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**The Impact of the Belt and Road Initiative Connectivity on the Performance of Chinese  
Cross-Border Mergers and Acquisitions**

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# The Impact of the Belt and Road Initiative Connectivity on the Performance of Chinese Cross-Border Mergers and Acquisitions

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## Abstract

Since the Belt and Road Initiative (BRI) was put forward, more and more countries have participated in it, making it the top-level platform for regional cooperation. The increase in cross-border mergers and acquisitions (M&A) of Chinese enterprises has also become an irreversible trend. Cross-border M&A can make enterprises give full play to their advantages, but its high risk makes the success rate of M&A not optimistic. Realizing connectivity as the core goal of the BRI will help improve the international investment environment from all aspects, thus improving the performance of M&A. This study reveals the impact of connectivity on Chinese cross-border (M&A) on the BRI countries, uses the event study method to measure the short-term performance of M&A. The regression result shows that the policy coordination, financial integration, and people-to-people bond connectivity have a more positive impact on M&A performance in the short term. Meanwhile, greater connectivity has been found in developing countries and the Association of Southeast Asian Nations (ASEAN) countries. Robustness test results indicate that CAR performance in ASEAN countries is better than non-ASEAN countries, which also demonstrates that greater connectivity can improve M&A performance. The study fills the gap of existing papers that lack the data support to explore the relationship between Five Connectivity and M&A performance, also puts forward some suggestions on how Chinese enterprises can improve M&A performance.

*JEL Classification:* G34, G38

*Keywords:* The Belt and Road Initiative, Five Connectivity Indexes, Cross-border M&A

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# 1. Introduction

The Belt and Road Initiative (BRI) is a top-level cooperation initiative proposed by Chinese President Jinping Xi in 2013. Through regional cooperation, it will deepen economic cooperation with emerging market countries along the route, explore economic development methods, and implement the blueprint for international cooperation and win-win development into action. The connotation of the BRI can be summarized as five indicators and three similarities. The five indicators refer to policy coordination, facility connectivity, unimpeded trade, financial integration, and people-to-people bonds; the three similarities refer to building a community of interests, a community of destiny, and a community of responsibilities. As of 2020, China has signed cooperation documents with 138 countries and 30 international organizations to build the BRI jointly, and the interconnection framework of "six corridors, six roads, multiple countries, and multiple ports" has basically been constructed.<sup>1</sup> As of the end of 2019, China's direct investment in countries along the Belt and Road was \$179.47 billion, accounting for 8.2% of China's foreign direct investment, and the scale will grow continuously.<sup>1</sup> In 2020, under the harsh economic environment caused by Covid-19, the BRI had shown its strong resilience and potential. In the same year, President Jinping Xi put forward the dual circulation strategy,<sup>2</sup> namely, the grand strategy of a new development pattern of domestic and international dual circulation mutual promotion, which is consistent with the concept advocated by the BRI. Likewise, the further

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<sup>1</sup> Ministry of Commerce People's Republic of China, Report on Development of China's Outward Investment and Economic Cooperation. Retrieved from <http://images.mofcom.gov.cn/fec/202106/20210630083052807.pdf>

<sup>2</sup>The understanding of Jinping Xi's speeches—Great Cycle and Double Cycle. September 7, 2020. Retrieved from [http://www.xinhuanet.com/2020-09/05/c\\_1126455277.htm](http://www.xinhuanet.com/2020-09/05/c_1126455277.htm)

sustainable development of China will also create solid opportunities and driving forces for the future development of the BRI. At the same time, the connectivity realized by the BRI also provides a more solid development platform for the dual circulation strategy. The above background information shows that the development prospect of BRI is extensive. It's a hot field worth our attention.

Since the BRI was put forward, more and more scholars have shown their interest in it and have joined the discussion. Many studies involve the discussion of connectivity of the BRI, but many of them only stay at the macro level, lack in-depth research and data support. In addition, the existing studies are more about discussing one or two indicators of the Five Connectivity, or the impact or risk on Chinese cross-border investment choices, distributions, and risks. Few analyzes from the perspective of investment performance.

Based on data, this study adopts the event study method to reveal the relationship between the Five Connectivity and short-term performance of Chinese cross-border mergers and acquisitions (M&A) in BRI countries. The analysis results found that policy coordination, financial integration, and people-to-people bond connectivity have a positive correlation with cumulative abnormal return (CAR), which means a higher connectivity level of policy coordination, financial integration, and the people-to-people bond can lead to more favorable performance of Chinese cross-border M&A in the short-term. The Five Connectivity Index also shows a positive impact on CAR within ten days of the event but is not evident as the specific indications above. At the same time, it shows a stronger correlation in developing countries and Association of Southeast Asian Nations (ASEAN) countries than developed countries and non-ASEAN countries. This result suggests that going to developing countries or ASEAN countries may increase the success rate of cross-border M&A for Chinese corporations. The results of the robustness check show that

the stock price of the company has not suffered a great impact within five days before and after the M&A; however, it has a certain negative impact within ten days before and after the M&A. The probable reason is that the sample contains many events that the market believes will fail. The CAR performance does not differ significantly between developing and developed countries, but between ASEAN countries and non-ASEAN countries, the former has better performance.

