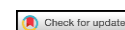


WHY SHOULD THE AUTHORITY CARE ABOUT THE IMMIGRATION POLICY UNCERTAINTY?



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ABSTRACT

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Terrorist attacks, which have been intensified by migration recently, have a significant adverse impact on social and economic development. In this paper, we utilize Poisson regression model to explore the relationship between migration fear, migration policy uncertainty, and terrorist attack. Empirical results show that migration policy uncertainty has a significant positive impact on the occurrence of terrorist attacks, which displays similarity in different sample countries. However, there is a substantial difference in the effect of the migration fear on the terrorist attack, the impact of migration fear on the terrorist attacks is positive in traditional migration country (such as the U.S.), which is opposite with European migration countries. This paper further separates the full sample into two subsamples by using 9.11 Attack as exogenous structural break and concludes that after the 9.11 Attack, the impact of migration fear on terrorist attack increases and the result of migration policy uncertainty on terrorist attack decreases, which is consistent with stringent immigration censorship system in the U.S. Therefore, to strengthen international security, we should give more attention to the migration fear and the uncertainty of immigration policy.

Contribution/ Originality: This study contributes to the existing literature on exploring the determinants of terrorist attacks. Specifically, this paper first uses immigration fear and immigration policy uncertainty index constructed by textual analysis to examine the impacts of potential factors related to immigration on terrorist attacks.

1. INTRODUCTION

Since 9.11 attacks happened, global terrorist attacks have taken place frequently. It was 11,774 terrorist attacks took place around the world in 2015, which is caused 28,328 people dead. Over the same period, the number of people killed in the traffic accidents was about 1.25 million in the world, which is about 45 times as much as the former². However, the impact of the terrorist attacks is far more significant than other accidents such as traffic accidents: on the one hand, the terrorist attacks not only caused severe losses of lives and property; on the other hand, the psychological fears of the victims and the subsequent series of social problems will indirectly amplify the negative impact of the terrorist attacks. The terrorist attacks have generated an overwhelmingly negative effect on

the society and economy, led to FDI inflows reduction, caused tourist arrivals and expected returns on corporate equity decline (Abadie and Gardeazabal, 2003; Arin *et al.*, 2008; Karolyi and Martell, 2010; Kong and Zhou, 2016; Shah *et al.*, 2016; Liu and Pratt, 2017). Therefore, the assessment of the economic impact of terrorist attacks is one of the major research directions.

In fact, terrorist attacks are not new issues for global security. In recent years, the global terrorist attacks have taken on new features such as a wide range of victimization, diversified assault tactics, and frequent attacks. Also, due to the terrorist attacks planned and launched by non-indigenous people, the immigration policy has dramatically criticized under the context of globalization. At the same time, the sustained fermentation of refugees in Europe and the introduction of harsher immigration restrictions in the United States have further strengthened the link between immigration and terrorist attacks. In the era of globalization, the cross-border flow of human capital and the increase in the number of immigrants are inevitable. From the perspective of national security defense, it is a very tricky issue to reduce and avoid the terrorist attacks initiated or planned by immigrants.

This article starts with the fears of immigrants and discusses the relationship between the immigration issue and the terrorist attacks by combining the immigration policy's uncertainty. Immigration fear, which is often caused by the changes in the immigration policy's environment and the unpredictability of immigration policies in the future, is closely related to the policy uncertainty. The rise of immigration fears may stimulate the increase of illegal immigrants, and thus widely provide a hotbed for the terrorist attacks. Therefore, it is necessary to explore the relationship between the fear of immigrants and the terrorist attacks (particularly, how the immigration fears and immigration policy's uncertainty affect the occurrence of terrorist attacks). The main contribution of this paper focuses on the following two aspects: Firstly, this paper tries to introduce the immigration fears into the analytical framework of the influencing factors of terrorist attacks. At present, there is little literature about the relationship between the fear and the terrorist attacks. This paper uses the Migrant Fear Index constructed by Baker *et al.* (2016) for the first time to do empirical research. Second, it enriches the research literature on terrorist attacks. This article starts with the fears of immigrants and explores the relationship between immigration panic, policy uncertainty, and terrorist attacks. The empirical analysis shows that the fears of immigrants play an important factor in the terrorist attacks. The changes and uncertainties of immigration policies also positively affect the occurrence of terrorist attacks.

The rest of the paper is organized as follows: Section 2 is the literature review. Section 3 discusses empirical model and data. Section 4 analyzes empirical results. Section 5 concludes and provides future policy implications.

