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Economic Policy Uncertainty and Corporate Mergers and Acquisitions

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ABSTRACT

In recent years, the frequent adjustment of the government's economic policies and the uncertainty of foreign economic situations have made the degree of uncertainty of China's economic policies rise continuously. The increasing degree of policy uncertainty will inevitably affect the investment and financing decisions of micro enterprises. Then, how does economic policy uncertainty (EPU) affect mergers and acquisitions (M&A) behavior? What's the mechanism? Based on the above questions, this paper uses the data of non-financial listed companies in the Shanghai and Shenzhen stock exchanges from 2008 to 2018 as a sample to explore the relationship between EPU and M&A. The study shows that rising EPU will promote corporate M&A behavior, and this effect is more significant in slow-growth companies. The relationship between EPU and M&A is affected by corporate governance, stock price volatility and financing constraints. Specifically, the company's M&A size is more sensitive to EPU with higher level of corporate governance, higher level of stock price volatility, and lesser financing constraints. Further research shows that the rise of EPU will significantly promote the improvement of M&A performance in the short-term, but this effect does not exist in the long-term. Various robustness checks do not change the empirical results of this paper.

1. Introduction

As an important means for the allocation of storage resources in the capital market, M&A plays an important role in promoting corporate strategic adjustment, resource integration and industrial upgrading. At the micro level, M&A have reallocated resources from low-productivity to high-productivity enterprises, and achieve cost reduction and efficiency improvement through the reorganization of resources within and between industries. According to statistics, the size of M&A

deals of China's listed companies is on the rise as a whole since 2000. In 2018 alone, there were 6,283 new M&A deals with a total value of RMB180 million, a year-on-year increase of 2.7%. As a way of corporate development, M&A can optimize resource allocation, improve corporate performance and expand investment scale to a certain extent. However, problems such as the stock price crash risk caused by M&A and aggravated financial market volatility have also gradually highlighted. Through the integration and reorganization of resources among corporate departments, M&A can bring economy of scale, econ-

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omy of scope or synergies, so as to increase enterprise value and improve efficiency; at the sector level, M&A can reallocate resources within and between industries, achieve the goals of industry integration, industrial restructuring and upgrading in the case of high requirement for market access for different industries. At the national level, finding new economic growth points and preventing systematic financial risks are important economic issues in macro-finance in China. With China's economic growth entering a "new normal" stage, problems such as the shrinking market demand, high leverage ratio and the "living dead" of zombie companies have gradually become noticeable.

China's supply-side structural reform plays an active role in transforming the growth mode, optimizing the economic structure, and alleviating distortion of resource allocation. As the main method of resource allocation in the capital market, M&A have become an important task for the capital market to serve the national strategic adjustment and the real economy.

After the outbreak of the global financial crisis in 2008, China issued a series of fiscal policies, monetary policies and industrial policies to mitigate the negative impact of foreign economic recession on China's macro economy. As an important means of macro-control by government, economic policies, while adjusting investment structure, optimizing industrial structure, and improving the institutional environment, will also have an impact on the external operating environment of enterprises, which in turn affects micro-enterprise investment, R&D innovation, financial asset allocation, business credit supply and the analysts' earnings forecasts revisions [1-5]. The data of Baker et al. show that China's EPU level has been on the rise since 2012, which may be related to a series of policies that have been withdrawn in recent years [6]. On the one hand, the credit tight of commercial banks and the herd behavior of outside investors caused by the rise in EPU reduced the size of M&A deals by increasing the financing costs and operating risks of enterprises; on the other hand, while the rise of EPU brings more uncertainty to the investment and financing activities of enterprises, it also means that companies will achieve greater future benefits through industrial transformation, resource integration and seizing market share through R&D and innovation, M&A. In view of the above two diametrically opposed mechanisms, this paper attempts to explore this issue, using data from non-financial listed companies to empirically analyze the impact of EPU on M&A. This study attempts to reveal the impact of rising EPU on the size of M&A deals and M&A performance, with a view to revealing the mechanism of macroeconomic policies on the behavioral

mechanism of micro-enterprises, and thus provide theoretical support and reference for the formulation and implementation of economic policies of the government sector.

Previous researches on M&A mostly focused on the motivation, influencing factors and economic effects of M&A. In terms of motivation of M&A, M&A can help improve the cooperative effect of enterprises by integrating the resources of both parties, which is reflected in the synergistic effects of management, finance, and operation [7]. M&A, as an important way to restructure resources in the capital market, is motivated by the stages of industry evolution [8]. In terms of influence factors and economic consequences, government intervention and political connections will act on M&A, and local officials will intervene in M&A activities to achieve specific political goals in consideration of social stability factors such as increasing real investment efficiency and employment rates. This leads to the phenomenon of "M&A performance paradox". Furthermore, the director ties will also affect the probability of successful M&A deals through business due diligence and value assessment mechanisms. Regional informal regulations will also increase the value of M&A deals by suppressing opportunistic behaviors among transaction subjects, and reducing the uncertainty of M&A. In addition, cultural differences between enterprises will also increase the difficulty of cultural financing for both sides of M&A and thus have a negative impact on M&A performance.

Regarding the impact of EPU on corporate behavior, scholars at home and abroad have also conducted a thorough research. Some scholars have found that under the influence of real options theory and financial frictions, the rise of EPU will discourage business investment [1,4,9]. EPU will also have an impact on cash holding levels, risk exposure and technological innovation [3,10,11]. However, few studies have revealed the relationship between EPU and M&A. On the one hand, the rise of EPU implies that the uncertainty of the business environment and banks' reluctance to lend have increased, weakening the synergistic effect caused by M&A, thereby inhibiting the size of M&A deals; on the other hand, the rise of EPU means that investors are more sensitive to the released negative information, and more inclined to "vote with their feet". The uncertainty of the financial market and the herd effect of investors imply that the value of some enterprises is underestimated, which make large-scale enterprises with strong anti-risk ability have motivation to expand operations, acquire patent technology and transform through M&A. However, there is a lack of EPU's in-depth analysis of M&A's influencing mechanism. In view of this, this paper intends to make up for the deficiency of existing

literature and empirically analyze the effect of EPU on M&A behavior.

This paper uses the data of non-financial listed companies in Shanghai and Shenzhen stock exchanges from 2008 to 2018 to empirically analyze the impact of rising EPU on M&A. Specifically, this paper firstly explains the mechanism of EPU's rise on M&A theoretically, and proposes alternative hypotheses. Then, it analyzes the regulatory mechanisms of corporate governance, stock price fluctuations and financing constraints between EPU and M&A. Finally, it further discusses the impact of rising EPU on M&A performance. Compared with the existing research, our research contributes to the literature in three important ways. Firstly, our study breaks away from the traditional research, which is confined to study the impact of EPU's impact on corporate R&D investment, financial asset allocation, and cash holdings and reveals the effect of EPU's rise on M&A; secondly, our study analyzes the relationship between EPU and M&A, and find heterogeneous effects in companies with different levels of corporate governance, stock price volatility, and financing constraints; thirdly, it further explores the impact of the rising EPU on M&A performance.

