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**“A Systematic Review on the Increasing Threat
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Management and Mitigation Measures“**

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Hoang Thuy-An Phan

Abstract

Over the last decades, terrorism has become a tremendous issue for global society including governments, businesses, and individuals. Frankly speaking, incidents with a terrorist background turn anxiety into a well-founded and justified fear for consequential impacts, may they be of a psychological, demographical, political, or economical manner. By means of a systematic review of extent literature to date, this thesis seeks to investigate how MNEs can restructure their foreign business operations in order to manage and mitigate the impact of the new threat of terrorism. In respect thereof, three major economic issues are examined: (1) the correlation between increased terrorism risk and foreign direct investment of MNEs and (2) the identification of vulnerable business operations, (3) the identification of counterterrorism measures on corporate level.

More specifically, ever since the evolving threat of terrorism, economists and researchers perceived an interrelation between terrorism and companies' cross-border investment behaviour. Depending on the companies' risk behaviour, it was observed that companies tend to make fewer investments in high risk areas and, thus, decreased their international market commitment. This behaviour was especially observed in developing countries like Pakistan. However, it becomes increasingly apparent that terrorism may also have a great impact on MNEs' business operations in industrialized countries. Especially in nowadays' era of advanced information technology, the assessment of risk for terrorism and the organizational measures taken to minimize the impact of terrorism on business operations are sophisticated.

In fact, this has also been acknowledged by IB literature. In this regard, the most recent literature review on the topic, which was conducted by RAND, also incorporated a framework for firms' defensive approaches. Since IB literature on the topic has emerged rather rapidly ever since the terrorist incidents of September 11, 2001, which are similarly considered to have introduced a new dimension of terrorism risk, RAND did not account for the new studies as it essentially covered the period between 1981 and 2007. For these very reasons, the underlying thesis attempts to provide an updated review of extent literature, which in turn, may provide managerial implications for (1) the limitation of economic effects and financial drawbacks in the aftermath of a terrorist attack and (2) the development of contingency plans, which may assist MNEs in securing the continuity of their business.

Zusammenfassung

In den letzten Jahrzehnten ist der Terrorismus zu einem überdimensionalen Problem für die globale Gesellschaft geworden – insbesondere für Regierungen, Unternehmen und Einzelpersonen. Gerade Anschläge mit terroristischem Hintergrund haben die Fähigkeit, eine anfänglich unbegründete Sorge in eine gerechtfertigte Angst vor psychologischen, demographischen, politischen oder ökonomischen Folgen zu transformieren. Mittels einer systematischen Übersicht zur aktuellen Literatur, untersucht die vorliegende Arbeit, inwiefern multinationale Unternehmen ihre ausländischen Geschäftsaktivitäten restrukturieren können, um die Auswirkungen der neuen Terrorbedrohung zu bewältigen und gar abzuschwächen. So werden in diesem Rahmen drei zentrale Aspekte untersucht: (1) die Korrelation zwischen dem erhöhten Terrorismusrisiko und ausländischen Direktinvestitionen multinationaler Unternehmen und (2) die Identifizierung gefährdeter Geschäftsprozesse sowie (3) die Identifizierung etwaiger Maßnahmen zur Bekämpfung des Terrorismus auf Unternehmensebene. Mit der wachsenden Terrorbedrohung deckten Ökonomen und Forscher eine zunehmende Wechselbeziehung zwischen Terrorismus und dem grenzüberschreitenden Investitionsverhalten von Unternehmen auf. So wurde festgestellt, dass Unternehmen bei zunehmender Bedrohung zu weniger risikoreichen Investitionen tendieren und damit ihr internationale Marktpräsenz reduzieren. Dieses Verhalten wurde besonders in Entwicklungsländern wie Pakistan beobachtet. Es wird jedoch immer offensichtlicher, dass der Terrorismus auch schwerwiegende Auswirkungen auf die Geschäftstätigkeit multinationaler Unternehmen in Industrieländern hat. Gerade in der heutigen Zeit, ermöglicht die fortgeschrittene Informationstechnologie eine solidere Risikoeinschätzung sowie die Identifizierung effektiver Managementmaßnahmen, die sich positiv auf die Geschäftstätigkeit multinationaler Unternehmen auswirken. So hat die zunehmende Bedeutung von Terrorismus auf Auslandsgeschäfte besonders in der Literatur an Anerkennung erlangt. Diesbezüglich umfasst die jüngste Literaturübersicht zu diesem Thema ebenso einen Leitfaden für defensive Managementmethoden. Da sich die Literatur zu diesem Thema insbesondere mit den Terroranschlägen vom 11. September 2001 rapide entwickelt hat, wurden neue Studien und Erkenntnisse nach 2007 jedoch nicht berücksichtigt. So besteht der Zweck dieser Arbeit darin, den aktuellen Forschungsstand zu präsentieren, das wiederum betriebswirtschaftliche Implikationen für (1) die Begrenzung wirtschaftlicher und finanzieller Folgen nach einem Terroranschlag und (2) die Entwicklung von Notfallplänen, die multinationalen Unternehmen dabei helfen können, die Kontinuität ihres Geschäfts sicherzustellen, bietet.