2. LITERATURE REVIEW

Terrorist attacks are a very complex social phenomenon. The current research on terrorist attacks mainly focuses on the determinants of terrorist attacks and the social impact of terrorist attacks. In terms of the social impact of the terrorist attacks, the basic consensus is that the terrorist attacks will cause the decrease in the stock of capital (including human and material capital), the rise of economic instability and the deterioration of the domestic tourism industry, public investment will be squeezed by the increase in anti-terrorism spending. As far as the determinants of terrorist attacks are concerned, the debate remains unanimous (Drakos and Gofas, 2006). There are two reasons: first, there is a lack of a unified theoretical framework for the analysis of terrorist attacks (Crenshaw, 1981) second, there are many qualitative factors that are difficult to measure in determining the determinants of terrorist attacks, such as Psychological factors.

Many studies focus on the relationship between terrorist attacks and financial markets. Spanish terrorist attacks from 1976 to 1991 caused its foreign direct investment to fall by 13.5%. Greek foreign direct investment (FDI) dropped 11.9% from the terrorist attacks of 1975 to 1991 (Enders and Sandler, 1996). The 9.11 terrorist attacks caused a 0.06% drop in U.S. productive capital and a 0.3% negative long-term negative impact on the U.S. economy (Becker and Murphy, 2001). An empirical study which is based on the data from 22 countries' financial

markets found that there was a significant negative return on stock returns after the terrorist attacks (Drakos, 2010). In addition, empirical studies on incident studies and GARCH models found that the negative impact of terrorist attacks on Spanish stock markets is more pronounced, and London stock market is more resilient to terrorist attacks (Kollias *et al.*, 2011).

Terrorist attacks have also adversely affected the development of tourism. Both domestic terrorist attacks and international terrorist attacks have a moderately negative impact on tourism flows. Especially in developing countries, the impact of terrorist attacks on tourism is far greater than that on developed countries (Llorca-Vivero, 2008). Multinational experience shows that there is a significant correlation between political stability, terrorist attacks and tourism development, and the terrorist attacks have hit tourism strongly (Saha and Yap, 2014). After controlling the income variable, the terrorist attacks have little effects on long-term tourism development. However, there are significant short-term relations in some countries, namely, the tourism industry's keep resilience to terrorist attacks and the impact of terrorist attacks on tourism in different regions show significant differentiation (Sönmez, 1998).

There are many influencing factors for the terrorist attacks. Rich countries are the most vulnerable to attacks, while democracies are more vulnerable than other countries. The costs of terrorist attacks are often closely related to the number of attacks, not the casualties (Tavares, 2004). Countries with a low degree of economic openness, a large population and more international disputes are often vulnerable to terrorist attacks, and there is only a weak statistical relationship between the level of democracy and the terrorist attacks (Drakos and Gofas, 2006). Geopolitics is another crucial reason for the frequent terrorist attacks. Furthermore, the number of terrorist attacks is also negatively correlated with the level of economic development and ethnic differentiation, and meanwhile, it is positively correlated with mineral reserves, non-democratic political systems and the level of participation of international organizations (Abadie, 2006). Political freedom, in a non-monotonic way, affects terrorist attacks: countries with moderate political freedom are more vulnerable to terrorism than those with highly political freedom or highly authoritarian regimes. Although political freedom has a significant and non-linear effect on domestic terrorist activities, the impact on transnational terrorism lacks significant statistical evidence (Bandyopadhyay and Younas, 2011). Geographical and political divisions limit a country's ability to contain terrorist attacks, but a strong legal system can effectively prevent terrorist attacks. Besides, social and economic changes are also important causes of terrorist attacks. Economic growth and sustainable development can largely avoid the terrorist attacks (Freytag *et al.*, 2011).

In sum, although the literature has explored the specific political, economic and geographical factors on the impact of terrorist attacks, it does not explore study terrorist attacks from the psychological factors; on the contrary, most studies only concentrate on the impact of terrorist attacks on individual psychology. After analyzing the income effect and the substitution effect by using the Slutsky equation, it can be found that the occurrence of a terrorist attack is essentially the maximization of utility of terrorists (Anderton and Carter, 2005). At present, the research on the impact of the immigration fear and immigration policy uncertainty on terrorist attacks has not been quantitatively studied. The fundamental reason is that it is difficult to measure the immigration fear and immigration policy uncertainty. For the first time, this paper uses the index of immigration fear index and immigration policy uncertainty index which is constructed by Baker *et al.* (2016) to study it, especially under the reality of the European refugee crisis and the new round of U.S. immigration policy, to study the relationship is particularly necessary. Consistent with previous studies, the fear among immigrants can be interpreted as a psychological explanation for the causes of the terrorist attacks. Immigration policy uncertainty explains the causes of terrorist attacks from a political and economic perspective.

