.069	0.008
		(0.044)	(0.005)
Constant Term	0.411	0.729	0.465***
	(0.540)	(1.174)	(0.141)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	1602	1602	1602
adj. R^2	0.123	0.132	0.147

*Note: ***, ** and * are significant at 1%, 5% and 10% levels respectively, and heteroscedasticity robust standard error is shown in brackets.*

Table 4-9 Influence of External Governance Capital Market Opening on M&A Performance

	(1)	(2)	(3)
	ROE	ROE	HHI
DID	0.005***	0.005***	0.003***
	(0.001)	(0.001)	(0.001)
HHI	0.037***	0.034***	
	(0.009)	(0.009)	
ln_size		0.004	0.006
		(0.001)	(0.001)
ln_kl		0.000	0.003***
		(0.000)	(0.000)
ln_age		0.004	0.027
		(0.005)	(0.004)
ROA		0.046	0.015***
		(0.005)	(0.003)
FCF		0.000	0.001
		(0.001)	(0.001)
Constant Term	0.004	0.087***	0.247***
	(0.007)	(0.020)	(0.018)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	14476	14476	22256
adj. R^2	0.145	0.172	0.111

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

4.2.2 Financing Constraint Effect

According to the intermediary effect model based on financing constraint effect constructed above, Table 4-10, 4-11 and 4-12 respectively report the impact of capital market opening based on financing constraint effect on the number of M&A, M&A premium and M&A performance. In Table 4-10,As can be seen from the empirical results, the influence coefficient of financing constraints on the number of M&A is negative and passes the test at the significance level of 5%; the influence coefficient of capital market opening on the number of M&A is positive and passes the test at the significance level of 1%; the influence coefficient of capital market opening on financing constraints is negative and passes the test at the significance level of 1%. It shows that the opening of the capital market can reduce the financing constraints faced by enterprises and promote the participation of enterprises in M&A events.

In Table 4-11, As can be seen from the empirical results, the influence coefficient of financing constraints on M&A premium is negative, and passes the test at 1% significance level; the influence coefficient of capital market opening on M&A premium is positive, and passes the test at 1% significance level; the influence coefficient of capital market opening on financing constraints is negative, and passes the test at 1% significance level. It shows that the opening of the capital market can alleviate the financing constraints of enterprises to a certain extent, and provide more funds for enterprises by expanding the financing scope. In order to attract more foreign investors, the management will be forced by the performance pressure and the control of M&A risks, and will be more willing to diversify the capital investment, so as to reduce the loss of their work performance caused by the failure risk of M&A. In this way, the premium generated by M&A will be reduced.

In Table 4-12, As can be seen from the empirical results, the influence coefficient of financing constraints on M&A performance is negative and passes the test at 5% significance level; the influence coefficient of capital market opening on M&A performance is positive and passes the test at 1% significance level; the influence coefficient of capital market opening on financing constraints is negative and passes the test at 1% significance level. It shows that the opening of capital market can effectively alleviate financing constraints and significantly improve the performance of corporate M&A. Through M&A activities, enterprises can improve

the capital stock, expand the capital scale and improve the capital allocation, which has a positive impact on the improvement of M&A performance.

Table 4-10 Influences of Capital Market Opening on the Number of M&A Based on Financing Constraint Effect

	(1)	(2)	(3)
	MA	MA	SA
DID	0.030***	0.022***	0.046
	(0.004)	(0.004)	(0.002)
SA	0.015	0.017	
	(0.006)	(0.005)	
ln_size		0.068	1.172***
		(0.065)	(0.001)
ln_kl		0.005	0.002***
		(0.005)	(0.001)
ln_age		0.033	0.098
		(0.052)	(0.007)
ROA		0.071*	0.026
		(0.040)	(0.005)
FCF		0.076	0.020***
		(0.009)	(0.001)
Constant Term	0.063	1.259	21.026
	(0.103)	(1.178)	(0.029)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	22256	22256	22256
adj. R^2	0.113	0.129	0.993

*Note: ***, **, and * are significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

Table 4-11 Influence of Capital Market Opening on M&A Premium Based on Financing Constraint Effect

	(1)	(2)	(3)
	Prem	Prem	SA
did	0.148***	0.128***	0.047
	(0.015)	(0.011)	(0.008)
sa	0.029	0.027	
	(0.009)	(0.008)	

ln_size		0.745	1.162***
		(0.335)	(0.006)
ln_kl		0.007	0.007**
		(0.023)	(0.003)
ln_age		0.234	0.224
		(0.239)	(0.034)
ROA		0.306	0.008
		(0.301)	(0.045)
FCF		0.082	0.020***
		(0.044)	(0.006)
Constant Term	0.248	12.917**	20.608
	(0.554)	(6.015)	(0.173)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	1602	1602	1602
adj. R^2	0.129	0.183	0.990

*Note: ***, **, and * are significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

Table 4-12 The impact of Capital Market Opening on M&A Performance Based on Financing Constraint Effect

	(1)	(2)	(3)
	ROE	ROE	SA
did	0.005***	0.005***	0.046
	(0.001)	(0.001)	(0.002)
sa	0.003	0.013	
	(0.001)	(0.005)	
ln_size		0.019	1.172***
		(0.006)	(0.001)
ln_kl		0.000	0.002***
		(0.000)	(0.001)
ln_age		0.003	0.098
		(0.005)	(0.007)
ROA		0.045	0.026
		(0.005)	(0.005)
FCF		0.000	0.020***
		(0.001)	(0.001)
Constant Term	0.014*	0.364***	21.026
	(0.008)	(0.110)	(0.029)

Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	14476	14476	22256
adj. R^2	0.153	0.172	0.993

*Note: ***, **, and * are significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

4.2.3 Corporate Investment Structure

According to the intermediary effect model based on the effect of corporate investment structure established above, Table 4-13, 4-14 and 4-15 respectively report the influence of capital market opening based on the effect of corporate investment structure on the number, premium and performance of corporate M&A. In Table 4-13, it can be seen that the influence coefficient of enterprise investment structure on the number of corporate M&A is positive and passes the test at 1% significance level; the influence coefficient of capital market opening on the number of corporate M&A is positive and passes the test at 1% significance level; the influence coefficient of capital market opening on financing constraints is positive and passes the test at 1% significance level. It shows that the opening up of the capital market can guide the transformation of enterprise investment to the direction of the real economy and promote the M&A events of enterprises that are conducive to the development of the real economy.

In Table 4-14, As can be seen from the empirical results, the influence coefficient of enterprise investment structure on corporate M&A premium is negative and passes the test at 1% significance level; the influence coefficient of capital market opening on corporate M&A premium is positive and passes the test at 1% significance level; the influence coefficient of capital market opening on enterprise investment structure is positive and passes the test at 1% significance level. It shows that the opening up of the capital market can promote the development of corporate M&A to the real industry, and the management will pay more attention to the long-term interests of enterprises and alleviate the M&A premium.

In Table 4-15, As can be seen from the empirical results, the influence coefficient of enterprise investment structure on corporate M&A performance is negative and passes the test at 1% significance level; the influence coefficient of capital market opening on corporate M&A performance is positive and passes the test at 1% significance level; the influence coefficient of

capital market opening on enterprise investment structure is negative and passes the test at 1% significance level. It shows that the opening of the capital market can guide enterprises to carry out M&A that are conducive to the development of the real economy, improve the intensity of real investment, and play a positive role in the performance of M&A of enterprises. The implementation of the "Shanghai-Hong Kong Stock Connect" trading system helps to improve the level of real investment, guide the transfer of enterprise investment structure from financial asset investment to real investment direction, promote enterprises to choose real investment M&A events, and improve the performance of corporate M&A. The main reason is that the opening up of the capital market reduces the income gap between financial M&A investment and real investment, reduces the cost of enterprises choosing real investment M&A, effectively solves the state of enterprise investment structure "from real to virtual", so as to guide the economy "from virtual to real" and thus improve the performance of corporate M&A. Therefore, the opening up of capital market can promote corporate M&A by optimizing enterprise investment structure.