The remainder of the paper is organized as follows: We present literature review and research hypothesis in Section II. Section III develops empirical predictions. Section IV presents empirical results. Section V further discusses the influence of EPU on M&A performance, and section VI concludes and put forward policy suggestions.

2. Literature Review and Research Hypothesis

2.1 EPU and M&A

The influencing mechanism of EPU on corporate investment and financing activities has always been the focus of domestic and foreign scholars. The introduction and adjustment of government fiscal, monetary, and industrial policies make it impossible for economic entities to predict with certainty whether, when and how the government will change the current economic policy [1], which in turn will affect behaviors of micro-firms [6,12]. As an important way of enterprise resource allocation, M&A also belong to the category of corporate investment behavior. From the perspective of the influencing mechanism, first, the rising EPU will increase the option value of M&A delay decisions [4,9], and reduce the positive effect of scale economy and scope economy caused by M&A activities on corporate performance, thus inhibiting M&A motivation. Second, the rise of EPU will also aggravate the phenomenon of banks' reluctance to lend, increase the difficulty of external financing, and amplify financial market

fluctuations [3], thereby restraining the size of M&A deals at the capital level. Third, frequent adjustments of government economic policies and rising uncertainties in foreign financial market conditions will also make external investors become more sensitive to the release of negative news. Once institutional investors have a negative attitude towards M&A deals, it inevitably means that the market performance after M&A will be worse due to the herd behavior of outside investors and the "voting-with-their-feet" behavior, thereby weakening the willingness of M&A. Therefore, the rise in EPU may inhibit M&A activities.

The increase in policy uncertainty is often accompanied by the improvement of the difficulty for external investors to supervise the management, which will promote the tendency of excessive investment and self-interested behavior of the management [13]. Specifically, managerial compensation usually depends on the firm size. During periods of high EPU, managers may expand the firm size and improve the non-monetary benefits through M&A deals, and attribute the adverse impact of M&A to policy changes, so as to avoid the board's punishment mechanism for their poor management. In addition, the elevation of EPU levels has increased the difficulty of external financing and operational risks for enterprises, and enterprises are more inclined to achieve financial synergy and operational diversification through M&A. Based on the above viewpoints, this paper proposes two alternative hypotheses:

H1a: The rise of EPU will inhibit M&A activities.
H1b: The rise of EPU will promote M&A activities.

2.2 Heterogeneous Effects of EPU on M&A

The problem of information asymmetry between an acquirer and a target company often causes problems such as "free-riding", cultural conflicts and reverse allocation of resources in the M&A process [14,15]. A good corporate governance environment will help the integration of various resources between the acquirer and the acquired party, inhibit the opportunistic behavior of managers, and promote the rapid integration of differentiated cultures, thereby improving M&A performance. Corporate governance is an important means to ensure enterprises to operate effectively, prevent risks of assets, and achieve business management objectives. The study found that internal control can effectively improve the risk prevention capabilities of M&A activities so as to ensure the smooth progress of M&A activities and the realization of synergistic effects [16]. The M&A deal value is jointly determined by the value of the acquirer and the target company, and the value realization of both parties depends on the perfection of the internal control system. Therefore, compared with

companies with poor corporate governance levels, the positive impact of the rising EPU on M&A is stronger in companies with sound corporate governance. In view of this, the second research hypothesis is proposed:

H2: The positive impact of the EPU on M&A is more significant in enterprises with a higher level of corporate governance.

In the securities markets, the signal transmission mechanism of stock value will promote the optimal allocation of resources. Compared with mature capital markets, the stock price of emerging market countries contains a lot of noise, so that the stock price cannot well reflect the fundamentals information of a company, and it is difficult to play the guiding role of resource allocation [17]. China's securities market has always been regarded as a "policy market", and macroeconomic information has an important impact on stock price changes. EPU significantly increases the volatility of corporate stock prices and the asymmetric relation between the stock market and macroeconomic dynamics [5,18]. Under the influence of information asymmetry, market incompleteness makes corporate value being misestimated more frequently. Compared with companies with more stable stock market performance, the increase in EPU makes external investors have a stronger tendency to overreact to enterprises with a high level of stock price volatility. Therefore, enterprises with a high level of stock price volatility make external financing internalized through M&A, diversify operations, boost investors' confidence, and have a stronger willingness to transform and upgrade their industries. As a result, the rising EPU will have a more significant promoting effect on M&A in such enterprises. In view of this, this paper proposes a third hypothesis:

H3: The positive impact of rising EPU on M&A is more significant in companies with a higher level of stock price volatility.

EPU acts on the investment decision-making behavior of enterprises through two channels: the degree of financing constraints and the availability of financing [19]. EPU means that the risk of loan is higher, and financial intermediaries will further allocate funds to state-owned and large-scale enterprises with implicit government guarantees and strong anti-risk capabilities to balance risk and return, thereby exacerbating credit differentiation [20]. Specifically, SOEs and large-scale enterprises have strong financing advantages, and they can raise sufficient funds from the capital market and banks, or even more money than is necessary for their operations, while private enterprises and small-scale enterprises are difficult to obtain financing from formal financial institutions. Companies that are subject to strong financing constraints can hardly absorb the funds needed for M&A from outside. Companies that are subject to weak financing constraints have relatively abundant funds and stronger motivation to engage in M&A. Therefore, this paper proposes hypothesis 4:

H4: The positive impact of the rising EPU on M&A is more significant in enterprises with less financial constraints

3. Empirical Design and Data

3.1 Sample Selection and Data Sources

This paper takes the M&A events of A-shares that are listed on either the Shanghai or Shenzhen stock exchanges from 2008 to 2018 as samples of initial research, and selects the samples of M&A events as follows: (1) M&A events in which the M&A transactions take place in the place of buyer; (2) Only successful transactions are retained; (3) Samples of related-party transactions are excluded; (4) Samples of M&A deals inn ST and the financial industry are excluded. Regarding EPU, we use the indices measured by Baker et al. (2016) based on keyword search over the *South China Morning Post*, which is, proportion of related reports with four keywords of "China", "Economy", "Uncertainty" and "Policy" in the total number of articles of the current month. Both M&A transaction data and corporate financial data come from China Stock Market & Accounting Research Database (CSMAR). In order to eliminate the interference of extreme values on empirical analysis, continuous variables are winsorized at level 1% at the firm level.

3.2 Empirical Design and Variable Definitions

To explore the impact of rising EPU on M&A, we construct the following empirical models:

$$MA_{i,t} = \alpha + \beta EPU_t + \rho X_{i,t} + \mu_i + \delta_t + \varepsilon_{i,t} \qquad (1)$$

Wherein, the subscript i represents an enterprise and t represents the year. The independent variable MA represents the M&A behavior of the listed company i in year t, which is measured by the natural logarithm of the total value of all M&A deals of the company this year plus one. EPU stands for economic policy uncertainty, which is the core independent variable of this paper, and is measured by the twelve-month average of the year (divided by 100). If the estimated value of β is significantly less than 0, it indicates that the EPU will inhibit M&A activities (H1a); on the contrary, if the estimated value of β is significantly greater than 0, it indicates that the EPU will promote M&A activities (H1b).