3. METHODOLOGY AND DATA DESCRIPTION

3.1. Methodology

This paper focuses on the relationship between the number of terrorist attacks and the immigration fear & immigration policy uncertainty. Considered that the number of terrorist attacks is discrete non-negative random variable, the traditional regression analysis does not apply. Referring to [Drakos and Gofas \(2006\)](#) this paper mainly uses the counting model¹ to make an empirical analysis about the relationship between the related variables.

Denoting the number of terrorist attacks by $TERR_{i,t}$, it is a non-negative discrete variable, where i represents different countries and t represents time. Using Poisson distribution to describe the counting model of the number of terrorist attacks, then:

$$\Pr(TERR_{i,t} = k) = \frac{e^{-\lambda_{i,t}} \lambda_{i,t}^k}{k!} \quad (1)$$

Where $\lambda_{i,t}$ is the mean of the Poisson distribution, and the logarithmic form is a linear combination of explanatory variables, namely:

$$\lambda_{i,t} = \exp(\mathbf{X}_{i,t}\beta) \quad (2)$$

Where $\mathbf{X}_{i,t}$ is all the explanatory variables contained in this paper, i.e. immigration panic index ($MF_{i,t}$), immigration policy uncertainty index ($MPU_{i,t}$), Quarterly GDP growth rate ($G_{i,t}$). In addition, $\mathbf{X}_{i,t}$ may also contain the lagged term of explanatory variables ([Drakos and Gofas, 2006](#)).

Considering that not all quarter, there will be terrorist attacks, Zero-inflated Poisson Regression can be used when the number of terrorist attacks in some quarters is zero. Then the number of terrorist attacks $TERR_{i,t}$ subjects to mixed distribution, the probability of different results expressed as follows:

$$\Pr(TERR = 0) = \Pr(z = 0) + \Pr(z = 1) * \Pr(TERR^* = 0|Poisson) \quad (3)$$

$$\Pr(TERR = j > 0) = \Pr(z = 1) * \Pr(TERR^* = j|Poisson) \quad (4)$$

Where $z=0$ means never suffered a terrorist attack. If we use the Poisson model to estimate this, then $z=1$, and $TERR^* = 0$ refers to the potential explanatory variables estimated from the Poisson regression model.

In order to determine the statistical applicability of Poisson distribution and zero-expansion Poisson distribution, this paper uses the Vuong test for empirical analysis ([Vuong, 1989](#)). The Vuong test statistic asymptotically follows a normal distribution: a zero-expansion Poisson model is also fitted if the Vuong test statistic is very large; on the contrary, if the Vuong test statistic is very small, then a standard Poisson regression model is also suitable for analysis.

3.2. Variable Selection and Data Description

This paper mainly uses the data of the four sample countries of USA, UK, Germany, and France when discussing the relationship between immigration fear & immigration policy uncertainty and terrorist attack. The

¹ Including Poisson regression model and Zero-inflated Poisson regression model.

selected variables mainly include immigration fear index, immigration policy uncertainty Index, quarterly GDP growth rate and the number of terrorist attacks, the sample length from the first quarter of 1990 to the fourth quarter of 2015. Among them, immigration fear index, the immigration policy uncertainty index was extracted from the news newspaper by Baker *et al.* (2016)² the quarterly GDP growth rate of sample countries came from the OECD national database³, and the number of terrorist attacks came from the University of Maryland's Global Terrorism Database (Global Terrorism Database)⁴.

Table-1. Descriptive Statistics

Nation	Variables	Mean	Standard deviation	Minimum	Maximum
USA	Immigration fear	98.30	23.59	61.96	196.89
	Immigration policy uncertainty	107.72	49.24	32.68	299.58
	Quarterly GDP growth rate	0.60%	0.0062	-2.11%	1.89%
	The number of terrorist attacks	7.26	5.46	0	28
Germany	Immigration fear	133.86	134.23	21.23	1190.12
	Immigration policy uncertainty Index	102.59	86.59	16.79	527.03
	Quarterly GDP growth rate	0.39%	0.0089	-4.48%	2.89%
	The number of terrorist attacks	6.60	12.60	0	71
France	Immigration fear	111.44	49.56	4.98	318.27
	Immigration policy uncertainty	120.08	80.68	6.61	442.41
	Quarterly GDP growth rate	0.38%	0.0049	-1.69%	1.57%
	The number of terrorist attacks	12.45	18.97	0	95
UK	Immigration fear	12.45	18.97	0	95
	Immigration policy uncertainty	111.44	49.56	4.98	318.27
	Quarterly GDP growth rate	0.49%	0.0061	-2.26%	1.82%
	The number of terrorist attacks	19.97	22.43	0	126

Note: 1. The sample length is from the first quarter of 1990 to the fourth quarter of 2015;