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List of Acronyms

AMSTAR	A Measurement Tool to Assess Systematic Reviews
CBRN	Chemical, Biological, Radiological and Nuclear
CRQ	Central Research Question
CTRMP	Center for Terrorism Risk Management Policy
DEP	Depression
EDC	Export Development Canada
EEA	European Economic Area
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Profit
GTD	Global Terrorism Dataset
IB	International Business
Ibid.	Ibidem
ICT	Information and Communication Technology
IEP	Institute of Economics & Peace
IMF	International Monetary Fund
ITERATE	International Terrorism: Attributes of Terrorist Events
JIT	Just-in-time
LOC	Location
M&A	Mergers & Acquisitions
MEA	Measurement
MNE	Multinational Enterprise
NFDI	Net Foreign Direct Investment
OECD	Organisation for Economic Co-operation and Development
OLI	Ownership, Location, and Internalization
PAR	Participants

LIST OF ACRONYMS

PIRA	Provisional Irish Republican Army
PMM	Product-Market-Mode
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
RAND	Research and Development Corporation
RBV	Resource-Based View
ROI	Return on Investment
SAARC	South Asian Association for Regional Cooperation
SARS	Severe Acute Respiratory Syndrome
SQ	Sub-question
TER	Modern Terrorism
USD	US Dollar
VoIP	Voice over Internet Protocol
WTC	World Trade Centre

1. Introduction

Undoubtedly, the unprecedented terrorist attack on September 11, 2001 in the United States, henceforth “9/11”, changed the world that we knew from one second to another. Just out of the blue, without any warning or expectation, a blue-skied day turned into a black day for humanity when al Qaeda leader Osama bin Laden orchestrated the intentional crashing of four hijacked passenger airliners in New York and Washington D.C. Two airliners – specifically, American Airlines Flight 11 and United Airlines Flight 175 – crashed into the North and South towers of the World Trade Centre site in Lower Manhattan, New York, the heart of the U.S. financial sector (Jackson *et al.*, 2007, p. 7). The third airliner, American Airlines Flight 77, struck the Pentagon in Arlington, Virginia, and the fourth airliner, United Airlines Flight 93, which was initially headed to Washington D.C., crashed into an empty field in Stonycreek Township near Shanksville, Pennsylvania after its passengers intervened and tried to overpower the hijackers (Sherwell, 2011). These acts, which were declared to be the deadliest terrorist attacks on American soil in U.S. history (Nowrasteh, 2017), demanded countless innocent victims, caused massive damage, and left behind despair, chaos, and uncertainty. Due to the close proximity to the western civilization, this horrific event, which was further declared an act of war (The Telegraph 2001), reached a new dimension of terrorism and, thus, shaped the view of the world on terrorism in the immediate aftermath of the attack (Schneckener, 2002, p. 5; Suder und Czinkota, 2005, p. 3–4; The Economist 2001). With all respect to the loss of human life, injured victims, and despair that this terrorist incident left behind, 9/11 caused large economic damage.

“The expense of physical destruction and subsequent cleanup efforts alone reached into the billions of dollars. Broader analyses of the attack costs have included, to varying extents, values for human lives lost, property loss, response and recovery costs, costs from injuries (psychological and physical due to both mechanical causes and hazardous exposures), for displaced persons, impacts on businesses (including cascading effects from firms that closed, but back, or reduced spending), and delays to travellers and commuters” (Jackson et al., 2007, p. 7).

In a time-series analysis of sixteen years, the Institute of Economics & Peace (IEP) identify three peaks, which correspond to the three major waves of terrorism with the first peak being in 2001.¹ According to IEP, the economic impact of the 9/11 attacks reaches up to 65 billion

¹ Institute of Economics & Peace (2017b). The second peak, which occurred in 2007, was caused by increases in terrorism in Iraq. The third peak, which occurred in 2013, is attributed to increased levels of violence from mainly ISIL in Syria and Iraq.

