

# The Influence of terrorism on Foreign Direct Investment

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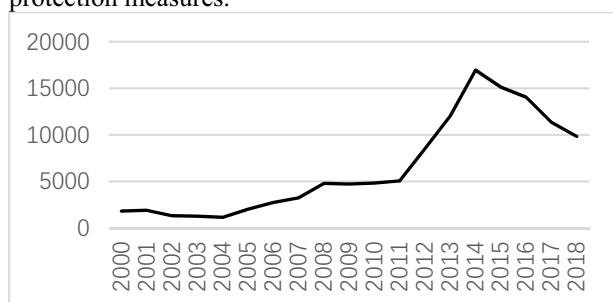
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**Abstract.** In the process of globalization, the spread of terrorism has brought risks and uncertainties to multinational enterprises. In order to find out the influence of terrorism, this research use the Chinese multinational enterprises'(MNEs) 2089 investments in 125 countries to studies the impact of terrorist events on their investment decisions. The research find that the the more people affected by the terrorism in one country, the less subsidiaries set up in the countries. Terrorist events have brought severe challenges to investment. Governments of countries should improve their own security protection systems, while enterprises should also strengthen the risk management system.

## 1 INTRODUCTION

With the deepening of globalization, transnational investment has gradually become the most significant aspect of the global economy. Since the 1980s, foreign capital for production has arrived in almost all countries, many of which compete to attract multinational companies. Under the background of rising transnational investment, economic globalization has become an irreversible momentum, but at present there are still some factors affecting the development trend of economic globalization. The spread of terrorism has a certain impact on the development of diversification in today's world. Terrorism will destroy the relations between countries and the normal order of the world. All these factors will affect transnational investment. In 2018, 103 countries were hit by terrorist attacks. Together, those countries affected by terrorism accounted for 86 percent of the world's cumulative inflows of foreign direct investment. As can be seen from Figure 1, the number of terrorist incidents increased gradually from 2000 to 2014, and the number of terrorist incidents decreased from 2014 to 2018 as governments of various countries improved their security protection measures.



**Fig.1.** Total number of terrorist incidents from 2000 to 2018

As governments around the world have stepped up security in public places such as shopping malls, schools,

banks, corporations have become increasingly targeted by terrorists, and multinational corporations have become the preferred targets.

This paper adopts literature analysis, descriptive analysis and empirical analysis, through the analysis of China's investment in 125 countries, analyzes the impact of terrorist events on their investment decisions, and further analyzes the impact of terrorist events on their investment methods, and puts forward relevant policy recommendations.

## 2 IMPACT OF TERRORISM

Globalization has led to better allocation of market resources and promoted the rationalization of economic structure, which has brought global economic growth, but at the same time, market globalization has also brought the globalization of risks. Terrorism affects the investment of transnational enterprises by affecting the international order. The impact of terrorist incidents mainly includes the following aspects.

### 2.1 The impact of terrorist events on the international market order.

The emergence of terrorism has led new barriers to transnational trade and investment, which have the potential to change the business environment, and terrorism is the most serious of the many threats faced by transnational enterprises, with a major impact on the structure of global commerce. The occurrence of terrorism will have a negative impact on the region, and foreign investors prefer alternative regions without terrorist incidents (Abadie & GardeAzabal, 2003)<sup>[1]</sup>. The rise of terrorism is "the final form of anti-globalization", which makes the trend of globalization stagnate (Ricart,2004)<sup>[2]</sup>.

## 2.2 The direct negative impact of terrorist events on the investment of multinational enterprises.

If a country has a high frequency of terrorist incidents, investors may perceive the country as a greater security risk. The occurrence of terrorism makes managers unwilling to take risks, thus reducing the possibility of international investment by enterprises (Aggarwal,2006) [3]. Terrorist events in host countries may endanger the lives of staff operating in host countries, thereby increasing the cost of investment for enterprises. Countries with higher risks, especially those severely affected by terrorism, have less foreign direct investment, and companies do not tend to send executives to more vulnerable countries (Bouchet,2004) [4]. Terrorist events will directly threaten the asset security of transnational corporations and increase the uncertainty and transaction costs of transnational corporations (Czinkota,2010) [5].