The contribution of this study is mainly reflected in two aspects. Firstly, the study fills the gap of existing papers that lack the data support to explore the relationship between Five Connectivity and M&A performance, which confirms a positive relationship between the connectivity of the BRI countries and China. Secondly, this study puts forward some suggestions on how Chinese enterprises can improve M&A performance from the consideration of Five Connectivity in developing countries and developed countries, as well as ASEAN countries and non-ASEAN countries. Chinese enterprises need to pay more attention to policy coordination, financial integration, and people-to-people bond. Besides, due to the high level of connectivity between China and its neighboring regions, Chinese enterprises may have less risk of going to ASEAN countries or neighboring developing countries for investment.

Section 2 reviews the relevant literature; Section 3 introduces the method to process data; Section 4 describes the findings based on the regression result, and Section 5 comes to conclusions.

## **2. Literature Review**

Since the BRI was put forward in 2013, scholars worldwide have begun to study this initiative, which is regarded as China's greatest ambition in the international community. With the vigorous development of the BRI, more and more research directions have emerged. Subject to

the short development time compared with other research fields. The current studies can be roughly divided into three strands.

The first strand concentrates on the principle and nature of the BRI. Regarding this issue, different researchers have their own words. But in summary, it can be mainly divided into two groups. The first group claims that the BRI is a significant attempt by China and new partners to explore a new form of international economic cooperation, maintain economic growth while exerting more significant global influence, and contribute to the international financial structure (Huang, 2016). Flint and Zhu (2019) expressed similar opinions, they argued that the economic and political goals of the BRI are inalienable, it is not only interpreted as an economic strategy that strengthens regional and global relations but also a means to increase China's influence in Asia, also, contains the potential to transform the international economic and political landscape. The second group believes that the nature of the BRI is more used to serve political purposes, and regional cooperation is a means to expand Chinese geopolitical influence (Sui, 2019; Haise and Atsushita, 2018). Andornino (2017) claimed that the BRI is a "Marshall Plan" of the Chinese version, while Nordin and Wessmann (2018) mentioned the BRI shows Chinese ambition to become a new trailblazer of global capitalism better than the U.S. Moreover, G.C. (2019) showed a similar view in his work research but expressed less radically, he argued the geopolitical consequences are more important than economic impacts, but both ratify China's intention to strengthen its capacity as a regional and global leader.

The second strand focuses more on identifying the risk and challenges and the determinants in China's cooperation with countries and regions. The risks and challenges coexist in China and BRI countries. For BRI countries, the risk and challenges mainly come from the inequality between the Chinese and their domestic markets (Ma, 2017). Some studies are devoted to

exploring the impact of BRI on some regions, such as Sino-African, South Asia, Europe, and islands (Chen, 2016; Das, 2017; Franziska and Elisabeth, 2020; Adam et al., 2020). For China, the risk mainly can be covered in four dimensions: political, economic, social, and investment (Li et al., 2021), and a risk-evaluation index system has been constructed. Other aspects like the internal conflict risk (Gao et al., 2020) and communication obstacles (Liu et al., 2018; Ahern et al., 2015) are also involved. Regarding the determinants of Chinese overseas investment, some studies indicate that exchange rate level, market potential, host countries' openness, institutions, taxations, and environmental regulations are vital determinants when considering the investment choice (Liu et al., 2017; Wang et al., 2015; Nancy Muthoni et al., 2019; Huizinga and Voget, 2009; Cai et al., 2016). Moreover, Chong et al. (2018) found that spatial proximity, culture differences, trade agreements, and facilities are essential determinants of trade development. In 2012, Erel et al. (2012) found that bilateral trade can increase the possibilities of mergers between two countries; therefore, whether studying the determinants affecting investment or trade, they are intertwined and work mutually. With the rapid changes in the international economic market, some new determinants such as the RMB anchoring effect have also been added to the research scope (Cai, 2020).

The third strand starts from the evaluation perspective, which measures the outcome of the BRI. Due to the accumulation of time and information, quantitative analysis becomes available, which also contains studies on indicators of the Five Connectivity Indexes. The outcome can be mainly divided into positive and negative, and more studies believe BRI has produced a positive effect. Du and Zhang (2018) revealed that M&A has risen significantly since implementing the BRI, which may be attributed to the high-profile characteristics of international political cooperation. In terms of culture, Liu et al. (2018) found the significant positive impact of

Confucius Institutes on Chinese overseas M&A among BRI countries. Moreover, Liu et al. (2018) found that cultural and institutional distance inhibited China's bilateral trade with BRI countries. The announcement of BRI reduced this negative effect and successfully promoted deep cooperation and unimpeded trade. In addition, Fardella and Pordi (2017) and Li et al. (2018) analyzed the impact of BRI on the facility and infrastructure. Based on current studies, an apparent phenomenon is that almost all indicators or factors included in the Five Connectivity Indexes are positively correlated with the outcome of the BRI. However, the shortcoming is that many of the existing studies start with one or two indicators of the Five Connectivity Indexes for analysis, and there is little literature on the overall impact of the Five Connectivity Indexes. Chen et al. (2019)'s research is one of the few studies to measure the contribution to the BRI countries' economic growth from the perspective of the Five Connectivity Indexes, which also obtained positive correlation findings. Nevertheless, Jin et al. (2021) argued that the BRI increased the probability of troubled Chinese overseas investments due to the hostility triggered by changes in investment patterns, which reaches a contradictory finding with Du and Zhang (2018)'s research, but both affirm the critical role of Chinese state-owned enterprises in overseas investment.