USD, which represents an alarming sevenfold increase compared to the prior year.² This estimation includes both the direct and indirect costs. By definition, direct costs include costs borne by the victims and associated government expenditure (i.e., medical spending), while indirect costs include lost productivity and earnings as well as the psychological trauma to the victims, their families and friends (Institute of Economics & Peace, 2017a, pp. 80–81). Kunreuther et al. even estimated a total sum of direct and indirect costs of 80 billion USD (Kunreuther et al., 2003, p. 4). This direct comparison of the economic damage emphasizes the de facto difficulty of estimating the cost impacts of such events (Jackson et al., 2007, p. 8). But irrespective of the exact amount of economic costs, the 9/11 attack represents a prime example for the massive shake in confidence in various industries. As revealed by numerous researchers, 9/11 hit specific industries – especially, finance, air transportation, and businesses related to tourism including hotels, restaurants, and entertainment – the hardest (Drakos, 2004, p. 436; Ito and Lee, 2004, p. 3; Gold, 2004a, p. 3; Dolfman and Wasser, 2004). The financial sector of the U.S. experienced significant disruptions. “The attacks destroyed or disabled whole portions of New York’s financial infrastructure, with potentially devastating domestic and international reverberations. Financial markets were shut down, and remained closed until Monday 17 September” (Koen et al., 2002, p. 13). In addition, the airline industry’s major losses were due to a complete shutdown of air traffic for four days in the United States as well as a sharp drop in demand for air transportation services worldwide (Koen et al., 2002, p. 19).

“The disruptions in the transportation system following the attacks have illustrated the importance of efficient and open borders for the daily operations of firms. The just-in-time supply chain management system, increasingly common in industry, depends to a large degree on the efficiency of border crossings. The severe tightening of border controls following the September attacks resulted in long waiting times that disrupted the operations of manufacturing companies [...]” (Koen et al., 2002, p. 5).

Another example for the shake in confidence is given by Bos et al. (2013). They stated that 9/11 revealed or even put forth an increased sensitivity of U.S. stock prices to terrorist attacks. As a result of the attacks, they observed a proportional reaction of stock prices to both the size of an attack and the share of FDI stock, which was non-observable prior to the 9/11 attacks. Further investigations showed that the relationship between terrorism and FDI is only significant in respect of statistics and economics *after* the tragic events of 9/11. Especially,

² Institute of Economics & Peace (2017a). In a time-series analysis of sixteen years, the global economic impact of terrorism in 2000 was at its lowest with 9 billion USD.

recent years show an increasing effect. In other words, 9/11 seems to have changed investors' behaviour all over the world.

The results imply investors' increased awareness about the potential impact of terrorist attacks on their capital (Bos *et al.*, 2013, pp. 2–3). Shahzad *et al.* (2015) further also denoted that FDI appears to depend on investors' perception and ability to take different risks (Shahzad *et al.*, 2015, p. 182). These results were further complemented by Stanišić (2013) who investigated the effect of terrorism on both the size and the probability of an investment. According to Stanišić, terrorism appears to incentivize rational investors to move their capital to less risky economies. However, Stanišić also denoted that negative spill-over effects might occur. Investors who have experienced the negative impact of terrorist attacks on their capital, might have a negative spill-over effect on other investors (Stanišić, 2013, p. 25). In a recent study of Shahzad *et al.* (2015), this causal relationship was further investigated. In fact, they explored the long-run cointegrating relationship between MNE's FDI, terrorism, and economic growth in Pakistan and a terrorist event has a deteriorating and depressing effect on FDI and, thus, on growth (Shahzad *et al.*, 2015, pp. 179–180). These findings were further confirmed by Bezić *et al.*'s (2016) results, who determined the variables for a negative investment climate, which have a depressing effect on FDI of analysed EU and EEA countries. The impact of natural disasters, in contrast, did not appear to be positive and statistically significant.

In sum, the example of 9/11 illustrates that terrorist attacks can cause massive shakes in confidence, which can be traced back to uncertainty. Naturally, increased uncertainty coincides with a change in the perception of a terrorist threat. In response to the increased violence and change in perception, the U.S. government, for instance, tightened their security measures. In 2004, total gross budget authority for defence and homeland security activities amounted up to 41 billion USD, which corresponds to approximately “double the amount allotted to those activities before September 11” (CBO, 2003, p. 12, 2004, p. 1). As reported by the OECD (2002), tightened security measures led to a much slower and less predictable delivery system impacting the manufacturing firms especially (Koen *et al.*, 2002, p. 7). Similarly, the private sector also responded to the increasing threat by adjusting their security measures to the altered business environment by reconsidering their inventory management, for instance (Koen *et al.*, 2002, p. 26). According to the Conference Board, corporate spending on security measures increased ever since the terrorist attacks of 9/11. “About half of companies report a permanent increase in the level of security spending, with companies in the critical industries leading the way” (Cavanagh, 2005, p. 6).