Nowadays, most multinational enterprises rely on the supply chain to realize the production of products, and the occurrence of terrorist events will have an impact on the international supply chain, disruptions in international supply chains can halt production and affect the flow of business information. (McIntyre & Travis, 2006) [6].

## 2.3 Indirect negative impact of terrorist events on investment of multinational enterprises.

Terrorism not only has an impact on enterprises, but also has a great impact on consumers. Due to the occurrence of terrorist events, consumers who have experienced them personally, witnessed them or watched them from the news will have certain psychological trauma. Large-scale terrorist events may cause panic in the whole society and lead to a decline in consumer demand (Eckstein & Tsiddon, 2004) [7]. For example, the 9/11 terrorist attacks triggered a broad psychological response that led to a drop-in consumer demand and purchasing levels. The decline in consumer demand makes foreign investment enterprises reduce their investment in countries prone to terrorist incidents.

## 2.4 The positive impact of terrorist events on the investment of multinational enterprises.

In some cases, terrorist incidents can have a positive effect on multinational companies. The first is the change of domestic environment. After the terrorist incident, a country may have more advanced security measures and economic relief, thus promoting the investment of multinational enterprises. At the same time, some countries will send troops to the areas where terrorist organizations are common to ensure the investment security of domestic enterprises, so as to promote the investment of multinational enterprises (Biglaiser & DeRouen, 2007) [8]. Secondly, the occurrence of terrorist events may promote the growth of enterprises, and people can overcome the damage caused by terrorism through psychological resilience (Joseph & Linley, 2008) [9]. Terrorism will increase the coping skills of enterprises in the face of adversity, which can bring post-traumatic

growth to enterprises and create opportunities through profitable resource restructuring (Fredrickson, & Taylor, 2008; Bonanno, 2007; PeneyCAD, 2008) [10-12]. Multinational enterprises should increase their skills in coping with adversity, improve their own strategies, and increase their investment experience in areas where terrorist incidents occur, so as to partially promote their investment in multinational enterprises.

## 3 THEORETICAL MODEL AND EMPIRICAL ANALYSIS

### 3.1 Theoretical model selection

In this paper, the Logit model is selected to conduct an empirical study on the investment mode of MNEs when the host country is faced with terrorist attacks. The two dependent variables in Logit's binary regression model are 0 and 1 respectively. In this article, this article will multinational company investment in the process, whether to set up the subsidiary in the host country as a dependent variable, Y. Investment preferences for multinational companies can be divided into two categories; first, choose to set up a subsidiary in the host country, and set Y=1; one is that a multinational corporation is unwilling to set up a subsidiary in the host country. If Y=0, then the probability that a multinational corporation is willing to set up a subsidiary in the host country is:

$$\text{Prob}(Y_i) = p_i = \frac{e^{\beta_0 + \beta_i X_i}}{1 + e^{\beta_0 + \beta_i X_i}} = \frac{1}{1 + e^{-(\beta_0 + \beta_i X_i)}} \quad (1)$$

Where,  $X_i$  ( $i = 1, 2, 3, \dots, N$ ) refers to the relevant factors that may affect the willingness of a multinational corporation to set up a subsidiary in the host country.  $\beta_i$  is the coefficient of all relevant factors, which can be obtained from Equation (1):

$$e^{\beta_0 + \beta_i X_i} = \frac{p_i}{1 - p_i} \quad (2)$$

Equation (2) is the probability ratio of a multinational corporation's willingness to set up subsidiaries in the host country and that of a multinational corporation's reluctance to set up subsidiaries in the host country. Take the logarithm of both sides of Equation (2) to obtain the final linear regression model, namely the Logit model:

$$\text{Ln} \frac{p_i}{1 - p_i} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n \quad (3)$$

### 3.2 Data source

This paper selected the Chinese in 125 countries for foreign investment of 2089 multinational companies, investment data collected from 2000 to 2018, including the company whether to investment, the investment amount, whether does the company set up a subsidiary in the host country, the company set up affiliates, whether to set up a joint venture company, the host country is belong to the area along the country. At the same time, collect the basic data of the company, including the rate of return on assets, rate of return on equity, rate of return on assets and liabilities, and rate of return on investment. Data from the CSMAR database. At the same time, the number of terrorist incidents, the number of confirmed deaths caused

by the corresponding terrorist incidents and the number of non-fatal injuries caused by terrorist incidents were collected from the Global Terrorism Database in 125 countries from 2000 to 2018.