Table 4-13 The influence of Capital Market Opening on the Number of M&A Based on the Effect of Enterprise Investment Structure

	(1)	(2)	(3)
	MA	MA	EIM
DID	0.003***	0.007***	0.496***
	(0.001)	(0.001)	(0.112)
EIM	0.005**	0.005**	
	(0.002)	(0.002)	
ln_size		0.006	0.072
		(0.026)	(0.182)
ln_kl		0.022	0.120
		(0.015)	(0.104)
ln_age		0.143	0.685
		(0.152)	(1.070)
ROA		0.127	0.075
		(0.131)	(0.928)
FCF		0.066	0.154
		(0.024)	(0.173)

Constant Term	0.218	0.279	2.221
	(0.648)	(0.927)	(6.542)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	4655	4655	4655
adj. R^2	0.320	0.337	0.386

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

Table 4-14 Influence of Capital Market Opening on M&A Premium Based on Corporate Investment Structure Effect

	(1)	(2)	(3)
	Prem	Prem	EIM
DID	0.003***	0.093***	2.748***
	(0.001)	(0.004)	(0.101)
EIM	0.010	0.009	
	(0.001)	(0.001)	
ln_size		0.069	1.831
		(0.130)	(1.909)
ln_kl		0.076	0.086
		(0.073)	(1.080)
ln_age		0.675	5.418
		(0.544)	(8.024)
ROA		0.883	0.992
		(0.537)	(7.948)
FCF		0.043	1.547
		(0.132)	(1.939)
Constant Term	0.160	2.376	27.308
	(0.281)	(3.134)	(46.247)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	316	316	316
adj. R^2	0.173	0.197	0.143

*Note: ***, ** and * are significant at 1%, 5% and 10% levels respectively, and heteroscedasticity robust standard error is shown in brackets.*

Table 4-15 Influence of Capital Market Opening on M&A Performance Based on Corporate Investment Structure Effect

	(1)	(2)	(3)
	ROE	ROE	EIM
DID	0.007***	0.006***	0.496***
	(0.002)	(0.002)	(0.112)
EIM	0.004***	0.004***	
	(0.001)	(0.001)	
ln_size		0.003	0.072
		(0.001)	(0.182)
ln_kl		0.001	0.120
		(0.001)	(0.104)
ln_age		0.006	0.685
		(0.008)	(1.070)
ROA		0.043	0.075
		(0.009)	(0.928)
FCF		0.001	0.154
		(0.001)	(0.173)
Constant Term	0.008	0.091**	2.221
	(0.022)	(0.041)	(6.542)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	3064	3064	4655
adj. R^2	0.430	0.441	0.386

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

4.2.4 Endogenous and Robust Tests

1. Parallel Trend Test

In order to verify the robustness of the model, it is necessary to conduct parallel trend test on the differential model, mainly to verify whether there is a significant difference between the experimental group and the control group before and after the implementation of the Shanghai-Hong Kong Stock Connect policy. Only the experimental group can be used as the control group if it has similar characteristics with the experimental group. This paper mainly constructs a two-stage difference model to test the prior parallel trend. In this paper, empirical

analysis is carried out on the data of several periods before and after the implementation of the Shanghai-Hong Kong Stock Connect policy, and the parallel trend test model is constructed:

$$Y_{it} = \beta_0 + \sum_{k\geq -7}^{4} \beta_k D_{it}^k + \sum_j \beta_j X_{ijt} + u_i + \alpha_t + \lambda_{ind} + \varepsilon_{it} \quad (4\text{-}1)$$

D_{it}^k Represents the establishment of this policy event in the pilot year of the Shanghai-Hong Kong Stock Connect. Its assigning rules are as follows: denotes the specific year of the establishment of the pilot city of the Shanghai-Hong Kong Stock Connect; if, it is defined; otherwise, the previous period of the year of the establishment of the pilot year of the Shanghai-Hong Kong Stock Connect is taken as the benchmark year in this paper. s_i $(t - s_i) = k$

$D_{it}^k = 1$ $D_{it}^k = 0$

Table 4-16 reports the parallel trend test results of the influences of capital market opening on financing constraints, external governance and the intermediary effect of enterprise investment structure before and after the implementation of the Shanghai-Hong Kong Stock Connect policy. d1, d2, d3 and d4 respectively represent after the implementation of the Shanghai-Hong Kong Stock Connect policy, while d_2, d_3, d_4, d_5, d_6 and d_7 represent before the implementation of the Shanghai-Hong Kong Stock Connect policy. It is found that before the implementation of the Shanghai-Hong Kong Stock Connect policy, the impact of capital market opening on financing constraints, external governance and corporate investment structure is not significant, but after the implementation of the Shanghai-Hong Kong Stock Connect policy, the coefficients of financing constraints, external governance and corporate investment structure show significance at different levels. It indicates that the influences of financing constraints, external governance and corporate investment structure before the implementation of the Shanghai-Hong Kong Stock Connect policy accord with the parallel trend, which verifies the stability of the model.

Table 4-16 Parallel Trend Test of the Mediating Effect

	(1)	(2)	(3)	(4)	(5)	(6)
	SA	SA	HHI	HHI	EIM	EIM
d4	0.054***	0.066***	0.006**	0.027*	0.181***	4.123***
	(0.004)	(0.018)	(0.002)	(0.015)	(0.006)	(0.088)

d3	0.044***	0.046	0.004*	0.025*	0.273***	2.901***
	(0.004)	(0.016)	(0.002)	(0.014)	(0.013)	(0.586)
d2	0.034***	0.026***	0.004*	0.037***	0.771***	9.308***
	(0.004)	(0.006)	(0.002)	(0.013)	(0.107)	(3.427)
d1	0.022***	0.008***	0.005*	0.023**	0.164***	4.344***
	(0.004)	(0.014)	(0.002)	(0.012)	(0.018)	(0.084)
current	0.008	0.007	0.001	0.013	0.434***	2.989
	(0.004)	(0.015)	(0.002)	(0.013)	(0.103)	(2.915)
d_2	0.005	0.019	0.002	0.036	0.265	4.728
	(0.004)	(0.017)	(0.002)	(0.215)	(0.510)	(4.199)
d_3	0.010	0.016	0.002	0.227	0.374	3.658
	(0.004)	(0.019)	(0.003)	(0.216)	(0.538)	(4.135)
d_4	0.019	0.057	0.004	0.019	0.112	6.496
	(0.014)	(0.121)	(0.003)	(0.017)	(0.549)	(6.417)
d_5	0.022	0.078	0.001	0.021	0.086	3.341
	(0.024)	(0.125)	(0.003)	(0.021)	(0.555)	(10.149)
d_6	0.022	0.091	0.004	0.026	0.162	5.589
	(0.024)	(0.125)	(0.003)	(0.021)	(0.589)	(10.129)
d_7	0.019	0.068	0.003	0.032	0.087	9.110
	(0.024)	(0.126)	(0.003)	(0.022)	(0.625)	(9.117)
ln_size	1.171***	1.162***	0.006	0.008	0.083	2.050
	(0.001)	(0.006)	(0.001)	(0.005)	(0.185)	(2.086)
ln_kl	0.003***	0.006*	0.003***	0.005	0.118	0.190
	(0.001)	(0.003)	(0.000)	(0.003)	(0.105)	(1.253)
ln_age	0.096	0.205	0.027	0.037	0.673	0.863
	(0.007)	(0.034)	(0.004)	(0.029)	(1.075)	(9.187)
ROA	0.028	0.036	0.015***	0.098***	0.112	0.363
	(0.005)	(0.045)	(0.003)	(0.037)	(0.931)	(8.806)
FCF	0.019***	0.020***	0.001	0.009	0.156	1.572
	(0.001)	(0.006)	(0.001)	(0.005)	(0.174)	(2.229)
Constant Term	21.010	20.624	0.244***	0.471***	2.393	37.429
	(0.029)	(0.173)	(0.018)	(0.145)	(6.612)	(50.706)
Individual Fixation Effect	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
N	22256	1602	22256	1602	4655	316
adj. R2	0.993	0.990	0.111	0.134	0.388	0.366

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

2. Placebo Test

In the same way as the placebo test above. Figure 4-1, 4-2 and 4-3 respectively show the results of the placebo test on the impact of capital market opening on M&A premium, M&A quantity and M&A performance of the differential model. It can be found that the coefficient estimation of the pseudo-Shanghai-Hong Kong Stock Connect policy is generally near 0, and the estimated coefficient in this paper is significantly far away from the 0 line. The robustness of the conclusion is verified.

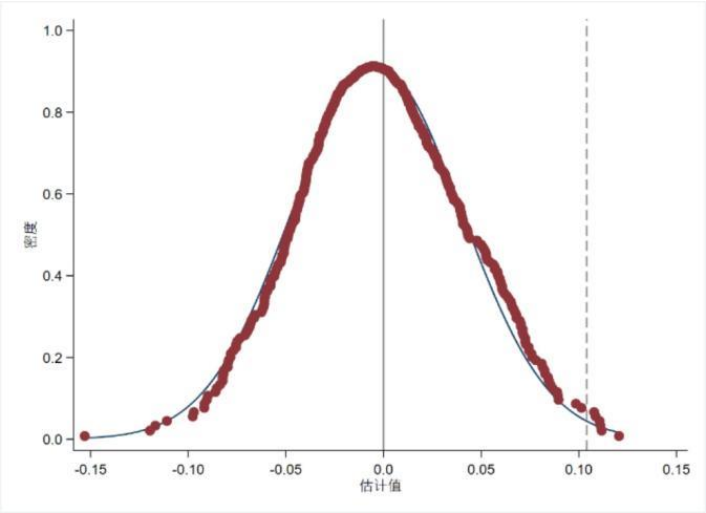

Figure 4-6 Placebo Test of the impact of Capital Market Opening on M&A Premium

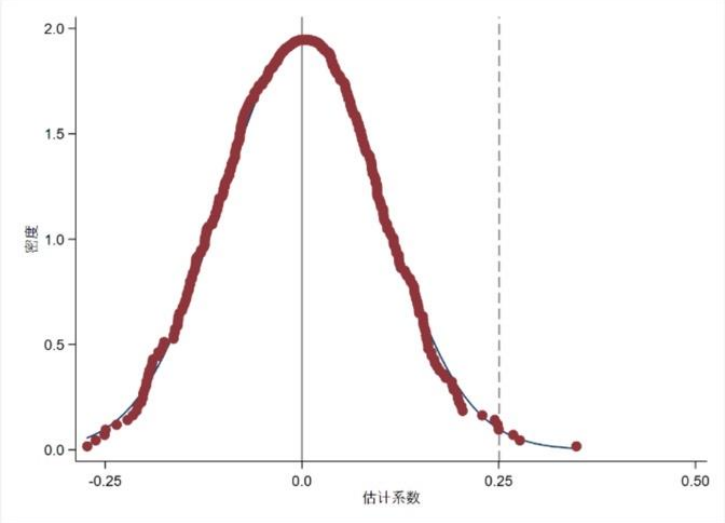

Figure 4-7 Placebo Test of the Impact of Capital Market Opening on the Number of M&A