To conclude, it can be stated that if fear of falling victim to terrorist attacks persists, especially governments and firms need to take into account that increased security spending remains a cost driver for a longer period (Jackson *et al.*, 2007, p. 7).

1.1. Research Interest

Though the study of terrorism has been active in economics, political science, sociology, and related disciplines since the late 1960s, the research interest was further promoted by the horrific terror event of 9/11, not least because of the effective security measures against terrorists (Sandler, 2013, pp. 257–258). Earlier studies revealed that governments are more successful in countering domestic rather than transnational terrorism since a national government can internalize the associated externalities for potential domestic targets (Sandler, 2005, p. 77; Enders and Sandler, 2012). Hence, the relevance of the topic – essentially, the macro- and microeconomic repercussions of terrorist attacks – has been acknowledged by the emergence of both conceptual and analytical literature on terrorism ever since 9/11 (Sandler, 2013, pp. 257–258). In essence, repercussions on macro-level refer “to the effect of a terrorist attack on the global environment, and emphasizes the impact on variables such as the world economy, buyer demand for goods and services, and reactions by supranational organizations such as the United Nations” UN)” (Czinkota *et al.*, 2004, p. 587). Repercussions on micro-level, in contrast, refer to the “research conducted on terrorist threats at the level of the individual person and firm” (Czinkota *et al.*, 2005, p. 587). Due to the increase in visibility, a micro-level analysis is considered particularly useful unit of analysis since firms are provided with a profound understanding on the immediate effects of terrorism on their business (Czinkota *et al.*, 2005, pp. 587–588). In their recent studies, Suder and Czinkota (2013) further acknowledged terrorism studies to be an integral part of international business (IB) literature. This new stream of literature has emerged with evolvement of terrorism. In a new era of terrorism, the level of intensity, reach, target and location of terrorist incidents change sensitivities and, thus, addresses to a larger audience (Suder and Czinkota, 2013, p. 3). According to Suder and Czinkota, the complexity of IB increases with the level of uncertainty (Suder and Czinkota, 2005, p. 18). In other words, IBs now face the challenge of unpredictability and quasi-intangible yet real indirect impacts on business internationalization and performance, which in turn, promote corporate effort towards corporate preparedness, business continuity planning, business resilience, crisis management, disaster recovery, and disaster planning (Suder and Czinkota, 2013, p. 4; Zeneli *et al.*, 2018, p. 325).³ Czinkota *et al.*

³ Suder and Czinkota (2013). In another study, Suder and Czinkota conduct a statistical analysis on the relationship between terror and corporate performance, which can be measured by return on equity (ROE), for instance. However, this study is a work in progress.

(2010), Suder (2004), and Bandyopadhyay and Younas (2014) discussed the indirect effects of terrorism in more detail and laid out the following over-time effects on microeconomic level: demand and supply effects, international transactions costs, international supply chains resilience and flexibilities, reputations, government policies, regulations, procedural changes and the trends, and flows of FDI and corporate internationalization strategy (Czinkota *et al.*, 2010, 827; 831; Suder, 2004; Bandyopadhyay and Younas, 2014, p. 10). Thus, obviously macroeconomic consequences do not occur in total isolation without triggering microeconomic consequences and vice versa. Yet, extant relevant literature has discussed a broad range of issues on both macro- and microeconomic level with a majority of literature focussing on the U.S. market using different explanation approaches. Recent research literature shows that counterterrorism policies are effective (e.g., The Council of the EU and the European Council, 2018). However, the private sector including MNEs needs to take additional counterterrorism measures in an era of increased global risk and uncertainty on both macro- and microeconomic level in order to effectively limit the economic effects in the aftermath of a terrorist attack. Businesses now face new challenges in regard of new forms of terrorist threats, which are now to be identified, assessed, and managed. In other words, the aftermath of 9/11 highlights the need for sophisticated researches, guidelines, and practical implications for MNEs. This was acknowledged by RAND Corporation (2007), which conducted a literature review and provided a framework for considering defensive approaches. Ever since this noteworthy contribution, the literature on the topic has rapidly expanded. However, since the literature review has not been updated, new studies have not been accounted for yet.

1.2. Research Questions

The general growing of research interest on micro-level as well as the increasing relevance for IB give rise to the following central research question.

CRQ: How can MNEs restructure their foreign business operations in order to manage and mitigate the impact of the new threat of terrorism?