2. The number of observations for all four variables is 104.

Table 1 reports a descriptive statistical analysis of the variables in the four sample countries. From the perspective of mean, the most frequent terrorist attacks occurred in the United Kingdom. Specifically, the number of terrorist attacks in Scotland and Northern Ireland accounted for a high proportion in the United Kingdom, while the number of terrorist attacks in the United States quarterly occurred only slightly higher than that in Germany, the country with the highest immigration fear, has received the largest number of refugees since the outbreak of the European refugee crisis in 2015, with the highest immigration fear index reaching 1190.12. The United Kingdom has the lowest immigration fear index, which is related to the stringent and stable immigration policies (such as the labor license system) that have been long implemented. Finally, as far as the uncertainty of immigration policy is concerned, French immigration policy has the highest uncertainty and Germany the lowest. According to the 2016 report of the Center for Immigration Studies in the United States, the United States has 42.4 million immigrants (including legal immigrants and illegal immigrants) nationwide in 2014, accounting for 13.3% of the nation's population in 2014, which is the maximum since 1994.

Table 2 summarizes the changes in immigration policies in the United States since 1990. All previous U.S. administrations have attached great importance to the immigration legislation and regulation. In particular, since the 9.11 terrorist attacks, a series of measures have been taken to limit immigration by controlling the issuance of immigrant visas and strengthening border patrols. In 2017, the U.S. government suspended the issuance of visas to citizens in seven countries including Iran, Iraq, Libya, Somalia, Sudan, Syria, and Yemen to prevent terrorists from entering the United States as immigrants and threatening national security.

² Details at http://www.policyuncertainty.com/immigration_fear.html.

³ Specific data indicators at <https://data.oecd.org/>.

⁴ Specific data indicators at <http://www.start.umd.edu/>.

Table-2. Changes in U.S. Immigration Policies, 1990-2017

1990-2000	The Immigration Bill 1990 includes increasing the number of immigrants, adjusting immigration quotas, reforming the employment permit system, reducing control over short-term work, limiting the government's power to expel migrants and expanding the scope of serious crimes. In 1994, the Law on the Control and Enforcement of Violent Crimes was passed. In 1996, the Anti-Terrorism and Effective Death Penalty Act and the Law on the Illegal Immigration Reform and Migration were adopted.
2001-2005	In 2001, when the United States passed the Patriot Act, it specifically broadened the background examination of foreigners entering the United States and the examination of foreign students. In 2002, the Frontier Security and Visa Immigration Reform Bill and Homeland Security Act were passed, and in 2005 the True Identity Act was passed.
2006-2010	In 2006, the Safe Wall Act was adopted to limit the entry of illegal immigrants from Mexico. In addition, the comprehensive immigration reform bill that the Obama administration pushed for in 2007 failed.
2011-2017	In 2013, the Border Security, Economic Opportunities, and Modernization of Immigrants Act passed a more stringent requirement on illegal immigration control and border security. In 2017, the new U.S. administration passed a presidential executive order to impose more stringent controls on travelers entering the United States and to restrict the entry of citizens from seven countries into the United States.

Source: Authors' own summary from the U.S. government website.

Such behavior by the U.S. government has largely triggered the rise of fear among legal immigrants. Particularly, the swinging and uncertainty of the new U.S. administration on immigration has allowed the immigration fear to be magnified virtually. In fact, the UK, France, and Germany government also have adopted more stringent legislative and administrative interventions on the issue of immigration. In 2001 Germany acknowledged its immigration status and enacted a new immigration bill in 2005. With the outbreak of the European refugee crisis, Germany stepped up control over the border areas and control of illegal immigrants. France has passed the Immigration and Integration Act since the unrest in 2005 and passed two more government bills in 2007 and 2010, respectively, to limit immigration. Early immigrants in the United Kingdom were mainly migrants inside the Commonwealth. In 1962, the Commonwealth Immigration Act restricted migrants through work permits. By 2008, the British government further restricted the number of immigrants and started to significantly tighten immigration policies.