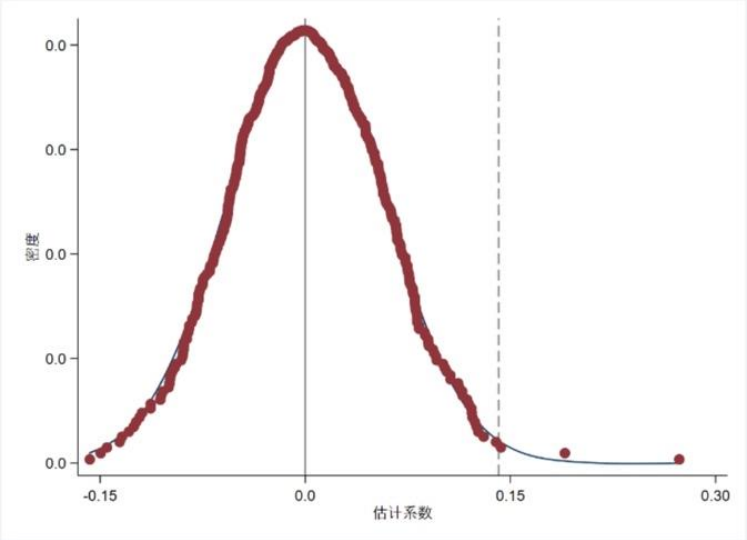

Figure 4-8 Placebo Test of the Impact of Capital Market Opening on M&A Performance

3. Endogeneity Test

In this part, PSM-DID model is used to test the impact of capital market opening on the number of M&A, M&A premium and M&A performance. This model can effectively solve the endogeneity problem. First, it is necessary to match data samples to effectively reduce sample selection bias.

(1) The mediating effect of external governance on the number of M&A

Table 4-17 reports the regression results of the influence of capital market opening on the number of M&A through external governance. The coefficient of influence of external governance on the number of M&A is positive, the coefficient of influence of capital market opening on the number of M&A is positive, and the coefficient of influence of capital market opening on external governance is positive. All of them pass the test at the significance level of 1%, which is consistent with the regression results of the above benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-17 The Mediating Effect of External Governance on the Number of M&A

	(1)	(2)	(3)
	MA	MA	HHI
DID	0.010***	0.008***	0.008***
	(0.001)	(0.001)	(0.002)
HHI	0.037***	0.036***	
	(0.011)	(0.010)	
ln_size		0.009	0.003
		(0.013)	(0.001)
ln_kl		0.017	0.002***
		(0.008)	(0.001)
ln_age		0.219	0.044
		(0.110)	(0.008)
ROA		0.013	0.005
		(0.071)	(0.005)
FCF		0.051	0.000
		(0.015)	(0.001)
Constant Term	0.126	0.416	0.212***
	(0.138)	(0.401)	(0.030)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	8119	8119	8119
adj. *R*2	0.129	0.186	0.134

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

(2) The Mediating Effect of External Governance in M&A Premium

Table 4-18 reports the regression results of the influence of capital market opening on M&A premium through external governance. The influence coefficient of external governance on M&A premium is negative, the influence coefficient of capital market opening on M&A premium is positive, and the influence coefficient of capital market opening on external governance is positive. All of them pass the test at the significance level of 1%, which is consistent with the regression results of the above benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-18 The Mediating Effect of External Governance in M&A Premium

	(1)	(2)	(3)
	Prem	Prem	HHI
DID	0.098***	0.115***	0.006***
	(0.021)	(0.011)	(0.002)
HHI	0.225	0.102	
	(0.017)	(0.027)	
ln_size		0.092	0.015
		(0.045)	(0.006)
ln_kl		0.009	0.008
		(0.023)	(0.003)
ln_age		0.110	0.005
		(0.242)	(0.032)
ROA		0.113	0.033
		(0.330)	(0.043)
FCF		0.061	0.013
		(0.043)	(0.006)
Constant Term	0.341	1.332	0.580***
	(0.441)	(1.187)	(0.152)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	1320	1320	1320
adj. *R*2	0.102	0.122	0.149

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

(3) The Mediating Effect of External Governance in M&A Performance

Table 4-19 reports the regression results of the influence of capital market opening on M&A performance through external governance. The coefficient of influence of external governance on M&A performance is positive, the coefficient of influence of capital market opening on M&A performance is positive, and the coefficient of influence of capital market opening on external governance is positive. All of them pass the test at the significance level of 1%, which is consistent with the regression results of the above benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-19 The Mediating Effect of External Governance on M&A Performance

	(1)	(2)	(3)
	ROE	ROE	HHI
DID	0.011***	0.009***	0.008***
	(0.001)	(0.001)	(0.002)
HHI	0.013***	0.012***	
	(0.002)	(0.002)	
ln_size		0.004	0.003
		(0.001)	(0.001)
ln_kl		0.000	0.002***
		(0.000)	(0.001)
ln_age		0.010*	0.044
		(0.006)	(0.008)
ROA		0.046	0.005
		(0.005)	(0.005)
FCF		0.007	0.000
		(0.001)	(0.001)
Constant Term	0.002	0.052**	0.212***
	(0.007)	(0.022)	(0.030)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	6053	6053	8119
adj. *R*2	0.110	0.178	0.134

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

4. The Mediating Effect of Financing Constraints

(1) The mediating effect of financing constraints on the number of M&A

Table 4-20 reports the regression results of the influence of capital market opening on the number of M&A through financing constraints. The influence coefficient of financing constraint on the number of M&A is negative, the influence coefficient of capital market opening on the number of M&A is positive, and the influence coefficient of capital market opening on financing constraint is negative. All of them pass the test at the significance level of 1%, which is consistent with the regression results of the above benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-20 The Mediating Effect of Financing Constraints on the Number of M&A

	(1)	(2)	(3)
	MA	MA	SA
DID	0.013***	0.008***	0.017***
	(0.002)	(0.001)	(0.003)
SA	0.011***	0.006***	
	(0.001)	(0.002)	
ln_size		0.002	1.198***
		(0.105)	(0.002)
ln_kl		0.017	0.002
		(0.008)	(0.001)
ln_age		0.217	0.094
		(0.110)	(0.015)
ROA		0.013	0.058
		(0.071)	(0.009)
FCF		0.051	0.019***
		(0.015)	(0.002)
Constant Term	0.183	0.532	21.545
	(0.146)	(1.915)	(0.054)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	8119	8119	8119
adj. *R*2	0.129	0.186	0.994

*Note: ***, **, and * are significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

(2) The Mediating Effect of Financing Constraints in M&A Premium

Table 4-21 reports the regression results of the influence of capital market opening on M&A premium through financing constraints. The influence coefficient of financing constraint on M&A premium is negative, the influence coefficient of capital market opening on M&A premium is positive, and the influence coefficient of capital market opening on financing constraint is negative. All of them pass the test at the significance level of 1%, which is consistent with the above regression results of the benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-21 The Mediating Effect of Financing Constraints on M&A Premium

	(1)	(2)	(3)
	Prem	Prem	SA
DID	0.112***	0.115***	0.056***
	(0.007)	(0.021)	(0.010)
SA	0.059***	0.012***	
	(0.011)	(0.002)	
ln_size		0.107***	1.148***
		(0.341)	(0.008)
ln_kl		0.008***	0.012***
		(0.024)	(0.004)
ln_age		0.113	0.255
		(0.254) ***	(0.042)
ROA		0.116	0.008
		(0.329)	(0.057)
FCF		0.063***	0.020***
		(0.043)	(0.007)
Constant Term	0.075	1.637	20.320
	(0.458)	(6.090)	(0.200)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	1320	1320	1320
adj. *R*2	0.103	0.122	0.988

*Note: ***, **, and * are significant at 1%, 5%, and 10% levels respectively, with heteroscedasticity robust standard error in parentheses.*