### 3.3 Analysis of regression results

In this paper, the investment data of 2089 multinational corporations are analyzed by using Stata 15.1 software and selecting relevant variables on the basis of theory.

#### 3.3.1 The influence of terrorist events on enterprises' investment

First of all, this paper generally analyzes whether terrorist events will have an impact on enterprises' investment decisions. We choose whether the firm invests as the dependent variable, defined as Y. Based on the above theoretical basis, we can conclude that the occurrence of terrorist events will have two influences on the investment decisions of enterprises. The first is the direct impact, the independent variable with the number of terrorist events as the direct influence is defined as X<sub>1</sub>. The second is the indirect impact, the sum of confirmed deaths and confirmed non-fatal injuries caused by terrorist incidents as the independent variable of indirect effects was defined as X<sub>2</sub>. Meanwhile, the investment return rate is selected as the control variable, denoted as X<sub>3</sub>. Whether the enterprise belongs to a "One Belt and One Road" country is taken as another control variable, denoted as X<sub>4</sub>.

Logit model was used to conduct regression analysis on the selected variables, and the results were shown in Table 1. The regression P value of the model is zero, and the overall model is significant. Variable X<sub>1</sub> as a terrorist incident, the number of regression coefficient is 0.001, the reason may be because the terrorism, the country will be more strict security measures, and set up insurance for multinational companies, etc., It will partly encourage enterprises to invest abroad. It can be seen from the results that the indirect impact of terrorist events has a negative impact on whether enterprises invest or not. The main reason is that the occurrence of terrorist events will have a negative impact on consumers' psychology and lead to the decline of consumer demand, which will lead to the decline of investment rate X<sub>4</sub> of enterprises and the decrease of investment of enterprises. We found that "One Belt and One Road" countries have a greater negative impact on the investment decisions of firms, which may be due to the imperfect infrastructure of "One Belt and One Road" countries.

**Table 1.** Estimated results of the impact of terrorist events on corporate investment decisions

Y	Coef.	St.Err.	p-value	Sig
X <sub>1</sub>	.001243	0	0	***
X <sub>2</sub>	-.000103	0	0	***
X <sub>3</sub>	-.000026	0	.014	**
X <sub>4</sub>	-.228349	.043	0	***
Constant	-2.45167	.023	0	***

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

#### 3.3.2 The impact of terrorist events on enterprises' choice of investment methods

The last part studied the influence of terrorist events on enterprises' investment, and the next part studied the influence of terrorist events on enterprises' investment methods. In this section, it studies the influence of terrorist organizations on enterprises' choice of investment subsidiaries, associated companies and joint ventures.

**Table 2.** The influence of terrorist organizations on enterprises' choice of investment methods

	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>3</sub>
X <sub>1</sub>	.001209	.001228	.001498
X <sub>2</sub>	-.000101	-.000094	-.000322
X <sub>3</sub>	-.000028	.000046	.000618
X <sub>4</sub>	-.242211	-.290719	.171087
Constant	-2.58798	-4.74568	-6.00620

Logit model was used to analyze the selected variables, and the results were shown in Table 2. As can be seen from the results, there is little difference in the estimated coefficient for whether an enterprise establishes subsidiaries or associates. The estimated results of the joint venture company differ greatly, and the estimated results are not significant. The main result is that the enterprise has less control over the joint venture company and the influence of the terrorist incident is also relatively weak. From the perspective of the direct influence, that is, the number of terrorist incidents, the occurrence of terrorist incidents has a partial promoting effect on the establishment of the two kinds of companies. The reasons are consistent with the analysis in the previous section. The coefficient of affiliated companies is larger than that of subsidiaries. The main reason is that affiliated companies may have other local companies together. The security measures caused by terrorist incidents are better, and a small part of them promote the establishment of affiliated companies. From the perspective of indirect influence, namely, the total number of deaths confirmed by terrorist incidents plus the number of non-fatal injuries confirmed by terrorist incidents, both of them have a negative effect on the establishment of enterprises, and the negative effect is greater for subsidiaries. From the above two points, it can be concluded that terrorist events have a greater negative impact on the establishment of subsidiaries, followed by joint venture companies, which have a smaller impact on joint venture companies.