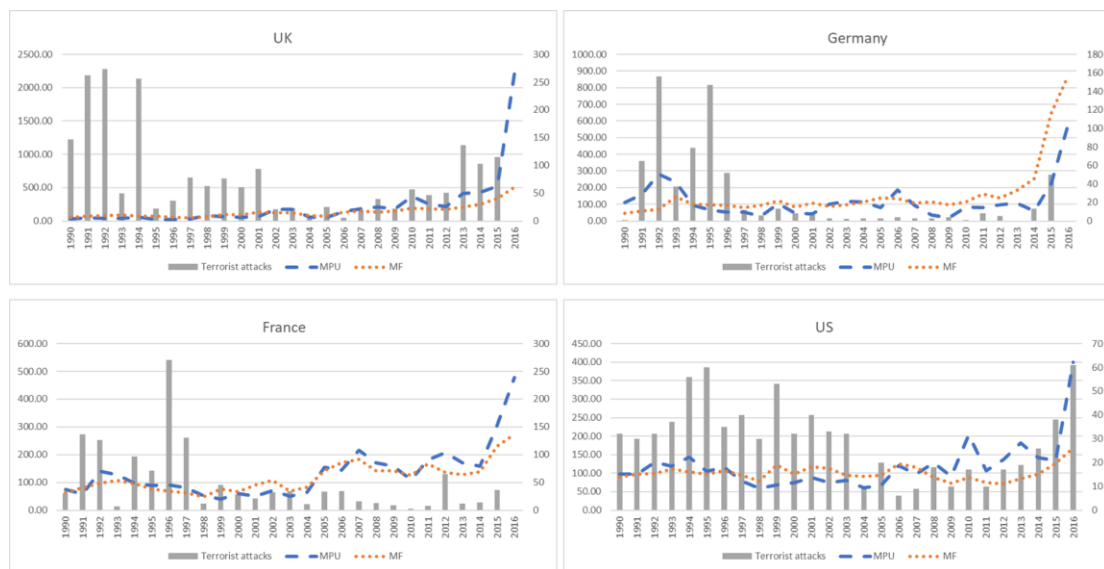


Figure-1. Immigration fears, immigration policy uncertainties and terrorist attacks trends

Note: The left axis is the immigration policy uncertainty index and immigration fear index, the right axis is the number of terrorist attacks.

Figure 1 depicts the time series of immigration fear index, immigration policy uncertainty index and the number of terrorist attacks in the four sample countries of the United States, the UK, Germany and France. In the

United States, for example, the number of terrorist attacks in the United States has dropped significantly since the 9.11 terrorist attacks, compared with the 9.11 terrorist attacks. After the 9.11 terrorist attacks, the U.S. government changed its overall security strategy by setting up not only the administration such as the Homeland Security Administration, but also the monitoring of terrorist acts by drafting the Patriot Act. From Figure 1, we can further find that the volatility of the immigration policy uncertainty is significantly greater than that of the immigration fear in the two periods 1994-1996 and 2014-2015. During the period from 1999 to 2002, the volatility of immigration fear is greater than that of immigration policy uncertainty. For the United Kingdom, immigration policy uncertainty and immigration fear have increased significantly in recent years, especially the increase of immigration policy uncertainty is pretty clear. Through the trend of change, we can see that the immigration policy uncertainty seems to be an important reason for the frequent terrorist attacks in Britain in recent years. For Germany, between 1990 and 1996, there was a certain correlation between the immigration policy uncertainty and the occurrence of terrorist attacks. From 2014 to 2015, the immigration fear was likely to dominate the terrorist attacks. There were also two different time periods in 1991-1996 and 2001-2002 in France's terrorist attacks. There was a notable common trend between the immigration policy uncertainty and the number of terrorist attacks in 2001-2002.

4. EMPIRICAL RESULTS

Before conducting the regression estimation, we should discuss the two-way causal relationship that may exist between immigration fear, immigration policy uncertainty and terrorist attacks. In fact, the high immigration fear and immigration policy uncertainty will not only stimulate the occurrence of terrorist attacks; meanwhile, frequent terrorist attacks will also stimulate the rise of immigration fear and the increase of immigration policy uncertainty. In order to overcome the possible two-way causality and avoid the simultaneous equations caused by endogenous variables, this paper uses the lagged value of immigration fear index and immigration policy uncertainty index as the instrumental variables⁵. Table 3 reports Poisson regression results for four sample countries. In addition, this paper further takes the United States as an example. Taking the 9.11 terrorist attacks as a boundary, the paper divides the sample into two sub-samples that include before the 9.11 terrorist attacks and after the 9.11 terrorist attacks. It explores the relationship between the terrorist attacks and immigration fear, the immigration policy uncertainty (see table 4).

Considering that the number of terrorist attacks in some quarters in the sample data is zero, Table 3 further reports the estimation results of zero-expansion Poisson regression. In order to distinguish Poisson regressions and the applicability of zero-expansion Poisson regressions, this paper makes use of the Vuong statistics proposed by [Vuong \(1989\)](#). The null hypothesis is that the zero-expansion Poisson distribution is more reasonable, so rejecting the null hypothesis means that the sample data is more suitable for modeling standard Poisson distribution regression. The empirical results in Table 3 show that except for the United States, the Vuong test based on the sample data of Germany, France and Great Britain rejected the null hypothesis. This means that for the vast majority of samples, establishing a standard Poisson regression model is superior to establishing a zero-expansion Poisson regression model. In addition, the likelihood ratio test further confirms that all the factors considered in this study that may trigger terrorist attacks are joint and significant.