(3) The Mediating Effect of Financing Constraints on M&A Performance

Table 4-22 reports the regression results of the impact of capital market opening on M&A performance through financing constraints. The coefficient of influence of financing constraints on M&A performance is negative, the coefficient of influence of capital market opening on M&A performance is positive, and the coefficient of influence of capital market opening on financing constraints is negative. All of them pass the test at the significance level of 1%, which is consistent with the regression results of the above benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-22 The Mediating Effect of Financing Constraints on M&A Performance

	(1)	(2)	(3)
	ROE	ROE	SA
DID	0.012***	0.008***	-0.017***
	(0.001)	(0.001)	(0.003)
SA	-0.004***	-0.003***	
	(0.001)	(0.001)	
ln_size		-0.007	1.198***
		(0.006)	(0.002)
ln_kl		0.000***	0.002
		(0.000)	(0.001)
ln_age		0.010	0.094
		(0.006)	(0.015)
ROA		-0.046***	0.058***
		(0.005)	(0.009)
FCF		0.007	0.019***
		(0.001)	(0.002)
Constant Term	0.008***	0.122***	21.545***
	(0.007)	(0.114)	(0.054)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	6053	6053	8119
adj. *R*2	0.109	0.179	0.994

*Note: ***, ** and * are significant at 1%, 5% and 10% levels respectively, and heteroscedasticity robust standard error is shown in brackets.*

5. Mediating Effect of Investment Structure

(1) The mediating effect of investment structure in the number of M&A

Table 4-23 reports the regression results of the influence of capital market opening on the number of M&A through investment structure. The coefficient of influence of investment structure on the number of M&A is positive, the coefficient of influence of capital market opening on the number of M&A is positive, and the coefficient of influence of capital market opening on the investment structure is positive. All of them pass the test at the significance level of 1%, which is consistent with the regression results of the above benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-23 Mediating Effect of Investment Structure on the Number of M&A

	(1)	(2)	(3)
	MA	MA	EIM
DID	0.049***	0.064***	0.156***
	(0.002)	(0.003)	(0.051)
EIM	0.007**	0.007**	
	(0.003)	(0.003)	
ln_size		0.036	0.176
		(0.044)	(0.313)
ln_kl		0.034	0.196
		(0.020)	(0.144)
ln_age		0.336	0.900
		(0.329)	(2.356)
ROA		0.300	1.230
		(0.294)	(2.104)
FCF		0.042	0.340
		(0.046)	(0.331)
Constant Term	0.365	2.428*	2.402
	(0.658)	(1.421)	(10.179)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	2125	2125	2125
adj. *R*2	0.195	0.194	0.288

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

(2) The Mediating Effect of Investment Structure in M&A Performance

Table 4-24 reports the regression results of the influence of capital market opening on M&A performance through investment structure. The coefficient of influence of investment structure on M&A performance is positive, the coefficient of influence of capital market opening on M&A performance is positive, and the coefficient of influence of capital market opening on investment structure is positive. All of them pass the test at the significance level of 1%, which is consistent with the regression results of the above benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-24 The Mediating Effect of Investment Structure on M&A Performance

	(1)	(2)	(3)
	ROE	ROE	EIM
DID	0.003***	0.004***	0.156***
	(0.001)	(0.001	(0.051)
EIM	0.003***	0.004***	
	(0.001	(0.001	
ln_size		0.007	0.176
		(0.002)	(0.313)
ln_kl		0.001	0.196
		(0.001)	(0.144)
ln_age		0.010	0.900
		(0.017)	(2.356)
ROA		0.043	1.230
		(0.015)	(2.104)
FCF		0.000	0.340
		(0.002)	(0.331)
Constant Term	0.000	0.118*	2.402
	(0.025)	(0.068)	(10.179)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	1573	1573	2125
adj. *R*2	0.344	0.364	0.288

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

(3) The Mediating Effect of Investment Structure in M&A Premium

Table 4-25 reports the regression results of the influence of capital market opening on M&A premium through investment structure. The coefficient of influence of investment structure on M&A premium is negative, the coefficient of influence of capital market opening on M&A premium is positive, and the coefficient of influence of capital market opening on investment structure is positive. All of them pass the test at the significance level of 1%, which is consistent with the regression results of the above benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-25 Mediating Effect of Investment Structure on M&A Premium

	(1)	(2)	(3)
	Prem	Prem	EIM
DID	0.008***	0.075***	4.993***
	(0.002)	(0.002)	(0.1747)
EIM	-0.009***	-0.007***	
	(0.001)	(0.001)	
ln_size		0.020	0.409
		(0.144)	(2.510)
ln_kl		0.203	0.373
		(0.090)	(1.579)
ln_age		0.734	17.536
		(0.818)	(14.011)
ROA		1.391	2.130
		(0.825)	(14.423)
FCF		0.045	1.861
		(0.151)	(2.624)
Constant Term	0.273	0.736	33.087
	(0.283)	(4.090)	(71.278)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	258	258	258
adj. *R*2	0.173	0.263	0.186

*Note: ***, **, and * are significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

4.3 A Countermeasure Analysis of the Influence of Capital Market Opening on M&A

4.3.1 The Countermeasure Analysis Based on the Government Level

Table 4-26 reports the regression results of the effect of capital market opening on M&A quantity, M&A premium and M&A performance under the moderating effect of business environment as a substitute variable at the government level. Column (1) shows the regression results of the interaction terms of capital market opening and business environment on the number of M&A. The influence coefficients of capital market opening and business environment are significantly positive, and the influence coefficients of capital market opening

and business environment interaction are significantly positive, and pass the test at the significance level of 1% and 5% respectively. Column (2) shows the regression results of the interaction terms of capital market opening and business environment on corporate M&A premium. The influence coefficients of capital market opening and business environment interaction terms are significantly positive, and pass the test at the significance level of 1% respectively. Column (3) shows the regression results of the interaction terms of capital market opening and business environment on M&A performance. The influence coefficients of capital market opening, and business environment interaction terms are significantly positive, and pass the test at 1% significance level respectively. It shows that the business environment plays a significant positive moderating role in the capital market opening and the number of M&A, the premium of M&A and the performance of M&A. The higher the business environment index of the place where an enterprise is located, the stronger the positive effect of capital market opening on M&A.

Table 4-26 Moderating Effects of Government Level on Capital Market Opening and M&A

	(1)	(2)	(3)
	MA	Prem	ROE
DID	0.090***	0.101***	0.008***
	(0.003)	(0.016)	(0.002)
Market_Index	0.002**	0.019***	0.003***
	(0.001)	(0.002)	(0.001)
c.DID#c.Market_Index	0.008***	0.003***	0.003***
	(0.002)	(0.025)	(0.001)
ln_size	0.001	0.065	0.004
	(0.007)	(0.042)	(0.001)
ln_kl	0.005	0.003	0.000
	(0.005)	(0.023)	(0.000)
ln_age	0.040	0.102	0.004
	(0.052)	(0.232)	(0.005)
roa	0.072*	0.301	0.046
	(0.040)	(0.302)	(0.005)
fcf	0.077	0.070	0.000
	(0.009)	(0.044)	(0.001)
Constant Term	0.081	0.693	0.101***
	(0.230)	(1.187)	(0.020)

Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	22256	1602	14476
adj. R^2	0.129	0.137	0.173

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

4.3.2 Analysis of Countermeasures Based on Social Level

Table 4-27 reports the regression results of the effects of capital market opening on the number of M&A, M&A premium and M&A performance under the moderating effect of media attention as a substitute variable at the social level. Column (1) shows the regression results of the interaction term of capital market opening and media attention on the number of M&A. The influence coefficient of capital market opening and media attention is significantly positive, and the influence coefficient of capital market opening and media attention interaction term is significantly positive, respectively passing the test at the significance level of 1%. Column (2) shows the regression result of the interaction term of capital market opening and media attention on M&A premium. The influence coefficient of capital market opening and media attention is significantly positive, and the influence coefficient of capital market opening and media attention interaction term passes the test at the significance level of 1% respectively. Column (3) shows the regression result of the interaction term of capital market opening and media attention on M&A performance. The influence coefficient of capital market opening and media attention is significantly positive, and the influence coefficient of capital market opening and media attention interaction term is significantly positive, respectively passing the test at 1% significance level. It shows that the media attention plays a significant positive moderating role in the capital market opening and the number of M&A, the premium of M&A and the performance of M&A. The higher the media attention an enterprise receives, the stronger the positive effect of capital market opening on M&A.