$X_{i,t}$ refers to a series of control variables, including oth-

er factors that affect M&A. We use the financial and entity's relative rate of return (Return_Gap), which is measured by the ratio of financial rate of return to the entity's rate of return; financial and entity's relative risk (Risk_Gap), which is measured by the ratio of three-quarter rolling standard deviation of financial rate of return and the entity's rate of return. In addition, we also use controls variables such as firm size (Size), free cash flow (CF), Tobin'Q (TobinQ), financial leverage (Lev), return on assets (ROA), and corporate growth (Salesgrowth).

μ_i refers to the firm's fixed effects, which is used to capture the individual consistent characteristics of the firm that does not change over time, so as to reduce the impact of omitted variables on the empirical results. δ_t represents time fixed effects. $\varepsilon_{(i,t)}$ is the unobserved residual. In a regression analysis, this paper uses cluster-robust standard errors to cluster the standard errors to the enterprise level. The detailed variable measurement is shown in Table 1.

To further examine the impact of EPU on M&A in companies with different levels of corporate governance, stock price volatility, and financing constraints, we introduce the interactions between EPU and the aforementioned regulated variables based on the baseline regression model (1), and construct a regression model as shown in equation (2).

$$MA_{i,t} = \alpha + \beta EPU_t + \gamma EPU_t \times MV_{i,t} + \delta MV_{i,t} + \rho X_{i,t} + \mu_i + \varepsilon_{i,t}$$

(2)

Wherein, $MV_{i,t}$ represents the regulated variable of enterprise i in period t. Specifically, we use a dummy variable CG_{it} measuring corporate governance levels, a dummy variable $VIX_{i,t}$ measuring the level of stock price volatility, and KZ index measuring financing constraints ($ConFKZ_{i,t}$), and solvency ratio ($ConFSy_{i,t}$) to interact with EPU index EPU_t.

Wherein, for the measurement of corporate governance levels, we use shareholding proportion of executives and the nature of corporate ownership. Specifically, if the shareholding proportion of executives is greater than the median level of the same industry in the same year, it is set as a company with a higher level of governance, that is, $CG\_CEOSHR=1$, otherwise, it is assigned a value of 0. The second method reflects the corporate governance based on the nature of corporate ownership. It is generally believed that non-state-owned enterprises have better corporate governance than SOEs. Therefore, if it is a non-state-owned enterprise, $CG\_CEOSHR=1$; if it is a SOE, the value is 0. In model (2), if the coefficient on the interaction term between EPU and corporate governance levels is significantly positive, it means that the rise of EPU will

have a stronger role in promoting the size of M&A deals with a higher level of corporate governance, that is, hypothesis 2 holds.

Similarly, to examine how the relationship between EPU and M&A is affected by a company's level of stock price volatility, we add the interaction term between EPU and level of stock price volatility to the benchmark model. Specifically, we use the three-year stock price volatility (*VIX*) before M&A to reflect the level of stock price volatility. If the stock price volatility is greater than the median of the same industry in the same year, the value of *VIX* is 1, otherwise the value is 0. We use the KZ index [21] and the solvency ratio to reflect the degree of financing constraints. Specifically, if the KZ index is larger and the solvency ratio is smaller, it indicates that the degree of financing constraints is greater. If the interaction term between EPU and KZ index ($EPU_t \times ConFKZ_{i,t}$) is significantly negative, and the coefficient on the interaction term between EPU and solvency ratio ($EPU_t \times ConFSY_{i,t}$) is significantly positive, it indicates that the rising EPU has a positive impact on size of M&A deals, which is even greater in companies with less financing constraints.

Table 1. Variable Definitions

Variables	Description	Estimating method
MA	Value of M&A	Natural logarithm of the total value of all M&A deals of the company this year plus one
MAD	Whether M&A or not	The acquired company is assigned the value 1, otherwise it is 0
EPU	EPU	Arithmetic average of the twelve months of the year/100
Size	Company size	Natural logarithm of total assets
CF	Free cash flow	Free cash flow/total assets
TobinQ	Tobin's Q	Market value/total assets
Lev	Financial leverage (%)	Total liabilities/total assets
ROA	ROA (%)	Net profit/total assets
Salesg	Corporate growth (%)	Operating income of the current period / operating income of the previous period -1
Return_Gap	Financial and entity's relative rate of return	Financial rate of return/entity rate of return
Risk_Gap	Financial and entity's relative risk	Ratio of three-quarter rolling standard deviation of financial rate of return and the entity's rate of return
CG_CEOSHR	Corporate governance level Proxy variable 1	An indicator that equals 1 if shareholding proportion of executives is greater than the median level of the same industry in the same year, and 0 otherwise
CG_SOE	Corporate governance level Proxy variable 2	0 for state-owned enterprises, 1 for non-state-owned enterprises

VIX	Level of stock price volatility	An indicator that equals 1 if the stock price volatility is greater than the median of the same industry in the same year, and 0 otherwise
ConFKZ	KZ index	Based on the method proposed by Ka-plan &Zingales (1997)
ConFSY	Solvency ratio of financing constraints	Shareholders' equity/total liabilities

4. Analysis of Empirical Results

4.1 Baseline Regression

Table 2 reports the regression results of the impact of EPU on M&A. Where, columns (2) and (4) control the fixed effects on the basis of the columns (1) and (3) respectively. The results show that in columns (1) and (2), the EPU coefficients are 1.1530 and 2.0467, respectively, which are both statistically significant at the 1% level. This shows that the EPU has a positive impact on the size of M&A deals. Considering that size of M&A deals are affected by variables of other enterprise-level, columns (3) and (4) in the table further control variables such as firm size, free cash flow, leverage ratio, ROA, growth, financial and entity's relative rate of return and relative risk. The fixed-effect model shows that after adding control variables at an enterprise level, the coefficient of EPU (EPU) is still statistically significant at the 1% level, therefore, H1b holds.

Table 2. EPU and M&A

Dependent Variable	(1)	(2)	(3)	(4)
	MA	MA	MA	MA
EPU	1.1530***	2.0467***	0.9619***	1.1792***
	(0.044)	(0.097)	(0.053)	(0.125)
N	26,196	26,196	26,196	26,196
R²	0.032	0.069	0.040	0.083
Control Variables	No	No	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

Notes: Robust standard errors are clustered at the industry level, which are reported in parentheses. *, **, and *** denote statistical significance at the 10, 5, and 1 percent significance levels, respectively, the same as below. Due to space limitations, regression coefficients of control variables are not reported in this paper. See the appendix for details, the same as below.