Through the literature review, the research network from the development of the BRI has been sorted out. There is little literature devoted to the research on the Five Connectivity Indexes as a whole, but the indicators involved in the Five Connectivity Indexes (policy communication, facility connectivity, unimpeded trade, financial integration, and people-to-people bonds) have been extensively researched.

### 3. Data and Methodology

The data that measures the performance of the M&A comes from CSMAR databases. The sample period is selected from 2014 to 2021, and 98 samples from 28 BRI countries are chosen. The sample includes eight developed countries and 20 developing countries, and ten ASEAN countries and 18 non-ASEAN countries. The developed countries include Singapore, Hungary, Poland, The Czech Republic, Israel, Romania, Bulgaria, and Estonia. The developing countries include Russia, Malaysia, United Arab Emirates, Brunei, Egypt, Indonesia, India, Kazakhstan, Cambodia, Lebanon, Philippines, Thailand, Tajikistan, Vietnam, Uzbekistan, Lao PDR, Turkey, Ukraine, Croatia, Pakistan. The ASEAN countries include Indonesia, Cambodia, Lao PRC, Malaysia, Philippines, Singapore, Thailand, and Vietnam. The non-ASEAN countries include Israel, Kazakhstan, Poland, Pakistan, United Arab Emirates, Romania, Russia, Estonia, The Czech Republic, Cambodia, Lebanon, Egypt, Brunei, India, Tajikistan, Uzbekistan, Turkey, Croatia, and Ukraine.

The data that measures the Five Connectivity is the Five Connectivity Indexes, which comes from The Belt and Road Initiative: 2018 Report on Five Connectivity indexes<sup>3</sup> released by the “Five Connectivity Indexes research group of Peking University,” which measures the overall level of development of 94 nations related to the BRI in 2018.<sup>3</sup> The report uses an indicator system consisting of five tier-1 indicators (e.g., policy coordination, etc.), 14 tier-2 indicators (e.g., Basis of cooperation, etc.), and 45 tier-3 indicators (e.g., Frequency of high-level exchanges, etc.), which covers the measurement angles of most of the available data.

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<sup>3</sup> Retrieved from <https://ocean.pku.edu.cn/info/1165/3077.htm>

This paper refers to Du's (2020) method to measure short-term performance. Since stock market indicators can provide more efficient information and reflect shareholders' returns more accurately, this paper adopts the event study method to calculate the Cumulative Abnormal Returns (CAR) of M&A events in the event window to measure the short-term cross-border M&A performance. The CAR functions by ascertaining whether the event causes abnormal fluctuations in its stock price. Abnormal returns can be calculated by actual returns deducting expected returns. In this paper, we use the market model to calculate the expected return. Actual return is represented by daily return with cash dividend reinvested. If M&A leads to a positive abnormal return, which means greater than a normal rise in stock price, that indicates the event produces a positive effect on the firm's performance; otherwise, it causes a negative impact.

Firstly, we defined the event window and the normal estimation window. In figure 1,  $t$  refers to the event date;  $(t_0, t_1)$  refers to the event window;  $(t_2, t_3)$  refers to the normal estimation window. In this study, the normal estimation window is defined as (-120, -30), which means 120 days to 30 days before the date of the event. The event window is defined as (-5, 5) and (-10, 10).

Secondly, we calculate the expected normal return through Capital Asset Pricing Model (CAPM), as shown in Formula 1:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t} \quad (1)$$

where  $R_{i,t}$  refers to actual return in Day  $t$ ;  $\alpha_i$  refers to excess returns earned on each stock above the market return;  $\beta_i$  refers to the sensitivity of the stock price to market risk;  $R_{m,t}$  refers to market index return;  $\varepsilon_{i,t}$  refers to statistical error.

Thirdly, through regression analysis on the normal return and market index over the estimation window, we get estimates  $\hat{\alpha}_i, \hat{\beta}_i$ , the calculation of expected return is as follows:

$$E(R_{i,t}) = \hat{\alpha}_i + \hat{\beta}_i R_{m,t} \quad (2)$$

where  $E(R_{i,t})$  refers to the expected returns of the stock,  $\hat{\alpha}_i$  and  $\hat{\beta}_i$  are the theoretical value of  $\alpha_i$  and  $\beta_i$ .

Fourthly, the formula (3) used for calculating abnormal return rate based on the market model is as follows:

$$AR_{i,t} = R_{i,t} - E(R_{i,t}) \quad (3)$$

where  $AR_{i,t}$  represents the abnormal return rate of the company  $i$  on the day  $t$ ,  $R_{i,t}$  represents the actual return rate of the company  $i$  on the day  $t$ , and  $E(R_{i,t})$  represents the expected return rate of the company  $i$  on the day  $t$ .