Since this central research question deals with various issues including the new threat of terrorism, foreign business operations (FDI), and management and mitigation measures that MNEs can opt in order to counter the effects of terrorism, the following sub-questions arise.

SQ1: How does terrorism represent a risk to MNE's FDI?

SQ2: Which business operations of MNEs are the most vulnerable to terrorism?

SQ3: Which counterterrorism measures do exist on corporate level?

1.3. Scope of Research

This thesis is designated to make three contributions. First of all, a systematic review of relevant literature to date after the terrorist attacks of 9/11 to date is provided to determine the current state of research. This increases awareness and improves the understanding of IB and management in an era of global risk and uncertainty induced by terrorism. Second of all, it helps to identify which business operations are the most vulnerable and, thus, need special consideration in order to assist corporate managers, companies providing consulting services, policymakers, scholars, young academics, and professionals. Consequently, this thesis does not elaborate on terrorism as a concept, macro-level consequences, or the modes of market entry other than FDI. Also, it is neither intended to provide an in-depth understanding of the existing counterterrorism policies nor to make a political judgement. Furthermore, it does not provide an empirical analysis based on a meta-analysis.

1.4. Brief Overview on Methodology

The foundation of this thesis is represented by the RAND Corporation's literature review, which is complemented by a mix of recent, conceptual, and analytical literature as well as reports of national independent, non-partisan, and non-profit institutions including the Global Terrorism Index (GTI). In this regard, relevant literature including scholarly books, articles published in academic journals, and other scientifically substantiated as well as unpublished contributions are obtained. Though the focus is laid on relevant literature after the terrorist attacks of 9/11, in some instances, it is referred to earlier publications as it was considered to provide significant implications. The relevant literature mainly covers English publications from 1980 to 2018 for two basic reasons. First of all, the majority of relevant literature is available in English with a large number drawing on international databases – specifically databases provided by U.S. authorities. Second of all, this thesis is meant to serve as an updated literature review for a large audience and should, therefore, neither be limited to a set of countries nor to specific industries. Generally, the relevance of search results is assessed in a four-step process by screening title, abstract, main body of the text, and conclusion against stipulated criteria for in- and exclusion. Subsequently, a systematic review of relevant literature is performed by reviewing and elaborating the literature in terms of research design and research findings as well as practical implications and research limitations, if applicable.

1.5. Structure of the Thesis

For this purpose, this thesis consists of eight interrelated chapters and is organized as follows. After the introduction, the second chapter sets out the theoretical background. The methodological framework is presented in the third chapter, whereas the fourth chapter outlines the results of the systematic review respectively by exploring the current state of research. Lastly, the fifth, sixth, and last chapter set out the review limitations, directions for future research, and conclusion respectively.

2. Theoretical Background

This chapter is designated to set out the conceptualization of the underlying thesis. For further progress, the following subchapters now discuss substantive terms including systematic review, modern terrorism, MNE, and FDI. Especially, the explanation of a systematic review represents a substantive part of the methodology. In the light of the determination of terminologies, available and significant definitions are compared. Since there are some definitional differences in the use of the underlying terms, a comparison helps to determine the definition for further proceeding. Consequently, this determination assists in narrowing the scope of the thesis considerably. For strategic reasons, internationally recognized definitions or definitions in common use are presented and contrasted to each other.

2.1. Systematic Review

By definition, a systematic review is a review, which attempts to collate all empirical evidence, which meet all predetermined eligibility criteria for in- and exclusion of literature with the objective to provide well-founded answer to a specific research question. It is considered to rank first in terms of research designs for its systematic and highly sophisticated approach and “potential to provide the most important practical implications” (Siddaway, 2014, p. 1; Cochrane Collaboration, 2017b). In other words, it essentially differs from common literature reviews in that it attempts to identify, appraise and synthesize all the empirical evidence with the objective to produce more reliable findings that can be used to inform decision making (Cochrane Collaboration, 2018). In this regard, Khan et al. (2003) acknowledged the following:

“A review earns the adjective systematic if it is based on a clearly formulated question, identifies relevant studies, appraises their quality and summarizes the evidence by use of explicit methodology. It is the explicit and systematic approach that distinguishes systematic reviews from traditional reviews and commentaries” (Khan et al., 2003, p. 118).

Often, systematic reviews are conducted within the fields of health and social care research. The Cochrane Collaboration, which among others provides a database for systematic reviews, addresses to Mulrow’s (1994) explanation and describes the increasing need for systematic within the fields of medical research as follows:

“Healthcare providers, consumers, researchers, and policy makers are inundated with unmanageable amounts of information, including evidence from healthcare research. It is unlikely that all will have the time, skills and resources to find, appraise and interpret this evidence and to incorporate it into healthcare decisions. Cochrane reviews respond to this challenge by identifying, appraising and synthesizing research-based evidence and presenting it in an accessible format” (Cochrane Collaboration, 2017a).