The impact of EPU on M&A behavior may also be related to the stage of a company. Generally speaking, companies at a start-up stage have more investment opportunities, greater potential for growth, and insufficient

idle money [22]. However, as companies enter the stage of large-scale production, their market share has gradually expanded, capital sources have stabilized, and external investment opportunities and industry development momentum have weakened. Companies in the maturity stage are more inclined to acquire companies with good growth potential, financing difficulties, and in emerging industries for the purpose of expanding production, resource integration and industrial transformation. Therefore, EPU may have heterogeneous effects on M&A depending on the stage of enterprise growth.

Table 3. EPU and M&A: Sub-sample Test According to the Growth of Enterprises

Dependent Variable	(1)	(2)	(3)	(4)
	MA	MA	MA	MA
	Initial Stage	Development Stage	Initial Stage	Development Stage
EPU	0.7583***	1.0621***	0.7244***	1.5188***
	(0.079)	(0.078)	(0.191)	(0.174)
N	12,876	12,856	12,876	12,856
R²	0.025	0.051	0.060	0.092
Control Variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	Yes

To further investigate the heterogeneous effects of the rising EPU on size of M&A deals, we will run a sub-sample regression according to the growth rate of main business revenue higher or lower than the median of the year and the industry. The empirical results are shown in Table 3. The first two columns in the table give the regression results of the fixed effects of uncontrol years, showing that the EPU coefficient is 1.0621 in the mature period and is statistically significant at the 1% level, which is higher than the EPU coefficient (0.7583) of enterprises in the start-up period. It can be seen that the positive impact of EPU on M&A is more significant in companies during the maturity stage. Columns (3) and (4) in the table further give the regression results after controlling the year fixed effects, and the results have not changed.

4.2 Analysis of Moderating Effect

(1) The moderating effect of corporate governance. To further verify the moderating effect of corporate governance levels on EPU and M&A, we introduce the interaction terms between corporate governance levels and EPU referring to model (2). The regression results are shown in Table 4.

Table 4. EPU, Corporate Governance and M&A

Dependent Variable	(1)	(2)	(3)	(4)
	MA	MA	MA	MA
EPU	0.7113***	0.9919***	0.3738***	0.7843***
	(0.065)	(0.130)	(0.073)	(0.130)
*CG_CEO-SHR*EPU*	0.6139***	0.5220***		
	(0.091)	(0.089)		
CG_CEO-SHR	-1.1804***	-1.1844***		
	(0.285)	(0.280)		
CG_ SOE*EPU			1.0191***	0.8196***
			(0.092)	(0.092)
CG_SOE			-1.4550***	-0.6971
			(0.505)	(0.509)
N	26,196	26,196	26,196	26,196
R²	0.043	0.085	0.046	0.087
Control Variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

Columns (1) and (2) in Table 4 are the regression results with the shareholding proportion of executives as a proxy variable. The results show that the interaction term (CG_CEOSHR*EPU) between the dummy variable of executives' shareholding proportion and EPU is statistically significant at the 1% level, indicating that the improvement of corporate governance levels will magnify the positive relationship between EPU and size of M&A deals. We change the method of measuring the corporate governance levels and divide the corporate governance levels according to the nature of corporate ownership. The results show that the coefficient of CG_SOE*EPU interaction term is still statistically significant at the 1% level after adopting the nature of corporate ownership as the proxy indicator of corporate governance levels, and the conclusions are consistent, that is, hypothesis 2 is verified.

(2) The moderating effect of stock price volatility. To further examine the impact of level of stock price volatility on the dynamic relationship between EPU and M&A, we introduce a dummy variable VIX for the level of stock price volatility three years before M&A, and multiplies it with EPU. The regression results are shown in Table 5. Columns (1) and (2) use the reinvestment rate without considering cash dividends to measure the stock price volatility, and columns (3) and (4) use the reinvestment rate considering cash dividends to measure the stock price volatility. The results in the table show that regardless of whether the time fixed effect is controlled, the interaction term VIX*EPU between level of stock price volatility and

EPU is statistically significant at the 1% level. It can be seen that the increase in level of stock price volatility will amplify the positive correlation between EPU and M&A, and the H3 holds.

Table 5. EPU, Stock Price Volatility and M&A

Dependent Variable	(1)	(2)	(3)	(4)
	MA	MA	MA	MA
EPU	0.5469***	0.7563***	0.5273***	0.6969***
	(0. 075)	(0. 142)	(0. 078)	(0. 145)
*VIX*EPU*	0.3164***	0.2462**	0.3419***	0.2760***
	(0. 102)	(0. 100)	(0. 106)	(0. 104)
VIX	-0.3199	-0.2252	-0.3484	-0.2633
	(0. 263)	(0. 260)	(0. 277)	(0. 273)
N	20,002	20,002	18,567	18,567
R²	0.020	0.048	0.019	0.046
Control Variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

(3) Moderating effect of financing constraints. We introduce the interaction term between the proxy indicators of the financing constraints and the EPU to investigate the heterogeneous effects of the rising EPU on the M&A behavior with different levels of financing constraints. The empirical results are shown in Table 6. In columns (1) and (2) of the table, the coefficient on the interaction term between EPU and KZ index is significantly negative at the 1% level, indicating that the EPU has a positive effect on size of M&A deals in companies with less financial constraints. The positive impact of size of M&A deals is stronger. In columns (3) and (4) of the table, the coefficient of the interaction term between EPU and the solvency ratio is significantly positive. The results show that reduction in financing constraints will magnify the effect of EPU on the size of M&A deals, that is, Hypothesis 4 holds.

Table 6. EPU, Financing Constraints and M&A

Dependent Variable	(1)	(2)	(3)	(4)
	MA	MA	MA	MA
EPU	1.4729***	1.6310***	0.8410***	1.0298***
	(0.106)	(0.157)	(0.065)	(0. 131)
*ConFKZ *EPU*	-0.3237***	-0.2830***		
	(0.059)	(0.058)		

ConFKZ	0.4982**	0.5487***		
	(0.199)	(0.201)		
ConFSY*EPU			0.0485***	0.0630***
			(0. 016)	(0. 015)
ConFSY			-0.1545***	-0.2021***
			(0. 047)	(0. 047)
N	26,196	26,196	26,196	26,196
R²	0.042	0.084	0.041	0.084
Control Variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

4.3 Robustness Checks

(1) Replace the kernel variables

In this paper, we use M&A dummy variable M&AD as the independent variable in the robustness checks. If the company has M&A deals for the current year, M&AD is assigned a value of 1, and 0 otherwise. Furthermore, this paper uses the Logit model to regress the reference model, and the results are shown in Table 7. The first two columns in the table do not control other control variables, and the last two columns in the table control all control variables. The results show that regardless of whether the year fixed effects are controlled or not, the coefficient of EPU is significantly positive at the 1% level, and the previous conclusions are still valid.