Finally, we calculate the CAR of each event by adding up all AR within the event window.

$$CAR_{i,t} = \sum_{t_0}^{t_1} AR_{i,t} \quad (4)$$

This paper adopts a simple linear regression model and multiple linear regression model to study the comprehensive impact of Five Connectivity Indexes on M&A performance in Chinese cross-border M&A in BRI countries. Firstly, the study discusses the impact of Five Connectivity Indexes as a whole on M&A performance, the research model is as follows:

$$CAR_{i,t} = \alpha_0 + \alpha_1 FCI_i + \gamma Controls_i + \varepsilon_i \quad (5)$$

where  $CAR_{i,t}$  is the cumulative abnormal return during the event window (-5, 5) and (-10, 10),  $\alpha_0$  is an intercept term,  $\alpha_1$  is regression coefficients,  $\gamma$  is the coefficient for control variables, which includes total asset, leverage and return on asset (ROA), and  $\varepsilon_i$  refers to statistical error. Variable  $FCI_i$  represents Five Connectivity Indexes. Then, discuss the impact of five specific indexes on M&A performance, the research model is as follows:

$$CAR_{i,t} = \beta_0 + \beta_1 PC_i + \beta_2 FC_i + \beta_3 UT_i + \beta_4 FI_i + \beta_5 PB_i + \gamma Controls_i + \varepsilon_i \quad (6)$$

where  $\beta_0$  is an intercept term,  $\beta_1, \beta_2, \beta_3, \beta_4,$  and  $\beta_5$  are regression coefficients. The Variable  $PC_i$  represents policy coordination; the variable  $FC_i$  represents facility connectivity; the variable  $UC_i$  represents unimpeded trade; the variable  $FI_i$  represents financial integration, and the variable  $PB_i$  represents people-to-people bond.  $\gamma$  is the coefficient for control variables and  $\varepsilon_i$  refers to statistical error.

## **4. Results and Discussions**

### **4.1. Main Results**

For model 4, which intends to explore the impact of Five Connectivity Indexes on M&A performance. In Table 3 Panel A, which measures CAR in event window (-5,5), we find that the independent variable Five Connectivity Indexes is statistically significant at the 5% level when the sample includes all countries. It is significant at the 10% level for the sample includes developing countries and ASEAN countries.

Model 5 aims to research each index's effect on M&A performance, excluding the influence of Five Connectivity Indexes. The regression result in Table 3 Panel A shows that the variable policy coordination is statistically significant at 5%, 10%, and 1% levels in the sample of all countries, developed countries, and ASEAN countries, respectively. Also, the results indicate that the variable financial integration is statistically significant in the sample of all countries, developing countries, and ASEAN countries. In Panel B, which measures the CAR in the event window (-10,10), the variable Financial Integration also shows the vital statistical significance of the sample includes all countries and ASEAN countries. Unlike Panel A, the variable people-to-people bond is statistically significant at a 5% level in the sample of all countries and ASEAN

countries. In particular, three control variables fail to show strong correlations with the CAR, regardless of whether the independent variables were included.

On the economic level of significance, the variable Five Connectivity Indexes and policy coordination is more significant in the window event (-5,5), which means they have more power to influence the stock price in fewer days before and after the event, and they didn't show significant correlations with CAR over a more extended window event. Reversely, the variable financial integration and people-to-people bond positively affect M&A performance in a longer period. But since the ten days and 20 days before and after an event measure short-term effects, we did not distinguish them when drawing the conclusions.

## **4.2. Additional Results**

Table 4 shows the statistics of AAR and CAAR in the event window (-20,20). Statistically speaking, the negative AAR and CAAR is more than positive AAR and CAAR, which means within the 20 days before and after the event, the negative effect of the M&A event on enterprises is stronger than the positive effect. This result can be illustrated more clearly in Figure 2. As there are more negative AAR than positive ones, CAAR is always below 0%.

Table 5 and Table 6 conduct a single sample T-test to examine the significance of the difference of CAR in event day -5 to 5 and -10 to 10. The p-value result indicates that the second sample has passed the significance test with a 95% confidence level, but the first sample fails to pass the T-test, which means CAR in event time -10 to 10 shows significance difference with 0, but in event time -5 to 5, it doesn't.

Table 7 shows the T-test for two groups in BRI countries. Group 0 represents developing countries which contains 20 countries, 45 events; Group 1 represents developed countries which

include eight countries, 53 events. Through the T-test for the two groups, the P-value indicates that the two groups have similar CAR performance. Differently, Table 8 shows the T-test for two groups in BRI countries. Group 0 represents the non-ASEAN countries, including 18 countries, 30 events; Group 1 represents ASEAN countries containing ten countries, 68 events. The P-value of 0.046 indicates that Group 0 and Group 1 are significantly different. Therefore, the non-ASEAN and ASEAN countries have different performances from CAR.

Finally, Table 2 represents that there is some correlation between the independent variables. Through conducts variance inflation factor (VIF), which measures the issue of multicollinearity in multiple regression, the mean VIF value below 10 demonstrates that there isn't a highly collinear relationship between independent variables, which guarantees the explanatory power of the model.

## **5. Conclusions**

The BRI provides a platform for extensive cooperation between China and the participating countries, while cross-border M&A has become an essential means for Chinese cross-border investment. The key for BRI to go far and steadily is to play the core role of the Five Connectivity in BRI construction. This study uses the event study method to explore the impact of Five connectivity on short-term M&A performance and analyzes whether the effect is significantly different in developed countries, developing countries, ASEAN countries, and non-ASEAN countries. Based on these analyses, we can draw the following conclusions.