The regression results in Table 3 show that for the United States, the rise in immigration fear will lead to a significant increase in the number of terrorist attacks, and the effect will last at least three quarters and peak in the lagged second quarter (0.0068), which means that for each additional 100 units of immigration fear index, the number of terrorist attacks will occur 0.68 times more. In contrast, the impact of immigration policy uncertainty on

⁵ To ensure the robustness and reliability of the conclusions of the study, this paper choose the immigration fear index of lagged one year (four quarters) and the uncertainty index of immigration policy of lagged one year (four quarters) as the tool variables.

the terrorist attacks is more complicated. The impact of the lagged first quarter is statistically significant and positive, while the lagged fourth quarter had a significant and negative impact. In the case of the United Kingdom, the negative impact of immigration fear was significant in the first, second and fourth quarters of the lag, with the greatest negative impact in the fourth quarter of lag; the impact of the immigration policy uncertainty is also significant in the lagged first, second and fourth quarters. However, the immigration policy uncertainty has a positive impact on the occurrence of the terrorist attacks, but it has a negative impact in the lagged fourth quarter. In the case of France, the negative impact of immigration fear on terrorist attacks will last three quarters and will peak in the lagged third quarter, with each additional 100 units of immigration fear resulting in a decrease in the number of terrorist attacks 0.84 times. Finally, as far as Germany concerned, the immigration fear has a significant positive impact on the number of terrorist attacks in the lagged first quarter and the third quarter, with a significant negative impact on the number of terrorist attacks in the lagged second quarter; immigration policy uncertainty has a significant positive impact on the occurrence of terrorist attacks in the lagged first, third and fourth quarters. For every 100-unit increase in the immigration policy uncertainty, there will be 0.37 more terrorist attacks.

A further comparison of the regression results in Table 3 shows that although the impact of the immigration fear and immigration policy uncertainty on the terrorist attacks has some similarities between Britain and France, there are still some differences in the four sample countries: On the one hand, the immigration fear and immigration policy uncertainty on the direction of the terrorist attacks showed uncertainty; the other hand, the specific duration is not the same. The empirical results from the four sample countries show that the lagged one of the immigration policy uncertainty is consistent with the impact of terrorist attacks, that is, the lagged one of immigration policy uncertainty with the number of terrorist attacks occurred significantly positive correlation, The regression coefficient is between 0.0012 and 0.0037, and the impact is longer in the three European countries of the United Kingdom, France and Germany than in the United States. Compared with the uncertainty of the U.S. immigration policy, the uncertainty of immigration policies in European countries has a more significant impact on the terrorist attacks. In addition, the immigration fear has a significant negative impact on the occurrence of terrorist attacks in European countries. However, this negative connection does not seem to exist in the United States. On the contrary, Immigration fear has a positive impact on the occurrence of U.S. terrorist attacks for up to three quarters. Immigration fear may be an important cause of the terrorist attacks in the United States.

To take a more comprehensive understanding about the impact of immigration fear and immigration policy uncertainty on the terrorist attacks, this paper further uses the 9.11 terrorist attacks incident in the United States as a boundary and divides the sample into two sections to discuss the relationship between the two and the number of terrorist attacks. The specific regression results in Table 4. Since the number of U.S. quarterly terrorist attacks occurred before the 9.11 terrorist attacks (1990Q1 ~ 2001Q4) were all non-zero, Table 4 reports only the standard Poisson regression model. For the sub-sample phase (from 2002Q1 to 2015Q4) after the 9.11 terrorist attacks, the Vuong statistic is 1.09, and the null hypothesis can not be rejected at the 5% level of significance. Therefore, Table 4 only reports the results of zero-expansion Poisson regression.

Judging from the regression results of the sub-sample in the United States, before the 9.11 terrorist attacks, the immigration fear had two consecutive positive impacts on the occurrence of the terrorist attacks, and the magnitude was basically the same. After the 9.11 terrorist attacks, only the lagged two quarters of immigration fear have a significant positive impact on the incidence of terrorist attacks, and the magnitude is even greater than before the 9.11 terrorist attacks. Also, before the 9.11 terrorist attacks, there are also two consecutive positive impact between the immigration policy uncertainty and the occurrence of the U.S. terrorist attacks, and lagged one of the policy uncertainty is even more pronounced; After the 9.11 terrorist attacks, After the 9.11 terrorist attacks, the impact of the immigration policy uncertainty on the terrorist attacks is significant for the lagged first and four periods, and the impact of the first lag is far less than the 9.11 terrorist attacks before the incident, at the same time, the lagged

fourth quarter's immigration policy uncertainty has a negative impact on the terrorist attacks. It shows that the harsher immigration laws imposed by the U.S. government aroused fear among immigrants after the 9.11 terrorist attacks. The fear of immigrants went beyond the concern about the uncertainty of immigration policy, resulting in the impact of fear on the occurrence of terrorist attacks has increased, and the impact of policy uncertainty on terrorist attacks has diminished.