Table 7. Alternative dependent variables

Dependent Variable	(1)	(2)	(3)	(4)
	MAD	**MAD**	**MAD**	**MAD**
EPU	0.1832***	0.3781***	0.2002***	0.3910***
	(0.010)	(0.023)	(0.010)	(0.024)
N	26,196	26,196	26,196	26,196
R²	0.094	0.0336	0.0186	0.0446
Control Variables	No	No	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

We further change the measuring method of EPU, taking the EPU index in December at the end of the year as a proxy indicator of the EPU of the current year. The results show that after replacing the core independent variables, the EPU coefficient is still statistically significant at the 1% level, which is consistent with the baseline regression results, namely, rising EPU promotes M&A activities.

Table 8. Replace the Measurement Method of EPU Index

Dependent Variable	(1)	(2)	(3)	(4)
	MA	**MA**	**MA**	**MA**
EPU_12M	0.6040***	0.8199***	0.5482***	0.4724***
	(0.018)	(0.039)	(0.020)	(0.050)
N	26,196	26,196	26,196	26,196
R²	0.048	0.069	0.057	0.083
Control Variables	No	No	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

(2) Endogenous problems. To further investigate the impact of model endogenous problems on the empirical results, the method of instrumental variables (IVs) is used to regress the reference model. Regarding the selection of instrumental variables, Wang et al. believe that macroeconomic fluctuations such as interest rates and exchange rates in emerging countries are related to the introduction and changes of the US monetary policy. Considering that the economic policy uncertainty of US only affects the innovation activities of enterprises by influencing the EPU in China, therefore, the first instrumental variable in this paper is the US EPU index as the instrumental variable for China's EPU. Taking into account that the EPU of other major economies will also affect China's EPU through trade channels, which in turn will affect the investment and financing behavior of China's companies, we use the global EPU index and the EPU index weighted by the trade share of major trading countries of China as the second and third instrumental variables. Specifically, seven countries, namely the United States, Japan, South Korea, The United Kingdom, France, Germany and Italy, are selected in this paper. The proportion of import-export volume of these countries is taken as the weight, and the EPU index of China's major trading countries is obtained by using the weighted average method.

Table 9. IV

Dependent Variable	(1)	(2)	(3)	(4)
	MA	**MA**	**MA**	**MA**
EPU	0.8970***	6.4008***	1.3289***	6.4008***
	(0.053)	(0.196)	(0.089)	(0.196)
N	26,096	26,096	26,096	26,096
R²	0.040	0.083	0.038	0.083
Control Variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes

Year FE	No	Yes	No	No
Anderson Test	0.0000		0.0000	
Cragg-Donald Test	2.0e+04		7320.248	

The results of instrumental variable regression of EPU and M&A are shown in Table 9. The results show that the first two columns in the table use the US EPU index as the IV. The results show that the EPU coefficient is still significantly negative at the 1% level, and the baseline results are still valid. Using global EPU index and the EPU index weighted by the trade share of major trading countries of China as the IVs, the EPU coefficient is still significantly positive at the 1% level, that is, the positive relationship between EPU and M&A size has not changed.

(3) Sub-sample regression. Due to differences in resource endowments and policy intensity, China's economic development has long been confronted with the problem of regional imbalance. There are big differences in the developed degree of economy, financial market perfection and financial intermediary development in different regions. In the Robustness checks, this paper adopts the method of sub-sample regression to examine the influence of the relationship between EPU and M&A in different regions. In this paper, the sample is divided into two sub-samples in the east and central west, and the reference model is regressed respectively. The empirical results are shown in Table 10. There are 17,900 samples from the eastern region and 8,293 samples from the central and western regions. The regression results in Table 10 show that the EPU coefficient is still statistically significant at the 1% level, that is, the previous conclusion has not substantially changed.

Table 10. Regression of Sub-samples: According to the Region of Company Address

Dependent Variable	(1) MA East Regions	(2) MA East Regions	(3) MA Central and Western Regions	(4) MA Central and Western Regions
EPU	0.9814***	1.2611***	0.8859***	0.9632***
	(0.064)	(0.158)	(0.092)	(0.209)
N	17,900	17,900	8,293	8,293
R²	0.047	0.097	0.032	0.061
Control Variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

According to the different degree of industry competition, this paper regresses the sample according to the sam-

ples with high and low degree of industry competition. We calculate the Herfindahl index based on total assets, and classify the industries whose Herfindahl index is lower than the median level into highly competitive industries, and those higher than the median level as less competitive industries. The empirical results are shown in Table 11. The results show that the EPU coefficient is statistically significant at the 1% level in industries with high or low degree of industry competition. The empirical results are still valid, namely, the previous conclusions are still valid.

Table 11. Regression of Sub-samples According to the Degree of Industry Competition

Dependent Variable	(1) MA Fierce competition	(2) MA Less competition	(3) MA Fierce competition	(4) MA Less competition
EPU	0.9955***	0.9564***	1.1610***	1.2610***
	(0.078)	(0.077)	(0.204)	(0.182)
N	13,029	13,167	13,029	13,167
R²	0.043	0.031	0.092	0.068
Control Variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	Yes

5. EPU and M&A Performance

Whether M&A can create corporate value and achieve a long-term increase in operating performance have always been a concern to both domestic and foreign scholars. Most existing studies argue that it is difficult to improve corporate performance through M&A. Specifically, taking China's capital market as an example, most listed companies have negative excess returns when declaring M&A [14,23,24]. However, it is worth noting that under the premise that mergers and acquisitions cannot effectively improve corporate performance, the number of M&A deals and size of M&A deals are still showing an upward trend year by year. Studies have found that the strengthening of resource integration, the improvement of internal control means, and director ties will all have an impact on M&A performance. However, cultural differences, political connections, and the size of acquirers will have a negative effect on M&A performance [8,16].

Whether a target company selected by the acquirer and the timing are appropriate are the main factors affecting M&A performance. The rise of EPU means that the volatility of the financial market has risen, investor confidence

has fallen, and the future industry development trend is even more unclear. In the context of EPU enhancement, the market value of some listed companies is undervalued, which provides space for the acquirers to expand product line, improve market share and acquire core technologies through M&A. Therefore, in the short term, with the rise of EPU, the internalization of external financing, expansion of production capacity and core technical capabilities brought by M&A can achieve the improvement of short-term performance. However, in the long run, the friction between an acquiring party and an acquired party over cultural differences, personnel coordination and resource integration will have a negative impact on the production and operation activities of enterprises, thereby reducing operating performance. So, how will the rise of EPU affect M&A performance? Does this influence have heterogeneity in term. This paper will further discuss the impact of rising EPU on M&A performance. Drawing on the research of Wang and Li, the difference of the return on assets between 1 year and 3 years before and after the acquisition of the target company is used as the proxy indicator of the M&A performance, the effect of EPU rise on M&A performance was investigated by adding the interaction item of EPU and M&A ($EPU_t \times MA_{i,t}$). The results are shown in Table 12.