Smith et al. (2011) further added that “[a] systematic review of reviews can provide reassurances that the conclusions of individual reviews are consistent, or not. The quality of individual reviews may be assessed, so that evidence from the best quality reviews can be highlighted and brought together in a single document, providing definitive summaries that could be used to inform clinical practice” (Smith et al., 2011, pp. 4–5).

In sum, it appears that a systematic review is the best suited approach for the underlying thesis for two reasons. First of all, the latest literature review performed by the RAND Corporation, henceforth “RAND”, already made a significant contribution to the appraisal of the status quo in regard to MNEs facing the new challenges of terrorism in terms of FDI. Second of all, the literature on the topic has rapidly expanded ever since the last literature review. Therefore, it is considered that a systematic review is the best suited approach for providing a well-founded answer to the research questions underlying this thesis.

2.2. Terrorism in a Contemporary Context

Though the concept of terrorism is not new but rather evolved over time, the term “terrorism” is referred to “modern terrorism” throughout this thesis, if not indicated otherwise. Initially, modern terrorism emerged with the terrorist incidents of 9/11 with unprecedented economic consequences (Krueger and Malečková, 2002, p. 27). In fact, there are more than 100 diplomatic and scholarly definitions for terrorism (Krueger and Malečková, 2003, p. 119, 2002, p. 27). In the U.S., for instance, the definition of terrorism is anchored in law. Accordingly, Title 22 of the United States Code, Section 2656f(d) says the following:

“The term “terrorism” means premeditated, politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents, usually intended to influence an audience. The term “international terrorism” means terrorism involving citizens or the territory of more than one country”(U.S. Department of State, 2003, xiii).

Interestingly, the OECD established an overview of definitions on terrorism by country.⁴ The reason for this variation lies in the needs of the specific market and regulatory frameworks as well as their policy objectives. Due to this, the OECD generally “does not seek to propose a single and exhaustive international definition of terrorism” (OECD, 2004, p. 2). Since the definitions from Germany and Austria take into account that attacks can also be directed to targets other than the government, they are briefly presented accordingly. Germany defines terrorism as “[a]cts committed for political, religious, ethnic or ideological purposes suitable to create fear in the population or any section of the population and thus to influence a government or public body” (OECD, 2014, p. 2). Austria, in contrast, defines terrorism as “[the act to] influence the government or put the public or any section of the public in fear” (OECD, 2014, p. 2).

It appears that RAND has established a working definition for economically targeted terrorism in their literature review underlying this thesis. It is defined as the threatening to destroy or damage property or harm people and/ or actual destruction or damage of property or harm of people (Jackson *et al.*, 2007, p. 3).⁵

The IEP is an independent, non-partisan, non-profit organization, which engages in the development of “global and national indices, calculating the economic cost of violence, analysing country level risk and understanding positive peace” (Institute of Economics & Peace, 2018). Its research is well-acknowledged and “used extensively by governments, academic institutions, think tanks, non-governmental organisations and by intergovernmental institutions such as the OECD, The Commonwealth Secretariat, the World Bank and the United Nations” (Institute of Economics & Peace, 2018). Accordingly, their definition of terrorism reads as follows:

“[Terrorism defined as] the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation” (Institute of Economics & Peace, 2017b, p. 6).

In conclusion, it appears that the IEP’s definition suits best to the requirements of the underlying thesis. First of all, it addresses to the new dimension of terrorism, which was put forth by the terrorist incidents of 9/11. Second of all, it also takes the threat into account. In other words, it attaches great importance to the increasing uncertainty that terrorism entails.

⁴ See Appendix 1: Definition of Terrorism by Country in OECD Countries, p. 81.

⁵ Willis (2006, p. 5); Willis *et al.* (2005). In related studies, RAND also provides a definition for terrorism risk. Accordingly, terrorism risk is defined as “a function of threat, vulnerability and consequences”.

Finally, it also captures the economic dimension. For these reasons, terrorism is henceforth referred to the IEP's definition.