Table 4-27 Moderating Effect of Social Level on Capital Market Opening and M&A

	(1)	(2)	(3)
	MA	Prem	ROE
DID	0.028***	0.146***	0.005**
	(0.006)	(0.021)	(0.002)
Attention	0.001***	0.004***	0.003***
	(0.000)	(0.001)	(0.000)
c.DID#c.Attention	0.003***	0.002**	0.001***
	(0.001)	(0.001)	(0.000)
ln_size	0.019	0.052	0.005
	(0.012)	(0.049)	(0.001)
ln_kl	0.000	0.008	0.001
	(0.007)	(0.026)	(0.001)
ln_age	0.080	0.116	0.006
	(0.068)	(0.267)	(0.005)
ROA	0.258***	0.377	0.079
	(0.082)	(0.404)	(0.007)
FCF	0.132	0.069	0.001
	(0.014)	(0.049)	(0.001)
Constant Term	0.138	1.131	0.143***
	(0.321)	(1.215)	(0.025)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	16611	1376	11062
adj. R^2	0.166	0.138	0.220

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

4.3.3 Game Score Based on Firm Level

1. Enterprise Capital Structure

Table 4-28 reports the regression results of capital market opening on the number of M&A, M&A premium and M&A performance under the adjustment effect of capital structure as a substitute variable at the firm level. Column (1) shows the regression results of the interaction between capital market opening and corporate capital structure on the number of corporate M&A. The impact coefficient of capital market opening is significantly positive, the impact coefficient of corporate capital structure is significantly negative, and the capital market The

influence coefficient of the interaction term of openness and corporate capital structure is significantly negative, and each passes the test at a significance level of 1%. Column (2) shows the regression results of the interaction between capital market opening and corporate capital structure on corporate M&A premiums. The impact coefficient of capital market opening is significantly positive, and the impact coefficient of corporate capital structure is significantly positive. The influence coefficient of the interaction term of openness and corporate capital structure is significantly positive, and each passes the test at the 1% significance level. Column (3) shows the regression results of the interaction between capital market opening and corporate capital structure on corporate M&A performance. The impact coefficient of capital market opening is significantly positive, and the impact coefficient of corporate capital structure is significantly negative. The influence coefficient of the interaction term of openness and corporate capital structure is significantly negative, and each passes the test at the 1% significance level. It shows that the capital structure of enterprises plays a significant negative moderating role in the opening of the capital market, the number of M&A and the performance of M&A of enterprises. To increase the premium of corporate M&A, the higher the capital structure of enterprises, that is, the higher the level of asset-liability ratio, the lower the capital market will be. The role of opening up in promoting corporate M&A reduces the performance of corporate M&A.

Table 4-28 Moderating Effect of Enterprise Asset Structure on Capital Market Opening and M&A

	(1)	(2)	(3)
	MA	Prem	ROE
DID	0.007***	0.206***	0.002**
	(0.002)	(0.040)	(0.001)
Structure	-0.070**	0.200***	-0.002**
	(0.031)	(0.027)	(0.001)
c.DID#c.Structure	-0.033***	0.213***	0.005***
	(0.011)	(0.018)	(0.001)
ln_size	-0.002	-0.069**	-0.004***
	(0.008)	(0.042)	(0.001)
ln_kl	0.005**	0.005	0.000
	(0.005)	(0.023)	(0.000)
ln_age	0.028	0.109	0.004
	(0.052)	(0.231)	(0.005)

ROA	0.104**	0.381	0.047**
	(0.042)	(0.306)	(0.005)
FCF	-0.075**	0.062	0.000
	(0.009)	(0.044)	(0.001)
Constant Term	0.001	0.886	0.091***
	(0.221)	(1.164)	(0.020)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	22256	1602	14476
adj. *R*2	0.128	0.191	0.173

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

2. Management Short-Termism

Table 4-29 reports the regression results of managerial short-termism as a substitute variable at the firm level. Under the moderating effect of managerial short-termism, the capital market opening affects the number of M&A, M&A premium and M&A performance. Column (1) shows the regression results of the interaction between capital market opening and management myopia on the number of M&As. The influence coefficient of capital market opening is significantly positive, while the influence coefficient of management myopia is significantly negative. The influence coefficient of the interaction term of capital market openness and management myopia is significantly negative, and each passes the test at a significance level of 1%. Column (2) shows the regression results of the interaction between capital market openness and management myopia on corporate M&A premiums. The influence coefficient of capital market openness is significantly positive, while the influence coefficient of management myopia is significantly negative. The influence coefficient of the interaction term of capital market openness and management myopia is significantly positive and negative, and each passes the test at the 1% significance level. Column (3) shows the regression results of the interaction between capital market openness and management myopia on corporate M&A performance. The impact coefficient of capital market openness is significantly positive, while the impact coefficient of management myopia is significantly negative. The influence coefficient of the interaction term of capital market openness and management myopia is significantly negative, and both pass the test at the 1% significance level. It shows that

management myopia plays a significant negative moderating role in capital market opening, the number of corporate M&A, and corporate M&A performance, and plays a positive moderating role in the relationship between capital market opening and corporate M&A premium. The higher the level of management myopia, Management pays more attention to short-term interests and conducts short-term investment activities, which weakens the role of capital market opening in promoting corporate M&A. At the same time, increasing the M&A premium will have an unreasonable impact on the performance of M&A.

Table 4-29 Moderating Effects of Managerial Short-Termism on Capital Market Opening and M&A

	(1)	(2)	(3)
	MA	Prem	ROE
DID	0.005***	0.084***	0.006***
	(0.001)	(0.022)	(0.002)
Myopia	-0.014***	0.151***	-0.004***
	(0.002)	(0.025)	(0.001)
c.DID#c.Myopia	-0.195***	0.148***	-0.007***
	(0.031)	(0.018)	(0.002)
ln_size	0.001	0.061	-0.004***
	(0.007)	(0.042)	(0.001)
ln_kl	0.005	0.002	0.000
	(0.005)	(0.023)	(0.000)
ln_age	0.038	0.114	0.005
	(0.052)	(0.231)	(0.005)
ROA	0.072*	0.277	-0.046***
	(0.040)	(0.303)	(0.005)
FCF	-0.077***	0.066	0.000
	(0.009)	(0.044)	(0.001)
Constant Term	0.062	0.762	0.093***
	(0.219)	(1.164)	(0.020)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	22256	1602	14476
adj. *R*2	0.129	0.103	0.173

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

3. Corporate Risk Bearing Capacity

Table 4-30 reports the regression results of capital market opening on the number of M&A, M&A premium and M&A performance under the moderating effect of firm risk bearing capacity as a surrogate variable at the firm level. Column (1) shows the regression result of the interaction term of capital market opening and firm's risk bearing capacity on the number of M&A. The influence coefficient of capital market opening is significantly positive, the influence coefficient of firm's risk bearing capacity is significantly positive, and the influence coefficient of capital market opening and firm's risk bearing capacity is significantly positive, respectively passing the test at the significance level of 1%. Column (2) shows the regression result of the interaction term of capital market opening and firm's risk bearing capacity on M&A premium. The influence coefficient of capital market opening is significantly positive, the influence coefficient of firm's risk bearing capacity is significantly positive, the influence coefficient of capital market opening and firm's risk bearing capacity interaction term is significantly positive and passes the test at 1% significance level respectively. Column (3) shows the regression result of the interaction term of capital market opening and firm's risk bearing capacity on M&A performance. The influence coefficient of capital market opening is significantly positive, the influence coefficient of firm's risk bearing capacity is significantly positive, the influence coefficient of capital market opening and firm's risk bearing capacity interaction term is significantly positive and passes the test at 1% significance level respectively. It shows that the enterprise risk bearing capacity plays a significant positive moderating role in the capital market opening and the number of M&A, the premium of M&A and the performance of M&A. The higher the enterprise risk bearing capacity, the stronger the ability to resist external risks and uncertainties, which can further promote the positive effect of capital market opening on M&A.

Table 4-30 Moderating Effect of Enterprise Risk Bearing Capacity on Capital Market Opening and M&A

	(1)	(2)	(3)
	MA	Prem	ROE
DID	0.013***	0.146**	0.003***
	(0.002)	(0.072)	(0.001)
Risk1	0.127***	1.011***	0.015***
	(0.023)	(0.032)	(0.001)

c. DID #c.Risk1	0.492***	2.128***	0.093***
	(0.126)	(0.467)	(0.021)
ln_size	0.002	0.073	0.004
	(0.008)	(0.042)	(0.001)
ln_kl	0.005	0.007	0.000
	(0.005)	(0.023)	(0.000)
ln_age	0.036	0.094	0.004
	(0.052)	(0.231)	(0.005)
ROA	0.086**	0.197	0.046
	(0.043)	(0.308)	(0.005)
FCF	0.077	0.075	0.000
	(0.009)	(0.044)	(0.001)
Constant Term	0.076	1.183	0.093***
	(0.221)	(1.184)	(0.020)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	22256	1602	14476
adj. *R*2	0.129	0.194	0.173

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

4.3.4 Endogenous and Robust Tests

1. Parallel Trend Test

Continue to build a parallel trend test model to verify the robustness of the model. Table 4-31 respectively reports the influences of the number of M&A, the premium of M&A and the performance of M&A in several periods before and after the implementation of the Shanghai-Hong Kong Stock Connect policy. The moderating variables selected in this chapter at the government level, the social level and the enterprise level are introduced as covariables. d1, d2, d3 and d4 respectively represent that after the implementation of the Shanghai-Hong Kong Stock Connect policy, d_2, d_3, d_4, d_5, d_6 and d_7 represent before the implementation of the Shanghai-Hong Kong Stock Connect. It is found that before the implementation of the Stock Connect policy, the influence on the number of M&A, the premium of M&A and the performance of M&A is not significant, but after the implementation of the Stock Connect policy, the number of M&A, the premium of M&A and the performance

of M&A show significant at different levels. Indicating that the influences of the number of M&A, the premium of M&A and the performance of M&A before the implementation of the Shanghai-Hong Kong Stock Connect policy accord with the parallel trend, which verifies the stability of the model.