Table 12. EPU and M&A Performance

Dependent Variable	(1)	(2)	(3)
	DROA_Y1	DROA_Y2	DROA_Y3
*EPU*MAA*	0.0001***	0.0000	-0.0000
	(0.000)	(0.000)	(0.000)
EPU	0.0054***	0.0109***	0.0167***
	(0.001)	(0.001)	(0.001)
MAA	-0.0002**	-0.0001	0.0000
	(0.000)	(0.000)	(0.000)
N	22,810	16,613	11,562
R^2	0.464	0.314	0.265
Control Variables	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Year FE	No	No	Yes

Column (1) in Table 12 takes the difference of the return on assets 1 year after M&A and 1 years before M&A as the proxy indicator of M&A performance. The results show that the interaction term (EPU*MAA) between EPU and size of M&A deals is statistically significant at the 1% level, indicating that the EPU will promote the improvement of short-term business performance. The last two columns in the table measure the M&A performance by the difference between the return on assets 2 and 3

years before and after the merger. The results show that the EPU*MAA interaction coefficient is not significant, indicating that there is no positive effect of EPU on M&A performance in the long run.

6. Conclusion and Recommendations

This paper examines the impact of EPU on M&A behavior. We found that the rise of EPU will promote M&A activities, and this effect is more significant in mature companies. The impact of EPU on size of M&A deals is affected by the level of corporate governance, stock price volatility, and financing constraints. Specifically, for a company with higher level of corporate governance and stock price volatility, and lesser financing constraints, its size of M&A deals is more sensitive to changes in EPU. Further study shows that the rise of EPU will promote the improvement of M&A performance in the short-term, but this effect is not significant in the long-term.

We come to the following policy suggestions: Firstly, the formulation of relevant economic and industrial policies of government sectors should fully consider the periodicity of the industries. For companies in different life stages, their M&A behavior has a different sensitivity to EPU. To better play the important role of M&A in resource allocation, when formulating relevant economic and industrial policies, government sectors should give full consideration to the characteristics of the industries in which enterprises are located, so as to better play the positive role of economic policies in adjusting industrial structure and enhancing economic vitality. Secondly, government sectors should stabilize investor expectations, improve the effectiveness of the capital market, and strengthen the information disclosure mechanism. The increase in EPU makes some companies more likely to be mispriced and viciously acquired, and emotional fluctuations of external investors will further amplify the above-mentioned effects. Therefore, how to guide investors to rationally anticipate, improve the effectiveness of the capital market, and strengthen the information disclosure mechanism in a period of high uncertainty in the foreign economic and financial environment and China's policy will have a strong role in achieving financial stability and promoting the development of high-tech industries. Financial regulatory authorities should further regulate M&A behavior, protect investors' interests, strengthen education on investors, and improve the financial statement disclosure mechanism. Thirdly, the coordination, pertinence and effectiveness of policies should be enhanced so as to form a resultant force in supervision. The increase in EPU has caused banks' reluctance to lend, which will raise corporate financing costs and affect the effectiveness of economic policy implemen-

tation. Therefore, the formulation and implementation of policies by relevant departments should take full account of the coordination, coherence, and comprehensiveness of the policies, so as to promote the steady development of China's real economy. Fourth, enterprises should improve the corporate governance levels, increase the effect of human resources and financial capital allocation, and restrain the negative impact of management's opportunistic behavior on business operations. Specifically, enterprises should continue to improve their own corporate governance, strengthen resource allocation and integration capabilities, and enhance the inclusiveness of internal culture to suppress the negative impact of management's self-interested motivation on the business long-term value.

Acknowledgments

Appendix Tables

Table 2. EPU and M&A

Dependent Variable	(1) MA	(2) MA	(3) MA	(4) MA
EPU	1.1530***	2.0467***	0.9619***	1.1792***
	(0.044)	(0.097)	(0.053)	(0.125)
Size			0.6799***	1.5158***
			(0.121)	(0.152)
CF			0.3869	0.1212
			(0.499)	(0.500)
TobinQ			0.3037***	0.6239***
			(0.050)	(0.054)
lev			3.1563***	1.9788***
			(0.556)	(0.560)
ROA			0.7443	1.0059
			(1.338)	(1.314)
salesg			0.4166***	0.4467***
			(0.117)	(0.117)
Return_Gap			0.0019***	0.0019***
.			(0.000)	(0.000)

Risk_Gap			-0.0000	-0.0000*
			(0.000)	(0.000)
N	26,196	26,196	26,196	26,196
R2	0.032	0.069	0.040	0.083
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

Notes: Robust standard errors are clustered at the industry level, which are reported in parentheses. *, **, and *** denote statistical significance at the 10, 5, and 1 percent significance levels, respectively.

Table 3. EPU and M&A: Sub-sample Test According to the Growth of Enterprises

Dependent Variable	(1) MA	(2) MA	(3) MA	(4) MA
	Initial Stage	Development Stage	Initial Stage	Development Stage
EPU	0.7583***	1.0621***	0.7244***	1.5188***
	(0.079)	(0.078)	(0.191)	(0.174)
Size	0.5968***	0.7574***	1.6129***	1.2886***
	(0.172)	(0.173)	(0.218)	(0.212)
CF	-0.1431	0.7061	-0.0810	0.2312
	(0.767)	(0.751)	(0.763)	(0.748)
TobinQ	-0.0165	0.5157***	0.3015***	0.7913***
	(0.077)	(0.072)	(0.085)	(0.079)
lev	2.5070***	3.4771***	0.9889	2.6346***
	(0.885)	(0.771)	(0.913)	(0.768)
ROA	5.8601***	-0.1940	5.2113**	0.7164
	(2.118)	(1.930)	(2.128)	(1.894)
Salesg	0.2444	0.3878**	0.2559	0.5045***
	(0.166)	(0.184)	(0.165)	(0.189)
Return_Gap	0.0011*	0.0023***	0.0011*	0.0024***
	(0.001)	(0.001)	(0.001)	(0.001)
risk_gap	-0.0001	0.0000	-0.0001**	0.0000
	(0.000)	(0.000)	(0.000)	(0.000)
N	12,876	12,856	12,876	12,856
R2	0.025	0.051	0.060	0.092
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	Yes

Notes: Robust standard errors are clustered at the industry level, which are reported in parentheses. *, **, and *** denote statistical significance at the 10, 5, and 1 percent significance levels, respectively.