2.3. The Multinational Enterprise

The term "multinational enterprise", henceforth "MNE", is also commonly referred to multinational corporation or MNC. In fact, there do exist some definitions, which take into account a firm's percentage of sales in a foreign market. Accordingly, the Financial Times defines a global multinational enterprise as follows:

"Global multinational enterprises (MNEs) are companies that operate on a global scale, as opposed to MNEs that are regionally focused. There are various definitions of what constitutes a truly 'global' company, but one way to interpret this is a company that has at least 20% of its sales in each of at least three different continental markets. So, a company where 70% of their sales are generated in Asia would not be considered a global MNE even though they might have significant operations in more than one country, but one where 30% of sales are from each of Asia, Africa and Europe would be considered a global MNE" (Financial Times, 2018).

Unlike the Financial Times, the OECD commonly refers to the term "MNE" and does not attach the necessity of sales percentage in a foreign market as a characteristic. Again, as in the case for the definition of terrorism, the OECD has established not only one generic definition for MNE. However, in their guidelines for multinational enterprises, their seemingly universal definition reads as follows:

"[MNEs] usually comprise companies or other entities established in more than one country and so linked that they may co-ordinate their operations in various ways. While one or more of these entities may be able to exercise a significant influence over the activities of others, their degree of autonomy within the enterprise may vary widely from one multinational enterprise to another. Ownership may be private, state or mixed" (OECD, 2008b, p. 12).

In conclusion, it appears that the OECD's definition is more applicable to the specific needs of the underlying thesis. Irrespective of the sales generated or market share in a foreign market attained, it rather takes a definition, which captures the general fact that a firm is operating on an international scale and, thus, has allocated capital to foreign markets. Furthermore, the Financial Times' definition appears to be too narrow by considering that the firm must be outside its region in order to be categorized as a global MNE. Since the ultimate

goal of this thesis is to provide an updated generic managerial framework, a rather universal definition is needed. Thus, MNE is henceforth referred to the OECD's definition.

2.4. Foreign Direct Investment

To introduce, Pan and Tse's (2000) article on market entry modes is worth mentioning. As illustrated in Figure 1, Pan and Tse introduced a hierarchical model of market entry to describe that market entry modes are either conservative or involve equity. In this regard, Pan and Tse assigned 13 identified market entry modes to two broad categories – specifically, non-equity and equity modes. These categories were further broken down into a total of four categories – specifically, export, contractual agreements, equity joint ventures (EJV), and wholly owned subsidiary. As companies move more to the right, they become less flexible and possibly more vulnerable due to their increased involvement in the foreign market. Hence, export, for instance, is considered a rather conservative entry mode with high flexibility, low involvement, and considerably low risk. Unlike conservative entry modes with no equity involved, FDI covers all entry modes, which are associated with equity. By definition, EJVs include minority EJV, 50% share EJV, and majority EJV. In contrast, greenfield, acquisition, and other modes of entries with equity commitment are associated with wholly owned subsidiaries (Pan and Tse, 2000, p. 538). Essentially, Kogut and Singh (1988) laid the foundation for the differentiation between equity-based entry modes. Though Pan and Tse add little contribution to a definition of FDI, they made a significant contribution to the research field of international business and management as market entry modes can now be identified, allocated, and managed more easily.

To acknowledge the importance of FDI within the “boundaries” of the OECD member states, the OECD established a framework, which “provided a comprehensive set of rules to improve statistical measures of foreign direct investment” (OECD, 2008a, p. 3). Overall, the OECD attaches great importance to FDI in terms of economic development. In one of their latest reports they even stated that FDI is “necessary for the creation of an MNE” (OECD, 2015, p. 5).

Generally, the definition of FDI stipulated in the aforementioned framework, called “OECD Benchmark Definition of Foreign Direct Investment”, is well-accepted by various governments and institutions including the International Monetary Fund (IMF) and the United Nations Conference on Trade and Development (UNCTAD). Its latest benchmark definition reads as follows:

“FDI is defined as the establishment of a lasting interest in and significant degree of influence over the operations of an enterprise in one economy by an investor in another economy. Ownership of 10% or more of voting power in an enterprise in one economy by an investor in another economy is evidence of such a relationship” (OECD, 2015, p. 5).

Since there is no other comparable definition of FDI, which is equally well-accepted by various governments and institutions, the OECD’s definition is considered the most appropriate and best suited definition. Thus, FDI is henceforth referred to the OECD’s definition.