It is noteworthy that the economic growth rate, as an important control variable in the empirical model, is equally hard to determine the number of terrorist attacks. From the empirical results in Table 3, in the United States and Britain, the more prosperous the economy, the easier it is for terrorist attacks. In Germany and France, the opposite is true. According to the empirical results in Table 4, before the 9.11 terrorist attacks, economic growth reduced the incidence of terrorist attacks. After the 9.11 terrorist attacks, economic growth significantly increased the number of terrorist attacks. This uncertain link between economic growth and terrorist attacks is likely to be related by the size of the immigrants entering the country and is largely dependent on changes in the demand for immigrants in one country (notably in the United States) and immigration policy elastic conversion during different economic cycles.

5. CONCLUDING REMARKS

Although bulks of studies (Demleitner, 2002; Saux, 2007; Huysmans and Buonfino, 2008) discuss the relationship between immigrants and (potential) terrorist attacks, it is rare to make use of the quantitative analysis framework in the psychological and policy uncertainties. Based on the index of immigration fear and the uncertainty index of immigration policy, this paper first quantitative analyzes the relationship between potential factors related to immigration and terrorist attacks. The empirical results demonstrate that there is a significant positive relationship between the immigration policy uncertainty and the terrorist attacks, and this connection shows some similarities in different sample countries. However, the relationship between the immigration fear and the terrorist attacks exists significant differences: In the United States, there is a positive correlation between the fear in immigrants and the occurrence of terrorist attacks. In Europe, there is a negative correlation between the fear in immigrants and the terrorist attacks. A further sub-sample study based on the 9.11 terrorist attacks shows that the positive relationship between the immigration fear and the terrorist attacks has been significantly enhanced after the 9.11 terrorist attacks. The impact of immigration policy uncertainty on terrorist attacks has declined, which is related to the more widespread implementation of the more rigorous immigration censorship system around the world. In Europe, there is a significant positive correlation between the increase of immigration and the increase of terrorist attacks (McAlexander, 2016). This paper makes a further step to answer why the growth of immigrants shows a significant positive correlation with the increase of terrorist attacks: The increase in the number of immigration fear may continue to rise, the potential impact of immigration policy uncertainty has become increasingly strong.

In fact, immigration has become increasingly tricky with the rise of economic openness in various countries. Much attention has been paid to the Migration-Security Nexus which is as a broader national security issue. Since the 1990s, the problems of the opening up the border and influx of immigrants have been closely watched by the governments of the United States and European countries. The incident of 9.11 terrorist attacks only further strengthened this issue (Karyotis, 2007). Immigration issues continue to threaten international security: Almost all terrorists are immigrants, although not all immigrants are terrorists (Leiken, 2004). Although such a traditional Migration-Security Nexus poses the basic assumption that immigrants will endanger national security and stability, it has never discussed the possible sources of immigration-induced terrorist attacks. The empirical analysis of this paper clearly points out that the immigration fear and immigration policy uncertainty may be two important causes of terrorist attacks.