Table 4. EPU, Corporate Governance and M&A

Dependent Variable	(1) MA	(2) MA	(3) MA	(4) MA
EPU	0.7113***	0.9919***	0.3738***	0.7843***

	(1)	(2)	(3)	(4)
	(0.065)	(0.130)	(0.073)	(0.130)
CG_CEO-SHR*EPU	0.6139***	0.5220***		
	(0.091)	(0.089)		
CG_CEO-SHR	-1.1804***	-1.1844***		
	(0.285)	(0.280)		
CG_SOE*EPU			1.0191***	0.8196***
			(0.092)	(0.092)
CG_SOE			-1.4550***	-0.6971
			(0.505)	(0.509)
Size	0.6514***	1.4559***	0.5939***	1.3412***
	(0.121)	(0.153)	(0.121)	(0.153)
CF	0.4099	0.1361	0.4626	0.1450
	(0.499)	(0.499)	(0.500)	(0.499)
TobinQ	0.2977***	0.6073***	0.2773***	0.5768***
	(0.050)	(0.054)	(0.050)	(0.054)
lev	2.9959***	1.8633***	2.8298***	1.8502***
	(0.555)	(0.559)	(0.553)	(0.555)
ROA	1.0785	1.4002	1.6506	1.8962
	(1.332)	(1.311)	(1.331)	(1.313)
Salesg	0.4134***	0.4492***	0.3787***	0.4290***
	(0.116)	(0.116)	(0.116)	(0.116)
Return_Gap	0.0019***	0.0019***	0.0019***	0.0018***
	(0.000)	(0.000)	(0.000)	(0.000)
risk_gap	-0.0000	-0.0000*	-0.0000	-0.0000*
	(0.000)	(0.000)	(0.000)	(0.000)
N	26,196	26,196	26,196	26,196
R2	0.043	0.085	0.046	0.087
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

Notes: Robust standard errors are clustered at the industry level, which are reported in parentheses. *, **, and *** denote statistical significance at the 10, 5, and 1 percent significance levels, respectively.

Table 5. EPU, Stock Price Volatility and M&A

Dependent Variable	(1)	(2)	(3)	(4)
	MA	MA	MA	MA
EPU	0.5469***	0.7563***	0.5273***	0.6969***
	(0.075)	(0.142)	(0.078)	(0.145)
VIX*EPU	0.3164***	0.2462**	0.3419***	0.2760***
	(0.102)	(0.100)	(0.106)	(0.104)
VIX	-0.3199	-0.2252	-0.3484	-0.2633
	(0.263)	(0.260)	(0.277)	(0.273)
Size	0.2117	0.9121***	0.1463	0.8795***
	(0.140)	(0.171)	(0.144)	(0.177)
CF	-1.0488*	-0.9636*	-1.1705**	-1.0949*
	(0.564)	(0.567)	(0.579)	(0.582)
TobinQ	0.0430	0.2131***	0.0290	0.2186***
	(0.058)	(0.063)	(0.061)	(0.066)
lev	3.3227***	2.1449***	3.5321***	2.3520***
	(0.648)	(0.667)	(0.673)	(0.692)
ROA	8.3899***	8.1557***	9.3341***	9.0704***
	(1.484)	(1.471)	(1.520)	(1.505)
Salesg	0.0392	0.1077	0.0470	0.1063
	(0.122)	(0.122)	(0.124)	(0.124)
Return_Gap	0.0020***	0.0020***	0.0020***	0.0020***
	(0.000)	(0.000)	(0.000)	(0.000)
risk_gap	-0.0000*	-0.0001*	-0.0000*	-0.0001*
	(0.000)	(0.000)	(0.000)	(0.000)
N	20,002	20,002	18,567	18,567
R2	0.020	0.048	0.019	0.046
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

Notes: Robust standard errors are clustered at the industry level, which are reported in parentheses. *, **, and *** denote statistical significance at the 10, 5, and 1 percent significance levels, respectively.

Table 6. EPU, Financing Constraints and M&A

Dependent Variable	(1)	(2)	(3)	(4)
	MA	MA	MA	MA
EPU	1.4729***	1.6310***	0.8410***	1.0298***
	(0.106)	(0.157)	(0.065)	(0.131)
ConFKZ *EPU	-0.3237***	-0.2830***		
	(0.059)	(0.058)		
ConFKZ	0.4982**	0.5487***		
	(0.199)	(0.201)		
ConFSY*EPU			0.0485***	0.0630***
			(0.016)	(0.015)
ConFSY			-0.1545***	-0.2021***

	(1)	(2)	(3)	(4)
			(0. 047)	(0. 047)
Size	0.6594***	1.4854***	0.6917***	1.5384***
	(0.121)	(0.153)	(0.121)	(0.152)
CF	0.4584	0.0888	0.3575	0.0879
	(0.515)	(0.513)	(0.499)	(0.499)
TobinQ	0.3533***	0.6354***	0.2911***	0.6094***
	(0.065)	(0.068)	(0.050)	(0.054)
lev	3.9059***	2.2744***	2.6652***	1.3209*
	(0.772)	(0.780)	(0.693)	(0.700)
ROA	0.7169	1.1986	0.8111	1.0524
	(1.359)	(1.330)	(1.336)	(1.312)
Salesg	0.3437***	0.4110***	0.3965***	0.4171***
	(0.122)	(0.120)	(0.117)	(0.117)
Return_Gap	0.0019***	0.0019***	0.0019***	0.0019***
	(0.000)	(0.000)	(0.000)	(0.000)
risk_gap	-0.0000	-0.0000*	-0.0000	-0.0000*
	(0.000)	(0.000)	(0.000)	(0.000)
N	26,196	26,196	26,196	26,196
R2	0.042	0.084	0.041	0.084
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

Table 7. Alternative dependent variables

Dependent Variable	(1) MAD	(2) MAD	(3) MAD	(4) MAD
EPU	0.1832***	0.3781***	0.2002***	0.3910***
	(0.010)	(0.023)	(0.010)	(0.024)
Size			-0.0075	0.0247**
			(0.012)	(0.012)
CF			-0.1201	-0.2429**
			(0.119)	(0.121)
TobinQ			0.0687***	0.1106***
			(0.010)	(0.011)
lev			0.7001***	0.6174***
			(0.075)	(0.077)
ROA			-0.8680***	-0.7975***
			(0.259)	(0.266)
Salesg			0.2466***	0.2889***

	(1)	(2)	(3)	(4)
			(0.027)	(0.028)
Return_Gap			0.0006***	0.0006***
			(0.000)	(0.000)
risk_gap			-0.0000	-0.0000
			(0.000)	(0.000)
N	26,196	26,196	26,196	26,196
R2	0.094	0.0336	0.0186	0.0446
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

Notes: Robust standard errors are clustered at the industry level, which are reported in parentheses. *, **, and *** denote statistical significance at the 10, 5, and 1 percent significance levels, respectively.