Table 4-31 Tests of Parallel Trends

	(1)	(2)	(3)
	MA	ROE	Prem
d4	0.024***	0.000***	0.043***
	(0.008)	(.000)	(0.011)
d3	0.005***	0.000***	0.021***
	(0.001)	(.000)	(0.003)
d2	0.007***	0.003***	0.152***
	(0.036)	(0.001)	(0.023)
d1	0.025***	0.006***	0.164***
	(0.036)	(0.002)	(0.003)
current	0.020	0.001	0.044
	(0.036)	(0.002)	(0.121)
d_2	0.052	0.001	0.062
	(0.037)	(0.002)	(0.135)
d_3	0.085	0.001	0.069
	(0.099)	(0.002)	(0.151)
d_4	0.044	0.001	0.145
	(0.040)	(0.002)	(0.166)
d_5	0.046	0.002	0.177
	(0.041)	(0.002)	(0.220)
d_6	0.013	0.001	0.080
	(0.044)	(0.002)	(0.205)
d_7	0.001	0.001	0.170
	(0.048)	(0.003)	(0.223)
Market_Index	0.001	0.001	0.008
	(0.011)	(0.001)	(0.041)
Attention	0.001***	0.000	0.000
	(0.000)	(0.000)	(0.001)
Structure	0.115***	0.003	0.306**
	(0.044)	(0.003)	(0.156)
Myopia	0.009	0.000	0.144
	(0.054)	(0.003)	(0.203)
Risk1	0.115	0.021	0.943

	(0.181)	(0.013)	(0.729)
Control Variable	Yes	Yes	Yes
_cons	0.263	0.148***	1.342
	(0.342)	(0.026)	(1.318)
Year(dummy)	Yes	Yes	Yes
Ind(dummy)	Yes	Yes	Yes
N	16611	11062	1376
adj. *R2*	0.166	0.220	0.139

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

2. Placebo Test

FIG. 7-1, 7-2 and 7-3 respectively show the results of the placebo test on the impact of capital market opening on M&A premium, M&A quantity and M&A performance of the differential model. It can be found that the coefficient estimation of the pseudo-Shanghai-Hong Kong Stock Connect policy is generally near 0, and the estimated coefficient in this paper is significantly far from the 0 line. The robustness of the conclusion is verified.

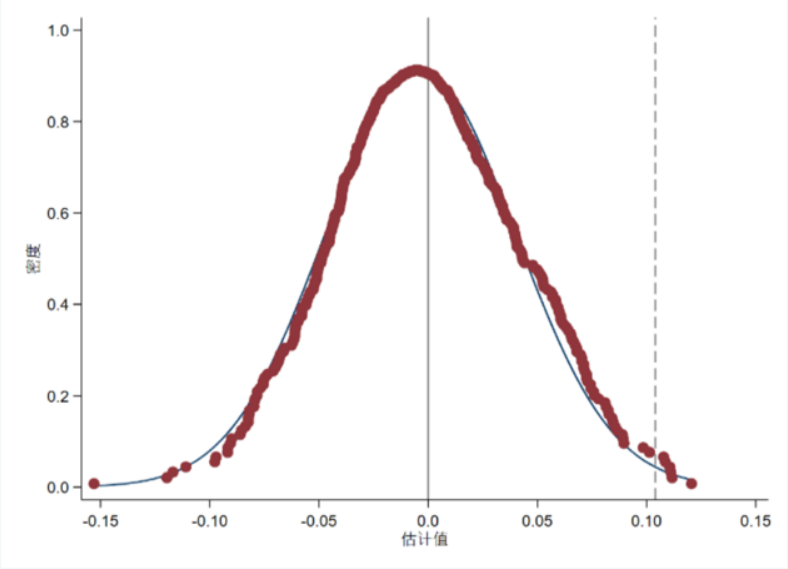

Figure 4-9 Placebo Test of the Impact of Capital Market Opening on M&A Premium

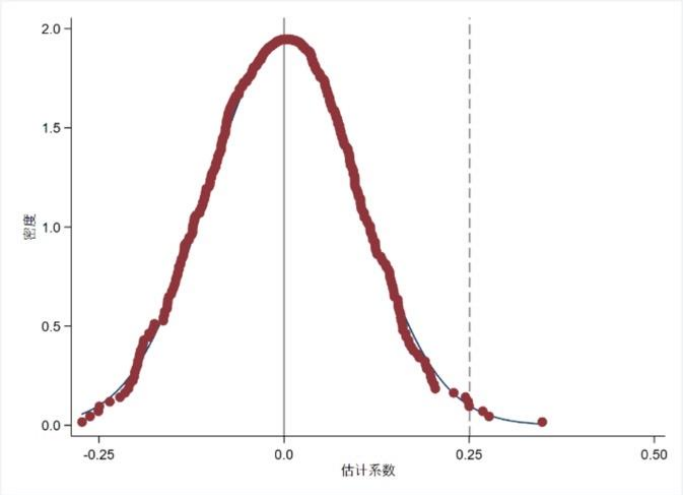

Figure 4-10 Placebo Test of the Impact of Capital Market Opening on the Number of M&A

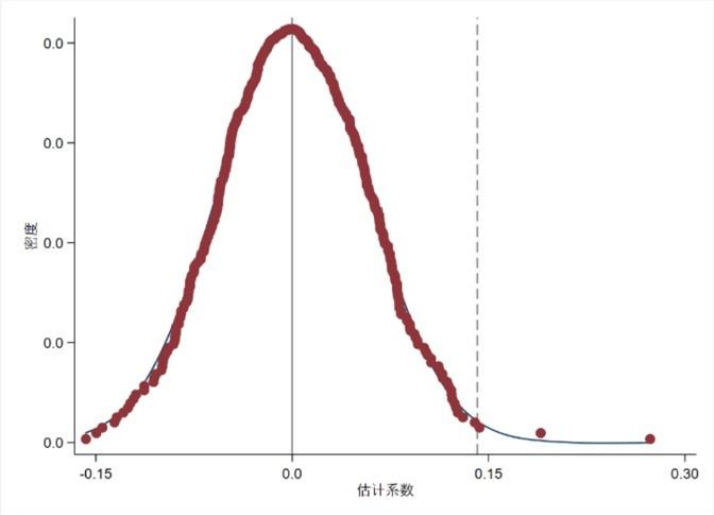

Figure 4-11 Placebo Test of the Impact of Capital Market Opening on M&A Performance

3. Endogeneity Test

(1) Government Level

Table 4-32 reports the moderating effect of business environment on capital market opening and M&A quantity, M&A premium and M&A performance at the government level. The influence coefficient of capital market opening is significantly positive, the influence coefficient of business environment is significantly positive, and the influence coefficient of the interaction term between capital market opening and business environment is significantly positive, which is consistent with the regression results of the above benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-32 Moderating Effects of Business Environment on Capital Market Opening and M&A

	(1)	(2)	(3)
	MA	Prem	ROE
DID	0.036***	0.175***	0.016***
	(0.006)	(0.013)	(0.004)
Market_Index	0.014***	0.083**	0.001***
	(0.002)	(0.040)	(0.000)
c.DID#c.Market_Index	0.004***	0.035***	0.002***
	(0.001)	(0.007)	(0.000)
ln_size	0.008	0.094	0.004
	(0.013)	(0.045)	(0.001)
ln_kl	0.017	0.009	0.000
	(0.008)	(0.023)	(0.000)
ln_age	0.215	0.094	0.009
	(0.110)	(0.242)	(0.006)
ROA	0.014	0.175	0.046
	(0.071)	(0.329)	(0.005)
FCF	0.050	0.060	0.007
	(0.015)	(0.042)	(0.001)
Constant Term	0.284	0.639	0.065***
	(0.411)	(1.217)	(0.023)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	8119	1320	6053
adj. *R*2	0.186	0.171	0.175

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

(2) Social Level

Table 4-33 reports the moderating effect of media attention on capital market opening and M&A quantity, M&A premium and M&A performance at the social level. The influence coefficient of capital market opening is significantly positive, the influence coefficient of media attention is significantly positive, and the influence coefficient of the interaction term between capital market opening and media attention is significantly positive, which is consistent with the regression results of the above benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-33 Moderating Effects of Media Attention on Capital Market Opening and M&A

	(1)	(2)	(3)
	MA	Prem	ROE
DID	0.008***	0.159***	0.002**
	(0.002)	(0.021)	(0.001)
Attention	0.002***	0.002**	0.003***
	(0.001)	(0.001)	(0.001)
c.DID#c.Attention	0.001***	0.003***	0.002**
	(0.000)	(0.001)	(0.001)
ln_size	0.007	0.103	0.004
	(0.019)	(0.051)	(0.001)
ln_kl	0.018	0.019	0.000
	(0.011)	(0.026)	(0.000)
ln_age	0.273	0.127	0.006
	(0.146)	(0.275)	(0.007)
ROA	0.291*	0.282	0.068
	(0.157)	(0.397)	(0.007)
FCF	0.097	0.090	0.000
	(0.023)	(0.047)	(0.001)
Constant Term	0.813	2.197*	0.071***
	(0.570)	(1.201)	(0.026)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	6275	1129	4777
adj. *R*2	0.112	0.127	0.194

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

(3) Corporate Level

Table 4-34 shows that corporate capital structure plays a negative role in the relationship between the opening of the capital market and the number and performance of corporate M&A and plays a positive regulatory role in the relationship between the opening of the capital market and the premium of corporate M&A, which is consistent with the regression results of the benchmark regression model above. Consistent, indicating that there is no endogeneity problem in variable selection.