Table-3. Poisson regression results

Explanatory variables	USA		UK		France		Germany	
	Poisson	Zero-inflated Poisson	Poisson	Zero-inflated Poisson	Poisson	Zero-inflated Poisson	Poisson	Zero-inflated Poisson
MF(-1)	0.0041** [0.0017]	0.0050*** [0.0016]	-0.0023** [0.0010]	-0.0040*** [0.0011]	-0.0129*** [0.0012]	-0.0113*** [0.0012]	0.0023*** [0.0007]	0.0016** [0.0006]
MF(-2)	0.0055*** [0.0018]	0.0068*** [0.0018]	-0.0024** [0.0011]	-0.0017 [0.0011]	-0.0062*** [0.0013]	-0.0058*** [0.0013]	0.0109*** [0.0017]	-0.0074*** [0.0018]
MF(-3)	0.0046** [0.0020]	0.0041** [0.0020]	0.0016 [0.0011]	0.0002 [0.0012]	0.0084*** [0.0013]	-0.0102*** [0.0014]	0.0052*** [0.0017]	0.0001 [0.0018]
MF(-4)	-0.0024 [0.0020]	-0.0014 [0.0020]	-0.0040*** [0.0011]	-0.0032*** [0.0011]	-0.0004 [0.0012]	-0.0023** [0.0012]	-0.0011 [0.0015]	0.0025* [0.0014]
MPU(-1)	0.0035*** [0.0008]	0.0032*** [0.0008]	0.0012*** [0.0003]	0.0014*** [0.0003]	0.0022*** [0.0006]	0.0024*** [0.0006]	0.0037*** [0.0005]	0.0033*** [0.0004]
MPU(-2)	-0.0005 [0.0010]	0.0005 [0.0010]	0.0013*** [0.0004]	0.0010*** [0.0004]	0.0045*** [0.0006]	0.0041*** [0.0006]	-0.0009 [0.0005]	-0.0017*** [0.0006]
MPU(-3)	-0.0001 [0.0010]	0.00004 [0.0010]	0.0003 [0.0004]	0.0009** [0.0004]	0.0017*** [0.0006]	0.0025*** [0.0006]	0.0031*** [0.0005]	0.0028*** [0.0005]
MPU(-4)	-0.0014 [0.0009]	-0.0021** [0.0010]	-0.0007* [0.0004]	-0.0004 [0.0003]	0.0014*** [0.0007]	0.0023*** [0.0006]	0.0017*** [0.0005]	0.0015*** [0.0005]
G	0.2780*** [0.0718]	0.2678*** [0.0709]	0.0082*** [0.0416]	0.0592 [0.0398]	0.3713*** [0.0653]	-0.4312 [0.0689]	-0.0308 [0.0486]	-0.0527 [0.0434]
Constant term	0.4387 [0.3139]	0.2013 [0.3167]	3.4575*** [0.1031]	3.5887*** [0.0930]	4.3725*** [0.1055]	4.4632*** [0.1103]	1.5163*** [0.1464]	1.9183*** [0.1369]
Log likelihood	-328.37	-315.61	-1168.11	-1084.48	-865.55	-803.7	-702.71329	-577.423
LR test	73.67*** [0.00]	89.46*** [0.00]	64.98*** [0.00]	73.95*** [0.00]	503.56*** [0.00]	472.06*** [0.00]	315.88*** [0.00]	217.67*** [0.00]
Vuong test	1.28 [0.10]		2.05** [0.02]		1.84** [0.03]		3.03*** [0.00]	

Note: The explanatory variable is the number of terrorist attacks. The null hypothesis of LR test is that "the joint effect of all variables is zero". Rejecting the null hypothesis means that at least one of the variable's effect is significant. The null hypothesis of the Vuong test is that "the zero-inflated Poisson distribution is more reasonable," rejecting the null hypothesis means that the standard Poisson distribution should be used. ***, **, * indicates significant at 1%, 5%, and 10% levels, respectively. Except for the LR test and the Vuong test, the square brackets are all regression standard errors. For LR test and Vuong test, p values in square brackets.

Table-4. Sample piecewise regression

USA Explanatory variables	1990Q1-2001Q4	2002Q1-2015Q4
	Poisson	Zero-inflated Poisson
MF(-1)	0.0064*** [0.0023]	0.0010 [0.0030]
MF(-2)	0.0063** [0.0025]	0.0088*** [0.0032]
MF(-3)	0.0017 [0.0029]	0.0046 [0.0033]
MF(-4)	-0.0030 [0.0033]	-0.0022 [0.0032]
MPU(-1)	0.0052*** [0.0011]	0.0025* [0.0013]
MPU(-2)	0.0024* [0.0013]	-0.0006 0.0015
MPU(-3)	-0.0023 [0.0015]	0.0023 0.0014
MPU(-4)	-0.0005 [0.0015]	-0.0025* [0.0015]
G	-0.0722 [0.0993]	0.2995** [0.1229]
Constant term	0.7485 [0.5168]	0.0325 [0.5014]
Log likelihood	-117.63	-143.96
LR test	58.15*** [0.00]	35.53*** [0.00]
Vuong test	---	1.09 [0.14]

Note: The first sample stage is from the first quarter of 1990 to the fourth quarter of 2001, and the second one is from the first quarter of 2002 to the fourth quarter of 2015. The variables explained are the number of terrorist attacks. The null hypothesis of LR test is that "the joint effect of all variables is zero". Rejecting the null hypothesis means that at least one of the variable's effect is significant. The null hypothesis of the Vuong test is that "the zero-inflated Poisson distribution is more reasonable," rejecting the null hypothesis means that the standard Poisson distribution should be used. ***, **, * indicate significant at 1%, 5%, and 10% levels, respectively. Except for the LR test and the Vuong test, the square brackets are all regression standard errors. For LR test and Vuong test, p values in square brackets.

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