## 4 CONCLUSIONS AND POLICY RECOMMENDATIONS

Using Logit model, this paper empirically tests the impact of terrorist events on the investment decisions and investment methods of 2089 multinational corporations from 2001 to 2018. The findings are as follows : (1) The number of terrorist events has a positive effect on the investment decisions of MNCs, but the positive effect is very limited; the number of casualties caused by terrorist events has a inhibiting effect on the investment decisions of multinational enterprises, but the inhibiting effect is less than the promoting effect. In general, terrorist events have a weak promoting effect on the investment decisions of

multinational enterprises. (2) Under the background of terrorist events, One Belt And One Road countries will have a negative effect on the investment decisions of multinational enterprises. (3) The influences of terrorist events on enterprises' choice of investment types are in the same direction, and the inhibiting effect of terrorist events on the establishment of subsidiaries is more obvious.

From the above analysis, it is not difficult to find that although terrorist events have an inhibitory effect on investment activities, it is not obvious, and it still has a negative effect on corporate investment. In order to effectively prevent the risks encountered by multinational companies in investment and ensure the trend of global economic integration, the following suggestions are proposed: (1) At the national level, all countries should be involved in the fight against terrorism. At present, terrorist activities are characterized by wide range, large quantity and strong harm. Governments of all countries should improve relevant national policies and implement certain protection for investment enterprises. In the wake of a terrorist incident, governments should move quickly to establish ways to deal with it and create a safe business environment for investment companies. (2) From the perspective of enterprises, investors should strengthen the awareness of risk prevention, adopt diversified investment strategy, and appropriately adjust the investment layout between regions. At the same time, enterprises should also improve their own risk prevention strategies, and formulate corresponding measures to deal with terrorist events, so as to reduce losses and increase their competitiveness next time.

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## References

1. A. Abadie, J. Gardeazabal. *The American Economic Review*. The economic costs of conflict: A case study of the Basque Country.93(1): 113–132. (2003)
2. J. Ricart, M. Enright, P. Ghemawat, S. Hart, T. Khanna. *Journal of International Business Studies* New frontiers in international strategy. 35(3): 175–183. (2004)
3. R. Aggarwal. *Terrorism and financial management*. In G. Suder (Ed.), *Corporate strategies under international terrorism and adversity*.95–108. (2006)
4. M. Bouchet. *Terrorism and the international business environment: The security-business nexus. The impact of geopolitical turmoil on country risk and global investment strategy*.83-104. (2004)
5. M.Czinkota, G Knight, P liesch, J Steen. *Journal of International Business Studies*. Terrorism and international business:A research agenda. 41, 826 – 843. (2010)
6. J. Steen, P. Liesch, G. Knight, M. Czinkota. *Public Money & Management*. The contagion of international terrorism and its effects on the firm in an interconnected world.26(5):305–312. (2006)
7. Z. Eckstein, D. Tsiddon. *Journal of Monetary Economics*. Macroeconomic consequences of terror: Theory and the case of Israel. 51(5): 971–1002. (2004)
8. G. Biglaiser, K. DeRouen. *International Studies Quarterly*. Following the flag: Troop deployment and US foreign direct investment. 51(4): 835–854. (2007)
9. S. Joseph, P. Linley, *Trauma, recovery, and growth: Positive psychological perspectives on posttraumatic stress*. Hoboken, NJ: Wiley. (2008)
10. B. L. Fredrickson. *A life worth living: Contributions to positive psychology, Series in Positive Psychology. The broaden-and-build theory of positive emotions*. 85–103. (2006)
11. G. A. Bonanno, S. Galea, A. Bucciarelli, D. Vlahov. *Journal of Consulting and Clinical Psychology*, The role of demographics, resources, and life stress. 75(5): 671–682. (2007)
12. O. Branzei, M. Peneycad. *The business of sustainable development in Africa: Human rights, partnerships, and new business models. Weaving sustainable partnerships in Zanzibar: The social fabric of women entre-preneurship*. 192–210.(2008)