Table 4-34 Moderating Effects of Corporate Asset Structure on Capital Market Opening and M&A

	(1)	(2)	(3)
	MA	Prem	ROE
DID	0.003***	0.214***	0.008***
	(0.001)	(0.046)	(0.003)
Structure	-0.017***	0.240***	-0.009***
	(0.055)	(0.038)	(0.003)
c.DID#c.Structure	-0.022***	0.203***	-0.019***
	(0.004)	(0.044)	(0.004)
ln_size	0.010	0.100	0.004
	(0.013)	(0.045)	(0.001)
ln_kl	0.017	0.007	0.000
	(0.008)	(0.023)	(0.000)
ln_age	0.218	0.137	0.010*
	(0.110)	(0.241)	(0.006)
ROA	0.004	0.179	0.041
	(0.074)	(0.331)	(0.005)
FCF	0.051	0.050	0.007
	(0.015)	(0.043)	(0.001)
Constant Term	0.386	1.421	0.070***
	(0.402)	(1.165)	(0.023)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	8119	1320	6053
adj. *R*2	0.186	0.174	0.172

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

Table 4-35 reports the moderating effect of managerial short-sightedness on capital market opening and M&A volume, M&A premium and M&A performance at the social level. The influence coefficient of capital market opening is significantly positive, the influence coefficient of management short-termism is significantly negative, and the influence coefficient of the interaction term between capital market opening and management short-termism is significantly positive, which is consistent with the regression results of the above benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-35 Moderating Effects of Managerial Short-Sightedness on Capital Market Opening and M&A

	(1)	(2)	(3)
	MA	Prem	ROE
DID	0.014***	0.049***	0.004***
	(0.002)	(0.003)	(0.001)
Myopia	0.114	0.011	0.002
	(0.020)	(0.002)	(0.001)
c.DID#c.Myopia	0.215***	0.586***	0.008***
	(0.011)	(0.032)	(0.002)
ln_size	0.008	0.091	0.004
	(0.013)	(0.045)	(0.001)
ln_kl	0.017	0.009	0.000
	(0.008)	(0.023)	(0.000)
ln_age	0.228	0.116	0.010
	(0.110)	(0.242)	(0.006)
ROA	0.019	0.110	0.046
	(0.071)	(0.330)	(0.005)
FCF	0.051	0.060	0.007
	(0.015)	(0.043)	(0.001)
Constant Term	0.441	1.296	0.053**
	(0.400)	(1.170)	(0.022)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	8119	1320	6053
adj. *R*2	0.186	0.121	0.179

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

Table 4-36 reports the moderating effect of firm risk bearing capacity on capital market opening and M&A quantity, M&A premium and M&A performance at the social level. The influence coefficient of capital market opening is significantly positive, the influence coefficient of firm's risk bearing capacity is significantly positive, and the influence coefficient of the interaction term between capital market opening and firm's risk bearing capacity is significantly positive, which is consistent with the regression results of the above benchmark regression model, indicating that there is no endogeneity problem in variable selection.

Table 4-36 Moderating Effect of Firm's Risk Bearing Capacity on Capital Market Opening and M&A

	(1)	(2)	(3)
	MA	Prem	ROE
DID	0.006***	0.166**	0.002**
	(0.002)	(0.072)	(0.001)
Risk1	0.354***	0.924***	0.008***
	(0.022)	(0.063)	(0.001)
c.DID#c.Risk1	0.566***	3.072***	0.022***
	(0.013)	(0.819)	(0.004)
ln_size	0.011	0.100	0.004
	(0.013)	(0.045)	(0.001)
ln_kl	0.018	0.005	0.000
	(0.008)	(0.023)	(0.000)
ln_age	0.219	0.110	0.010
	(0.110)	(0.242)	(0.006)
ROA	0.027	0.077	0.046
	(0.072)	(0.330)	(0.005)
FCF	0.050	0.067	0.007
	(0.015)	(0.042)	(0.001)
Constant Term	0.374	1.649	0.054**
	(0.404)	(1.183)	(0.023)
Individual Fixation Effect	Yes	Yes	Yes
Time Fixation Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
N	8119	1320	6053
adj. *R*2	0.186	0.189	0.179

*Note: ***, **, and * indicate significant at 1%, 5%, and 10% levels, respectively, with heteroscedasticity robust standard error in parentheses.*

5. Conclusion

This paper mainly studies the relationship between the opening of capital market and M&A. Firstly, it verifies the influence of the opening of capital market on M&A. Secondly, it analyzes the internal mechanism of the influence of the opening of capital market on M&A. The theoretical analysis framework is constructed, and it is found that capital market opening is an important part of economic construction, and enterprise M & A is an investment direction of micro economy. Deepening capital market opening is an effective way to enhance the activity of capital market, which can provide financial support for enterprise M & A, and capital market opening can be an effective driving force for enterprise M & A. The opening of capital market can influence the number of M&A, the performance of M&A and the premium of M&A through multiple paths. In terms of empirical analysis, on the basis of theoretical analysis, this paper tests whether capital market opening as an exogenous impact has an impact on M&A by constructing a difference-difference model and a difference-difference propensity score matching model. And what is the impact on the number of M&A, M&A performance, and M&A premium? On the basis of verifying the relationship between capital market opening and M&A, a model of intermediary effect is further constructed to test how capital market opening affects M&A. Finally, through the construction of the adjustment effect model for countermeasure analysis, test under different conditions, the capital market opening on the impact of corporate M&A difference, how to improve the capital market opening on the positive effect of corporate M&A? The conclusion of this paper verifies that the Shanghai-Hong Kong Stock Connect system plays an important role in micro-economies. The main research conclusions are as follows:

First, the opening of the capital market can effectively promote the participation of enterprises in M&A events and significantly improve the performance of M&A. At the same time, the opening of capital market is also an important reason for the increase of corporate M&A premium level. It shows that the opening of capital market has a positive impact on M&A activities, can be used as a driving factor of M&A activities, and is an effective support to improve the development level of microeconomy.

Second, capital market opening can have an impact on M&A through corporate governance, financing constraints and corporate investment structure. In terms of corporate

governance, the opening up of the capital market introduces external investors with management experience to play a supervisory role in enterprises. The target enterprises of the Shanghai-Hong Kong Stock Connect can obtain effective supervision and governance from foreign investors who are more mature in the capital market. Foreign investors can actively participate in corporate governance during the investment process and force enterprises to improve their governance level as an external driving force. Thus, M&A investment decisions can be made more cautiously, which can inhibit excessive investment behavior, optimize resource allocation, and improve corporate M&A performance while easing M&A premium. In terms of financing constraints, M&A puts forward higher capital requirements for enterprises, and financing constraints are the main reason for hindering M&A. The opening of the capital market further deepens exchanges across the Taiwan Straits, enabling the two sides to realize interconnection, attracting more investors to participate, effectively solving the problem of financing constraints faced by enterprises, and promoting the participation of enterprises in M&A. In terms of corporate investment structure, the opening up of the capital market improves the market competitiveness, both investors and micro enterprises are faced with more intense market competition, and scientific investment decisions must be made if they want to achieve sustainable development. Financial asset investment cannot adapt to the long-term economic market. Therefore, the opening up of the capital market helps reduce enterprises' financial asset investment. Promoting enterprises to participate in the real economy investment and merger activities has a positive impact on improving the performance of corporate M&A.

Third, the government, society and enterprises, as the external environment, have an important impact on M&A respectively, and play a significant moderating role between the opening up of the capital market and M&A. With a better business environment in the region where enterprises are located, the opening up of the capital market has a stronger role in promoting M&A and a more significant role in improving M&A performance. The higher the media attention an enterprise receives, the higher the M&A performance level, and the stronger the positive effect of capital market on M&A performance. Corporate capital structure and risk bearing capacity play a significant positive moderating role between capital market opening and M&A, while CEO short-termism plays a significant negative moderating role between capital market opening and M&A.

