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Terrorist attack assessment: Paris November 2015 and Brussels March 2016

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Abstract

This paper intends to establish conceptual foundations of analyzing the economic dimensions of terrorism. The economic impact of terrorist attack model (EITA-Model) attempts to estimate the optimum number of potential terrorist incidents that can influence the regional economic performance. The model suggests a three-phase of terrorist operations: (i) the terrorist group attack setting; (ii) the terrorist group attack behavior; and (iii) the post-effect of the terrorist group attack. The model introduces five alternative risk indicators for the estimation of terrorist attacks: (i) the maximum level of terrorist group attack targets (φ'); (ii) terrorist group attack destruction ($-\pi$); (iii) economic terrorist wear (W); (iv) economic desgrowth ($-\delta$); and (v) the multidimensional graphical sub-strategic national security sector analysis. The model investigates the recent terrorist attacks in Paris November 2015 and in Brussels March 2016.

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1. Introduction

Europe experienced a series of unprecedented events the last 13 months. On 7 January 2015, multiple assassinations on Charlie Hebdo offices, followed by the hostage-taking at a Jewish supermarket two days later in Paris left behind 17 dead people and 22 injured (Randolph & Valmary, 2015). On 13 November 2015, several orchestrated multisite terrorist attacks occurred again in Paris, followed by suicide bombings and mass shootings. The officially reported fatalities and casualties accounted for 100 and 368 people, respectively (Bajpai, 2015). On 22 March 2016, three coordinated bombing attacks occurred this time in Brussels where two explosions hit the Zaventem airport followed by a further blast at the Maalbeek metro station. The overall attack caused the lives of 32 people whereas over of 300 people were wounded (Chad, Boyle, & Knoll, 2016). The recent terrorist incidents are considered among the worst acts of violence in European soil. Indeed, Europe exhibited high levels of fatal terrorist activity the last decades. Starting with the 1980 Bologna railway station bombing, followed by the 1987 Barcelona parking lot bombing, the 2011 Oslo bombings suggest that the terrorist threats facing Europe are formidable (Channel NewsAsia, 2015).

The psychological effects of the terror attacks on people in France and Belgium and around Europe are beyond measure. Furthermore, the attacks will have profound economic consequences. According to the French treasury, the economic repercussions of terrorist attacks for the French economy amount to about two billion euros, mainly in consumer spending and tourism (Karaian, 2015). The French government expects a potential shake of the consumer confidence that would strengthen the persistent downward trend of the household consumption expenditure, of which decreased approximately 0.5 percent from 2011 to 2014 (World Development Indicators, 2016). The Tourism Promotion Council anticipates short-term and medium-term effects on tourism industry that might derail country's tourism promotion strategy launched in June 2015 (Bajpai, 2015). In the case of Belgium, Belgian economy is already experiencing symptoms of economic turbulence since last November. The subsequent heightened security measures taken by the Belgian authorities due to recent Paris attacks cost Belgian businesses 350 million euros. The overall loss in the Belgian economy was estimated at 0.1 percent of gross domestic product in the fourth quarter of 2015 (Kroet, 2016). According to the Belgian authorities, recent terrorist attacks may further cost Belgium economy another 4 billion euros (Sharkov, 2016).

Empirical evidence suggests that terrorist incidents entail indirect costs that go beyond the inflicted casualties and material damages. Such severe shocks, concentrated in time, can cause major disruption on specific sectors of the economy. The immediate effects of terrorist incidents involve differential changes in the consumption behavior (Eckstein & Tsiddon, 2004; Fielding, 2003a), tourism (Drakos & Kutan, 2003; Enders & Sandler, 1991, 1995, 1996; Enders, Sandler, & Parise, 1992; Sloboda, 2003) and airline demands (Drakos, 2004; Ito & Lee, 2004). The likelihood and magnitude of terrorist incidents can be a leading indicator for investment and public spending (Blomberg, Hess, & Orphanides, 2004; Eckstein & Tsiddon, 2004; Fielding, 2003b); capital markets (Chen & Siems, 2004; Cummings & Lewis, 2003; Drakos, 2004; Eldor & Melnick, 2004); international capital flows (Abadie & Gardeazabal, 2005; Enders & Sandler, 1996); and trade (Nitsch & Schumacher, 2004; Walkenhost & Dihel, 2002).

Furthermore, terrorist incidents set in motion a complex chain of events in the economy. Terrorist incidents are rare and extreme events, highly diverse and volatile over time and across countries (Enders & Sandler, 2002). Estimating terrorism risk depends upon several factors that varied by the type of activity. The idiosyncratic nature of terrorist incidents is based, among

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