Firstly, the variable CAR, which measures the return of the M&A event, is lower than 0 in the short term, indicating that the event has a negative impact on the company's stock price and brings wealth reduction to the company's shareholders. This is inconsistent with previous expectations. The reason for the unfavorable result may be attributed to the high failure rate of

China's cross-border M&A event, which leads to a large deviation in the selected event samples, including many samples considered as M&A failures by the market. There are many reasons for the failure of M&A; for instance, the inability of post-M&A integration makes the target enterprise a burden to the acquiring enterprise, the disappointment caused by transaction strategy and structure, the risk caused by information asymmetry, cultural conflict, and human resource conflict, etc. Secondly, the analysis shows that in the short term of M&A announcement disclosure, policy coordination, financial integration, and people-to-people bond connectivity have an apparent positive relationship with M&A performance. The Five Connectivity Index also shows a positive impact on CAR within ten days of the event but is not evident as the specific indications above. At the same time, connectivity shows higher relevance in developing countries and ASEAN countries than in developed countries and non-ASEAN countries. Finally, the results of the robustness check indicate that the stock price of the company has not suffered a great impact within five days before and after the M&A, however, it has a certain negative impact within ten days. The CAR performance does not differ significantly between developing and developed countries, but between ASEAN countries and non-ASEAN countries, the former performance is better, which demonstrates the positive relationship between higher connectivity level and better M&A performance.

According to the above conclusions, the following Revelations are drawn. First of all, China should continue to promote the construction of Five connectivity with the participating countries of the BRI, improve the macro environment for Chinese enterprises to invest overseas, build a more conducive international platform to conduct business and provide support for the dual circulation strategy at both domestic and international. In selecting target enterprises, countries with higher connectivity in terms of policies and regulations should be selected as far as possible

to guarantee further integration. At the same time, M&A should be conducted in countries with extensive cultural exchanges and sound public opinion, which are more likely to be interpreted as good news by the stock market. From the perspective of financing integration, improving the financial service system is an important support for the investment activities of the BRI. China should expand bilateral currency swaps among the BRI countries, and the scope and scale of the settlement will help companies pay for M&A. In addition, Chinese enterprises should analyze the weakness of the connectivity with the target enterprise's country in terms of five aspects before the M&A so as to reduce the failure rate.

Secondly, due to the high level of connectivity between China and its neighboring regions, Chinese enterprises may have less risk of going to ASEAN countries or neighboring developing countries for investment. Nowadays, due to the uncertainty of COVID-19, the risk of M&A in European and American countries may increase. However, due to the poor economic environment and backward financial and international balance of payments system in developing countries, the acquirer enterprises must strengthen risk identification and assessment and consider the impact of economic environment fluctuations on the operating conditions of enterprises after M&A.

The primary limitation of this paper is the insufficient sample size, which leads to the deviation from the expected result. In addition, the effect of payment mode and the difference between state-owned enterprises and non-state enterprises on the performance is not discussed, future studies can pay attention to it.

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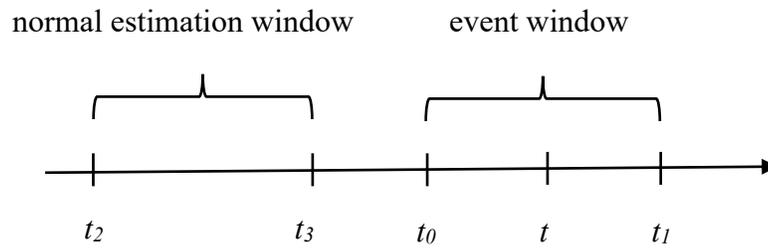
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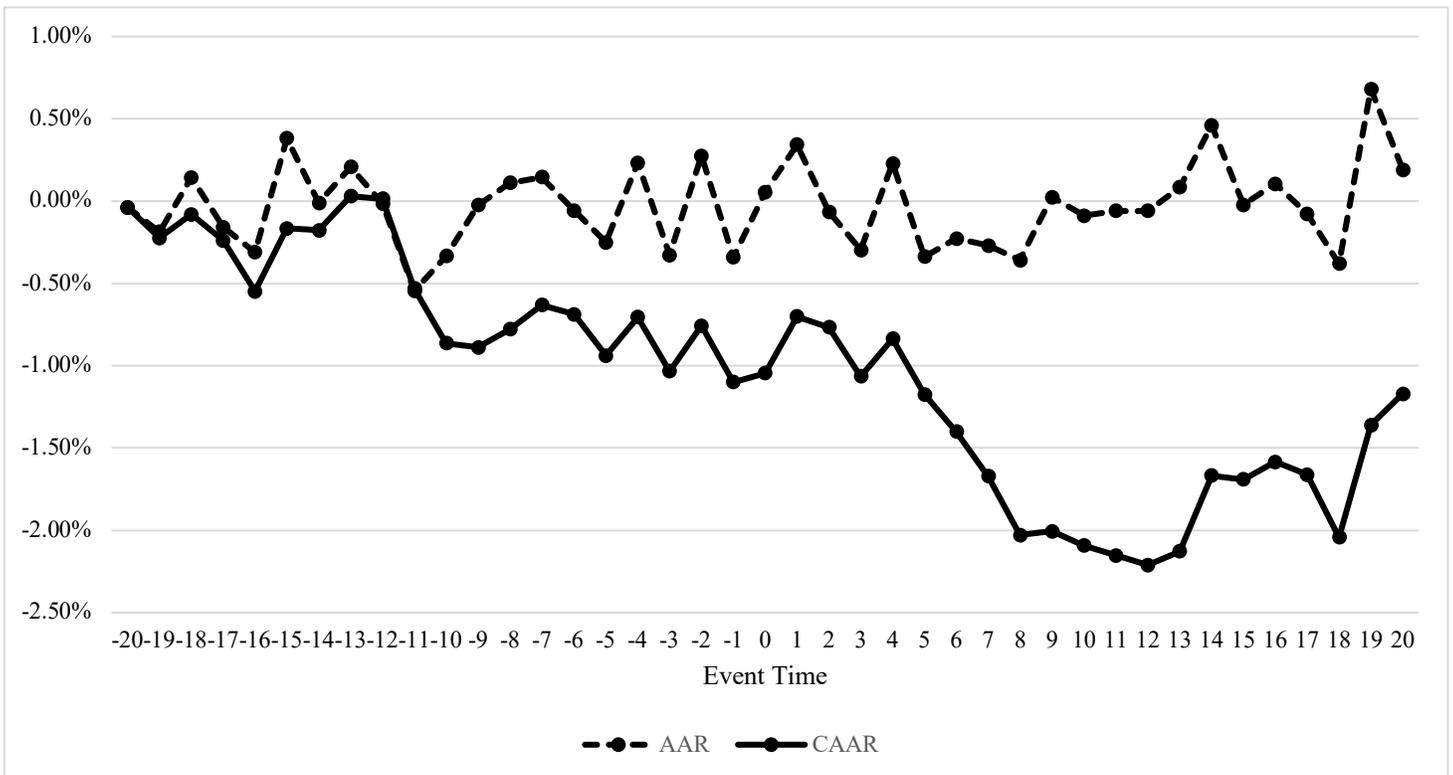
### Figure 1: Plot of timeline