Based on the above research conclusions, this paper puts forward the following policy suggestions:

1. Deepen the opening process of capital market and strengthen the construction of institutional guaranteed system. First, within the scope of effective regulatory and legal systems, further open up the stock market to promote M&A of enterprises and promote the development of the capital market. Second, the development of China's capital market is still not perfect, and continuous improvement and innovation are needed to enhance investor protection. Third, gradually expand the impact of the Shanghai-Hong Kong Stock Connect and the Shanghai-London Stock Connect, strengthen supervision, and improve corporate governance by improving financial infrastructure and easing restrictions. Fourth, keep the capital market open to attract different types of investors and optimize the investor mix. Adhere to the principle of gradual opening up of the capital market, reduce risks, assess economic consequences, and promote the vitality of M&A of private enterprises. Fifth, comprehensively promote legal construction of the capital market, establish a supportive legal system, and ensure the smooth opening of the capital market through the Shanghai-Hong Kong Stock Connect. We will make use of the market economic system to strengthen supervision and guidance over enterprises and improve the efficiency of capital use.

2. Strengthen external governance to alleviate agency conflicts. This study finds that the opening up of the capital market can improve the performance of M&A through external governance mechanisms, and listed companies supported by the Shanghai-Hong Kong Stock Connect policy can attract foreign institutional investors and improve corporate governance. In order to improve the level of corporate internal governance, listed companies can improve the corporate system, strengthen internal control, and establish long-term incentive and constraint mechanisms. Regulators should strengthen information disclosure requirements and make enterprise management subject to market supervision. At the same time, it is necessary to pay attention to due diligence and make rational decisions in the process of M&A to avoid high valuations and high premiums. Employing professional M&A advisers and establishing a competitive mechanism can reduce the risk of M&A premium. For M&A of high-tech enterprises, the expertise and evaluation skills of third-party M&A consultants are particularly important, and enterprises should make full use of them.

3. Emphasize the allocation of entrepreneurs' attention and alleviate the short-termism of management. This paper verifies that the opening of the capital market can alleviate the short-termism of the management of listed companies, and effectively supervise the opportunistic management. Therefore, for listed companies, under the implementation of the Shanghai-Hong Kong Stock Connect trading system, China should continue to attract foreign investors to participate in equity, improve the quality of information disclosure, optimize the equity structure and other ways to attract foreign investors to participate. At the same time, provide attractive investment channels and conditions for foreign investors, give play to the role of external supervision, improve the company's information environment, resource allocation and governance level, alleviate management short-termism, promote M&A activities conducive to the sustainable and healthy development of enterprises. Chinese listed companies also need to establish sound incentive contracts and supervision mechanisms to resolve conflicts of interest between management and shareholders, and limit opportunistic behavior by management through internal supervision. In addition, the management structure should be improved according to individual characteristics, and the conservative thinking of older employees can help younger employees make rational investment decisions in M&A decisions and avoid the losses caused by overpaying high premium for M&A. It is suggested to limit the tenure of management and take measures such as job rotation to reduce the motivation of management to be overconfident. The Shanghai-Hong Kong Stock Connect system provides ample funds for corporate investment and eases capital restrictions. However, if there is no sound evaluation system for investment decision of management, management may abuse investment decision to come from discretionary cash flow. Therefore, enterprises should establish a comprehensive investment decision evaluation system to analyze the feasibility of investment decision from the perspectives of net present value, investment motivation, etc., so as to improve the inefficient investment of management caused by intermediary problems.

4. Alleviate financing constraints and improve the quality of corporate information disclosure. Capital market opening can ease financing constraints and promote corporate M&A. Establishing long-term incentives and constraints is key. The incentive mechanism mobilizes the management to pursue the maximization of enterprise value, and the restraint mechanism restricts the management behavior through the contract. The two complement each other, adjust

interests and alleviate agency conflicts. Listed companies should establish effective incentive and restraint mechanisms and give play to the role of Stock Connect on financing restraint. The problem of financing constraint mainly stems from information transparency. Foreign investors are more cautious in their investment choices and pay more attention to the profits brought by M&A. Improving the quality of information disclosure by listed companies is the key to alleviating management short-termism. It is suggested to speed up the construction of a perfect information disclosure system and improve the problem of incomplete false quantitative and qualitative information. On the content of information disclosure, it is the key to optimize the choice of accounting policy and improve the level of accounting measurement identification. Improve the company's earnings structure information, provide appropriate quantitative information, improve the disclosure of qualitative information in the notes to financial statements, including consumption details, industry trends, business models, customer relations, etc. In terms of disclosure supervision, an independent internal audit system should be established to make the internal audit department independent of the financial department, and employees with high professional qualifications should be appointed as auditors to strengthen internal supervision of information disclosure. In terms of information disclosure evaluation, a financial disclosure rating system will be established, independent senior financial analysts will be appointed to conduct evaluation, and a reliable disclosure monitoring mechanism will be established to improve the level of disclosure.

5. Improve the open development path of the capital market and establish a mechanism for corporate M&A. The results show that the relevant variables at the government level, the social level and the enterprise level have an important moderating effect on the relationship between capital market opening and corporate M&A. Therefore, it is necessary to steadily promote the opening up of the capital market, introduce foreign investment to support the development of China's real economy, and improve the information environment of the capital market. Meanwhile, in order to deal with economic instability, information disclosure standards, regulatory systems and investor protection measures need to be established and improved to ensure steady development of enterprises and protect investors' rights and interests in the process of capital market opening up. At the government level, the range of underlying stocks under the Shanghai-Hong Kong Stock Connect can be expanded, restrictions on foreign access,

investment quota and shareholding ratio can be relaxed, and the investor structure can be optimized. At the same time, share price information feedback mechanism can be used to influence investment decisions of state-owned enterprises and improve the system of capital investment rules of state-owned enterprises. In addition, the investor protection system should be improved, supervision of violations should be strengthened, a risk warning system should be established, and a healthy investment environment should be created. At the social level, investors' positioning, training and the cultivation of information intermediaries need to be strengthened. Improving the informatization and pricing efficiency of the capital market can be achieved by introducing foreign investors with information advantages and strengthening investor education and guidance. Media attention has an impact on M&A performance, and the opening up of the capital market deepens the competition between investors and enterprises. Therefore, we should make full use of the incentive effect of media attention, improve the media information environment of the company, and restrict the enterprise behavior by accurately evaluating the enterprise information. At the enterprise level, risks related to the opening up of the capital market need to be effectively guarded against. The opening of capital market has a stronger economic effect on the M&A performance of listed enterprises with higher risk bearing level. However, there is also a need to strengthen supervision of foreign investors to prevent and reduce risks associated with the capital market. In addition, exchanges should strengthen communication, clarify regulatory responsibilities, monitor, and sanction abnormal trading by foreign investors, improve their ability to cope with international speculative activities, and promote the healthy development of the connectivity mechanism.

There has been extensive research on the impact of capital market opening on micro-economies, mainly on corporate financial issues. This paper takes the Shanghai-Hong Kong Stock Connect trading system as the policy background of capital market opening, systematically explains the relationship between capital market opening and corporate M&A, and verifies it after analyzing the internal mechanism, hoping to achieve a more scientific and rigorous effect through empirical analysis. However, due to the constraints of many practical and technical conditions, as well as the limited knowledge level, technical ability and time and energy of the author, this study still has the following deficiencies:

First of all, in terms of research content, this paper takes M&A as an important choice of investment, tests the effectiveness of capital market opening on M&A quantity, M&A performance and M&A premium, and analyzes the mechanism of capital market opening on M&A from three perspectives: corporate governance, financing constraints and investment structure. However, in the economic activities of enterprises, M&A is an investment activity with high complexity, strong comprehensibility, and long cycle. It not only contains the content studied in this paper, but also can expand the research perspective in the future. In view of the mechanism between capital market opening and M&A, the three aspects selected in this paper are mainly to explain the channels through which capital market opening plays a role in M&A. In addition, there may be other paths that need to be further discussed in order to be fully verified.

In terms of research methods, this paper makes use of the existing theoretical basis to carry out qualitative analysis and reasoning on the internal mechanism of capital market opening affecting corporate M&A. However, the lack of mathematical analysis may lead to the lack of scientific theoretical conclusions, restricted by subjective factors to a certain extent, and the intervention of other influencing factors not considered. As for the selection of exogenous impact variables, this paper takes the implementation of the Shanghai-Hong Kong Stock Connect trading mechanism as the variable index of capital market opening, which is single. It can only explain the influence of capital market opening degree on corporate M&A from a single aspect and may not be able to be extended to other aspects. Only some listed companies are selected as research objects in the pilot program of China's Shanghai-Hong Kong Stock Connect trading mechanism. Such selection at the policy level may have sample bias and affect the research results. In this paper, the causal relationship between capital market opening and M&A is verified by constructing a difference-difference model and a difference-difference propensity score matching model, and methods such as parallel trend test and endogeneity test are used to alleviate the endogeneity problem and ensure the robustness of the model. However, as an exogenous impact, the policy, the possible spillover effect and the non-random selection of the target enterprises of the Shanghai-Hong Kong Stock Connect are unavoidable problems in this paper, so the empirical analysis part of this paper still needs to be further improved.

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