Table 8. Replace the Measurement Method of EPU Index

Dependent Variable	(1) MA	(2) MA	(3) MA	(4) MA
EPU_12M	0.6040***	0.8199***	0.5482***	0.4724***
	(0.018)	(0.039)	(0.020)	(0.050)
Size			0.6703***	1.5158***
			(0.112)	(0.152)
CF			0.4291	0.1212
			(0.498)	(0.500)
TobinQ			0.3597***	0.6239***
			(0.050)	(0.054)
lev			3.0633***	1.9788***
			(0.553)	(0.560)
ROA			1.2326	1.0059
			(1.317)	(1.314)
Salesg			0.4352***	0.4467***
			(0.117)	(0.117)
Return_Gap			0.0019***	0.0019***
			(0.000)	(0.000)
risk_gap			-0.0000	-0.0000*
			(0.000)	(0.000)
R2	0.048	0.069	0.057	0.083
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

Notes: Robust standard errors are clustered at the industry level, which are reported in parentheses. *, **, and *** denote statistical significance at the 10, 5, and 1 percent significance levels, respectively.

Table 9. IV

Dependent Variable	(1) MA	(2) MA	(3) MA	(4) MA
EPU	0.8970***	6.4008***	1.3289***	6.4008***
	(0.053)	(0.196)	(0.089)	(0.196)
Size	0.7496***	1.5158***	0.2861**	1.5158***
	(0.102)	(0.121)	(0.127)	(0.121)
CF	0.4293	0.1212	0.1471	0.1212
	(0.483)	(0.474)	(0.486)	(0.474)
TobinQ	0.3027***	0.6239***	0.3094***	0.6239***
	(0.047)	(0.051)	(0.047)	(0.051)
lev	3.0853***	1.9788***	3.5578***	1.9788***
	(0.506)	(0.499)	(0.512)	(0.499)
ROA	0.5468	1.0059	1.8608	1.0059
	(1.256)	(1.239)	(1.276)	(1.239)
Salesg	0.4117***	0.4467***	0.4443***	0.4467***
	(0.110)	(0.109)	(0.111)	(0.109)
Return_Gap	0.0019***	0.0019***	0.0019***	0.0019***
	(0.000)	(0.000)	(0.000)	(0.000)
risk_gap	-0.0000	-0.0000*	-0.0000	-0.0000*
	(0.000)	(0.000)	(0.000)	(0.000)
N	26,096	26,096	26,096	26,096
R2	0.040	0.083	0.038	0.083
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	No
Anderson-Test	0.0000		0.0000	
Cragg-Donald Test	2.0e+04		7320.248	

Notes: Robust standard errors are clustered at the industry level, which are reported in parentheses. *, **, and *** denote statistical significance at the 10, 5, and 1 percent significance levels, respectively.

Table 10. Regression of Sub-samples: According to the Region of Company Address

Dependent Variable	(1) MA East Regions	(2) MA East Regions	(3) MA Central and Western Regions	(4) MA Central and Western Regions
EPU	0.9814***	1.2611***	0.8859***	0.9632***
	(0.064)	(0.158)	(0.092)	(0.209)
Size	0.8298***	1.6635***	0.4437**	1.2793***

	(0.154)	(0.187)	(0.199)	(0.261)
CF	1.7508***	1.3586**	-1.9618**	-2.0573**
	(0.597)	(0.595)	(0.893)	(0.897)
TobinQ	0.2486***	0.5874***	0.3771***	0.6495***
	(0.061)	(0.066)	(0.087)	(0.094)
lev	2.5037***	1.3448*	4.0431***	2.7907***
	(0.695)	(0.695)	(0.912)	(0.939)
ROA	-2.8381*	-1.4134	7.1279***	5.4745**
	(1.667)	(1.618)	(2.237)	(2.266)
Salesg	0.6098***	0.6421***	0.1157	0.1244
	(0.153)	(0.152)	(0.178)	(0.180)
Return_Gap	0.0018***	0.0016***	0.0024***	0.0025***
	(0.001)	(0.001)	(0.001)	(0.001)
risk_gap	-0.0000	-0.0000	-0.0001	-0.0001
	(0.000)	(0.000)	(0.000)	(0.000)
R2	0.047	0.097	0.032	0.061
Controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	Yes

Notes: Robust standard errors are clustered at the industry level, which are reported in parentheses. *, **, and *** denote statistical significance at the 10, 5, and 1 percent significance levels, respectively.

Table 11. Regression of Sub-samples According to the Degree of Industry Competition

Dependent Variable	(1) MA Fierce competition	(2) MA Less competition	(3) MA Fierce competition	(4) MA Less competition
EPU	0.9955***	0.9564***	1.1610***	1.2610***
	(0.078)	(0.077)	(0.204)	(0.182)
Size	0.7517***	0.5274***	1.6493***	1.3342***
	(0.181)	(0.194)	(0.232)	(0.248)
CF	0.9612	-0.0313	0.6826	-0.2534
	(0.703)	(0.729)	(0.701)	(0.732)
TobinQ	0.1364**	0.4553***	0.4618***	0.7508***
	(0.069)	(0.080)	(0.077)	(0.086)
lev	3.7783***	2.5901***	2.3234***	1.6230*
	(0.842)	(0.838)	(0.850)	(0.852)
ROA	-1.3109	2.2689	-0.2471	2.4922
	(1.867)	(1.990)	(1.807)	(1.987)

Salesg	0.2791*	0.5174***	0.3488**	0.5214***
	(0.162)	(0.175)	(0.164)	(0.174)
Return_Gap	0.0022***	0.0016**	0.0021***	0.0016**
	(0.001)	(0.001)	(0.001)	(0.001)
risk_gap	-0.0000	-0.0000	-0.0000	-0.0000
	(0.000)	(0.000)	(0.000)	(0.000)
N	13,029	13,167	13,029	13,167
R2	0.043	0.031	0.092	0.068
Controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	Yes

R2	0.464	0.314	0.265
Firm FE	Yes	Yes	Yes
Year FE	No	No	Yes

Notes: Robust standard errors are clustered at the industry level, which are reported in parentheses. *, **, and *** denote statistical significance at the 10, 5, and 1 percent significance levels, respectively.

Table 12. EPU and M&A Performance

Dependent Variable	(1)	(2)	(3)
	DROA_Y1	**DROA_Y2**	**DROA_Y3**
EPU*MAA	0.0001***	0.0000	-0.0000
	(0.000)	(0.000)	(0.000)
EPU	0.0054***	0.0109***	0.0167***
	(0.001)	(0.001)	(0.001)
MAA	-0.0002**	-0.0001	0.0000
	(0.000)	(0.000)	(0.000)
Size	-0.0174***	-0.0253***	-0.0294***
	(0.001)	(0.002)	(0.002)
CF	-0.0060	-0.0353***	-0.0404***
	(0.004)	(0.005)	(0.004)
lev	0.0818***	0.0791***	0.0741***
	(0.005)	(0.007)	(0.008)
ROA	0.8419***	0.5474***	0.3970***
	(0.016)	(0.013)	(0.013)
Salesg	0.0125***	0.0137***	0.0124***
	(0.001)	(0.001)	(0.001)
Return_Gap	0.0000***	0.0000***	0.0000*
	(0.000)	(0.000)	(0.000)
risk_gap	-0.0000***	-0.0000	-0.0000*
	(0.000)	(0.000)	(0.000)
N	22,810	16,613	11,562

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