This figure shows the event window and the normal estimation window. In figure 1,  $t$  refers to the event date, which is the announcement day of the M&A;  $(t_0, t_1)$  refers to the event window;  $(t_2, t_3)$  refers to the normal estimation window. In this study, the normal estimation window is defined as  $(-120, -30)$ , which means 120 days to 30 days before the date of the event. The event window is defined as  $(-5, 5)$  and  $(-10, 10)$ .



**Figure 2: Plot of CAAR for M&A from event day -20 to 20**

This figure blends the bar chart of AAR and the line chart of CAAR in the event window (-20,20). The horizontal axis represents Event Time, and the vertical axis represents the value of CAAR. The dotted line represents the AAR of the day corresponding to the event window, the full line represents the CAAR, which is calculated by the sum of all AAR in the corresponding Event window of the current day.



**Table 1. Sample Statistics of Chinese cross-border M&A on BRI countries' company**

The table reports descriptive statistics for the sample of Chinese cross-border M&A on BRI countries' companies from 2014 to 2021. The sample includes 98 events in 28 BRI countries, eight developed countries, and 14 developing countries. The dependent variable *CAR* (-5,5) measures the average abnormal return accumulated in the event window (-5,5); The dependent variable *CAR* (-10,10) measures the average abnormal return accumulated in the event window (-10,10). The data of independent variable *FCI* represents Five Connectivity Indexes, *PC*, *FC*, *UT*, *FI*, *PB* represents the indicator of policy coordination, facility connectivity, unimpeded trade, financial integration, and people-to-people bond, respectively. The index data comes from *The Belt and Road Initiative: Report on Five Connectivity indexes*, which contains the score for each BRI country under each indicator. The control variable includes *Total Asset*, *Leverage*, and *ROA*. The unit of *Total Asset* is billion yuan.

Variables	Obs.	Average	StdDev	Min	Max	Median
<i>CAR</i> (-5,5)	98	-0.0049	0.1075	-0.2979	0.4587	-0.0085
<i>CAR</i> (-10,10)	98	-0.0156	0.1335	-0.4269	0.3573	-0.0041
<i>FCI</i>	98	71.973	9.658	41.82	86.24	74.59
<i>PC</i>	98	12.983	2.445	5.430	18.070	13.180
<i>FC</i>	98	11.320	1.786	7.280	18.520	11.720
<i>UT</i>	98	16.441	3.216	9.440	19.830	15.780
<i>FI</i>	98	15.738	3.631	5.110	18.860	16.630
<i>PB</i>	98	15.483	1.947	9.680	18.310	16.330
<i>Total Asset</i>	85	8.369	65.312	0.785	606.671	5.029
<i>Leverage</i>	85	0.449	0.174	0.099	0.925	0.462
<i>ROA</i>	98	0.046	0.052	-0.216	0.217	0.042

**Table 2. Correlations**

The table shows the correlations between the five indexes variables and the CAR. The variable *CAR (-5,5)* and *CAR (-10,10)* measures the average abnormal return accumulated in the window event (-5,5) and (-10,10), respectively. The variable *FCI* represents Five Connectivity Indexes; *PC*, *FC*, *UT*, *FI*, *PB* represents the indicator of policy coordination, facility connectivity, unimpeded trade, financial integration, and people-to-people bond, respectively. The control variable includes *Total Asset*, *Leverage*, and *ROA*. The sample period is from 2014 to 2021. \*\*\*, \*\* and \* represent significance levels of 1%, 5% and 10% respectively.

<i>Variables</i>	<i>TotalAsset</i>	<i>leverage</i>	<i>ROA</i>	<i>CAR (-5,5)</i>	<i>CAR(-10,10)</i>	<i>PC</i>	<i>FC</i>	<i>UT</i>	<i>FI</i>	<i>PB</i>	<i>FCI</i>
<i>TotalAsset</i>	1.0000										
<i>leverage</i>	0.3116***	1.0000									
<i>ROA</i>	-0.0892	-0.4632***	1.0000								
<i>CAR (-5,5)</i>	0.0090	0.1116	-0.0888	1.0000							
<i>CAR(-10,10)</i>	0.0243	0.0837	-0.1171	0.8041***	1.0000						
<i>PC</i>	0.1746	0.0345	-0.0068	0.1688*	0.0969	1.0000					
<i>FC</i>	0.0675	-0.0949	-0.0746	-0.0908	-0.0402	0.5078***	1.0000				
<i>UT</i>	-0.0156	-0.0396	-0.0141	-0.1112	-0.1044	0.0974	0.3048**	1.0000			
<i>FI</i>	-0.0060	0.0248	-0.0336	0.1731*	0.1813*	0.1644	0.2742**	0.8184***	1.0000		
<i>PB</i>	-0.0748	-0.1329	-0.0120	-0.1683	-0.0577	0.1077	0.3012**	0.6115***	0.7647***	1.0000	
<i>FCI</i>	0.0344	-0.0396	-0.0354	-0.1101	-0.0975	0.4631***	0.5789***	0.8459***	0.8958***	0.7762***	1.0000

**Table 3. Main regression results**

This table shows the regression results for model 3 and model 4, representing the impact of Five Connectivity Indexes and each index on Chinese cross-border M&A on 28 BRI countries. Columns (1)– (5) present the five cases of CAR. Column (1) includes all 28 BRI countries; column (2) includes eight developed countries; column (3) includes 20 developing countries; column (4) includes ten ASEAN countries and column (5) includes 18 non-ASEAN countries. Panel A reports CAR results in the event window (-5,5) and Panel B reports CAR results in the event window (-10,10). Considering the sample size of columns (2), (3), (4), (5), to reduce the influence of control variables on independent variables, only one control variable ROA is retained. The variable LogTotalAsset is the result of taking the logarithm of Total Asset. The sample includes 98 events, and the period is from 2014 to 2021.

Variables	(1)	(2)	(3)	(4)	(5)
Panel A: Dependent Variable CAR is in event window (-5,5)					
<i>PC</i>	0.0118** (2.23)	0.0212* (1.85)	0.0114* (1.81)	0.0291*** (2.95)	0.0157 (1.27)
<i>FC</i>	-0.0121 (-1.62)	-0.0267 (-0.85)	-0.0101 (-1.12)	-0.0427 (-2.95)	0.0712 (1.04)
<i>UT</i>	-0.0067 (1.13)	-0.0028 (-0.09)	0.0029 (0.30)	-0.009 (-0.52)	-0.0310 (-0.96)
<i>FI</i>	0.01313** (2.04)	0.0015 (0.06)	0.0171* (1.92)	0.0226* (2.19)	0.0096 (0.75)
<i>PB</i>	0.0046 (0.5)	0.0045 (0.15)	0.0017 (0.16)	0.0433* (2.19)	-0.0269 (-0.95)
<i>FCI</i>	0.0017* (1.51)	0.0006 (0.41)	0.0025* (1.26)	0.0023 (0.95)	0.0014 (0.96)
<i>LogTotal Asset</i>	0.0031 (0.14)				
<i>Leverage</i>	0.0484 (0.61)				
<i>ROA</i>	-0.1999 (-0.86)	-0.0513 (-0.22)	-0.6037 (-1.43)	-0.4785* (0.80)	-0.1498 (-0.76)
<i>Constant</i>	-0.0051 (-0.04)	0.0366 (0.07)	0.1742 (1.19)	0.1987 (1.20)	-0.1691 (-0.71)
<i>Obs.</i>	98	53	45	68	30
<i>Adj-R<sup>2</sup></i>	0.053	0.030	0.095	0.051	0.227

Panel B: Dependent Variable CAR is in event window (-10,10)					
	(1)	(2)	(3)	(4)	(5)
<i>PC</i>	0.0092 (1.39)	0.0199 (1.31)	0.0086 (1.13)	0.0306* (3.28)	0.0156 (1.27)
<i>FC</i>	-0.1151 (-1.23)	-0.0184 (0.66)	-0.0105 (-0.97)	-0.0430 (3.15)	0.0712 (1.04)
<i>UT</i>	-0.0092 (1.24)	-0.0049 (-0.11)	0.0031 (0.27)	-0.0093 (-0.54)	-0.0310 (-0.96)
<i>FI</i>	0.0239** (2.97)	0.0117 (0.36)	0.0256** (2.38)	0.0388*** (-4.00)	0.0096 (0.75)
<i>PB</i>	0.02612** (2.29)	0.0255 (0.65)	0.0232 (1.70)	0.0695** (3.74)	0.0269 (0.95)
<i>FCI</i>	0.0015 (1.04)	0.0017 (0.98)	0.0014 (0.62)	0.0018 (0.70)	0.0014 (0.95)
<i>LogTotalAs set</i>	0.0118 (0.41)				
<i>Leverage</i>	0.0173 (0.18)				
<i>ROA</i>	-0.2702 (-0.91)	-0.1496 (-0.49)	-0.7936 (-1.56)	-0.7073 (-0.97)	-0.1498 (-0.76)
<i>Constant</i>	-0.1946 (-1.23)	-0.1631 (-0.26)	-0.0028 (-0.02)	-0.1763 (-0.97)	-0.1692 (-0.71)
<i>Obs.</i>	98	53	45	68	30
<i>Adj-R<sup>2</sup></i>	0.053	0.052	0.077	0.010	0.443

**Table 4. Statistics of AAR and CAAR in event window (-20,20)**

This table shows the average abnormal return (AAR) and cumulative average abnormal return (CAAR) of M&A events from event day -20 to event day 20, which happened in 22 BRI countries from 2014 to 2021. The AR is calculated using the market model. The total number of events is 98. AAR represents the average of the AR for all events. CAAR represents the average of the CAR of all events on the same day or the sum of AAR.

Event Day	Market Model	
	AAR	CAAR
-20	-0.00038	-0.00038
-19	-0.00187	-0.00224
-18	0.00144	-0.00080
-17	-0.00158	-0.00238
-16	-0.00310	-0.00549
-15	0.00382	-0.00166
-14	-0.00011	-0.00178
-13	0.00208	0.00030
-12	-0.00015	0.00015
-11	-0.00545	-0.00530
-10	-0.00333	-0.00864
-9	-0.00024	-0.00888
-8	0.00111	-0.00778
-7	0.00146	-0.00631
-6	-0.00057	-0.00688
-5	-0.00251	-0.00939
-4	0.00233	-0.00706
-3	-0.00327	-0.01033
-2	0.00275	-0.00758
-1	-0.00342	-0.01100
0	0.00055	-0.01045
1	0.00343	-0.00702
2	-0.00065	-0.00767
3	-0.00298	-0.01064
4	0.00228	-0.00836

Table 4 (*Cont.*)

Event day	AAR	CAAR
5	-0.00338	-0.01174
6	-0.00228	-0.01401
7	-0.00270	-0.01671
8	-0.00358	-0.02029
9	0.00024	-0.02006
10	-0.00088	-0.02094
11	-0.00059	-0.02153
12	-0.00058	-0.02211
13	0.00083	-0.02128
14	0.00460	-0.01668
15	-0.00023	-0.01690
16	0.00105	-0.01585
17	-0.00077	-0.01662
18	-0.00380	-0.02043
19	0.00682	-0.01361
20	0.00190	-0.01170

**Table 5. T-test for CAR in event window (-5, 5)**

This table reports the T-test results for the dependent variable CAR in the event window (-5, 5). The sample includes 98 events, the sample period is from 2014 to 2021. The test value is 0.

Variable	Obs	Mean	Std. Dev.	[95% Conf.	Interval]	Sig. (2-tailed)
<i>CAR (-5, 5)</i>	98	-.0048	0.1081	-.0265	.0168	0.328

**Table 6. T-test for CAR in event window (-10, 10)**

This table reports the T-test results for the dependent variable CAR in the event window (-5, 5). The sample includes 98 events, the sample period is from 2014 to 2021. The test value is 0.

Variable	Obs	Mean	Std. Dev.	[95% Conf.	Interval]	Sig. (2- tailed)
<i>CAR (-10, 10)</i>	98	-.0156	0.1342	-.0425	.01127	0.025

**Table 7. T-test for developing countries and developed countries**

This table shows the T-test result for two groups in 28 BRI countries. Group 0 represents developing countries which contains 20 countries, 45 events. Group 1 represents eight developed countries which contain eight countries, 55 events.

Group	Obs	Mean	Std. Dev.	[95% Conf.	Interval]	Sig. (2- tailed)
<i>0</i>	45	-0.0193	0.1476	-0.0637	0.0249	
<i>1</i>	53	-0.0124	0.1230	-0.0463	0.0214	
<i>combined</i>	98	-0.0156	0.1342	-0.0425	0.0112	0.800
<i>diff</i>		-0.0069		-0.0612	0.0437	

**Table 8. T-test for ASEAN countries and non-ASEAN countries**

This table shows the T-test result for two groups in BRI countries. Group 0 represents the non-ASEAN countries which contain 18 countries, 30 events. Group 1 represents ASEAN countries which include ten countries, 70 events.

Group	Obs	Mean	Std. Dev.	[95% Conf.	Interval]	Sig. (2- tailed)
<i>0</i>	30	-0.0267	0.1569	-0.0489	0.0682	
<i>1</i>	68	0.0097	0.1224	-0.0564	0.0285	
<i>combined</i>	98	-0.0156	0.1342	-0.0425	0.1127	0.046
<i>diff</i>		0.0364		-0.0217	0.0946	

## Appendix

**Table A1. Variable name and definition**

Variables	Definition
<i>Five Connectivity Indexes</i>	Includes five connectivity indicators to measure the level of connectivity between China and BRI countries
<i>Policy Coordination</i>	Exchange economic development strategies and measures, and formulate plans and actions for promoting regional cooperation through consultation
<i>Facility Connectivity</i>	Improve cross-border transport infrastructure to facilitate economic development and people-to-people exchanges among countries
<i>Unimpeded trade</i>	Eliminate trade barriers, reduce trade and investment costs
<i>Financial Integration</i>	Implement local currency exchange and settlement to reduce circulation costs
<i>People-to-people Bond</i>	Strengthen friendly people-to-people and cultural communications
<i>LogTotalAsset</i>	The logarithm of total assets of the acquirer
<i>Leverage</i>	Acquirer' leverage, calculated by total liabilities divided by total assets
<i>ROA</i>	Acquirer's return on assets, calculated by net profit divided by total assets