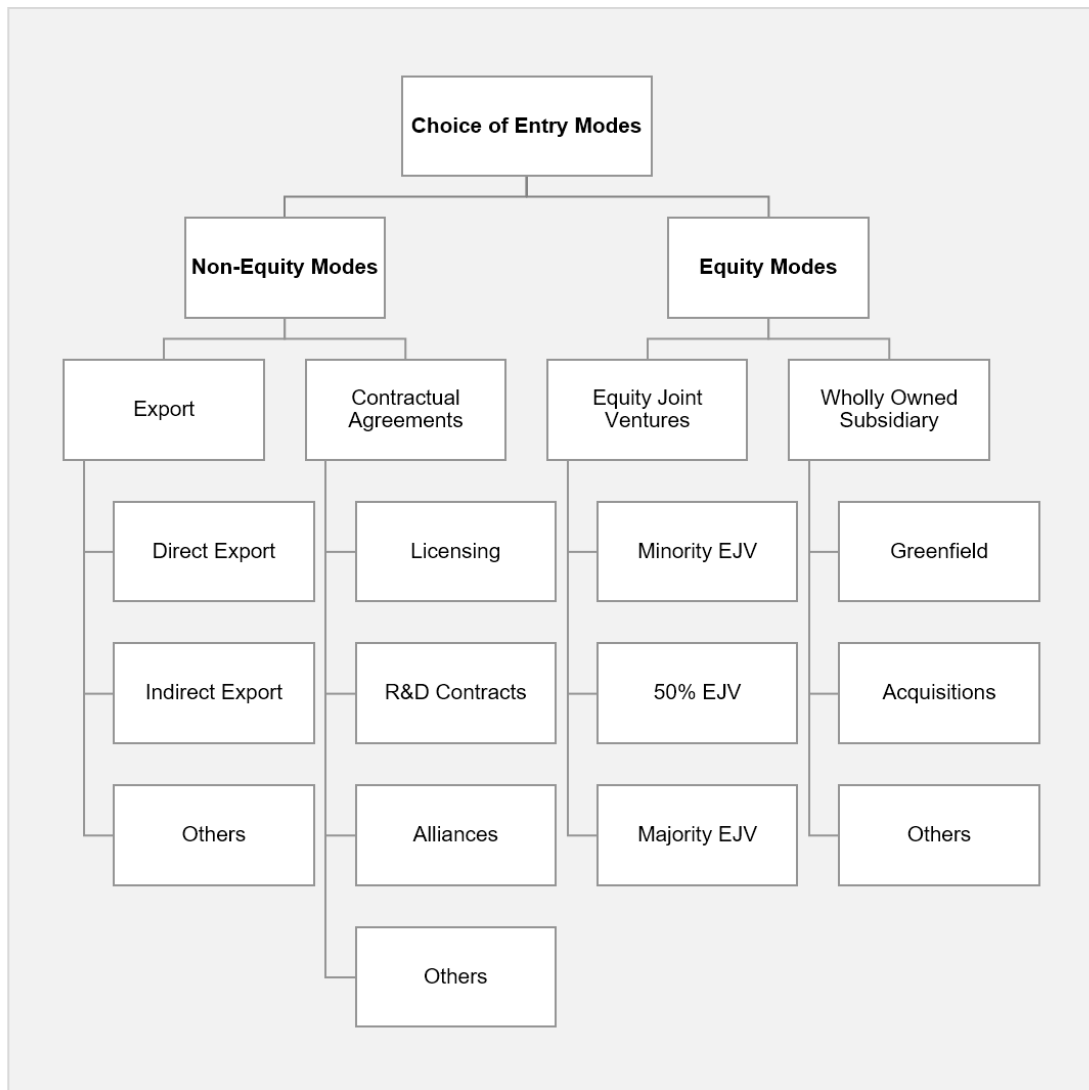


Figure 1: Hierarchical Model of Choice of Entry Modes (Pan and Tse, 2000, p. 538)

3. Methodology

This thesis seeks to elaborate on how corporate managers of MNEs facing the new challenges of terrorism can manage and mitigate the increasing threat of terrorism to their FDI. Essentially, a highly systematic literature analysis assists in presenting the current state of research and managerial implications, whereas limitations and general gaps in literature shall not fall short. In respect thereof, this chapter sets out the methodological approach underlying this thesis in terms of research strategy. Initially, this chapter opens with an overview of the research design – essentially, the methodological approach with regard to the systematic review. Two approaches are briefly presented and contrasted with one another. Subsequently, the results of the application of one approach are presented. Finally, this chapter is rounded off by a flow diagram, which illustrates how relevant literature was assessed in terms of eligibility.

3.1. Overview on Research Design

As mentioned in the previous chapter, a systematic review is considered to rank top on the “hierarchy of evidence”. Since it employs a highly sophisticated approach, a systematic review allows the identification of practical implications, which clearly distinguishes a systematic review from a common literature review (Siddaway, 2014, p. 1; Cochrane Collaboration, 2017b). In practice, different views on how to conduct a systematic review in methodological terms do exist. In health and social care research, for instance, where systematic reviews and meta-analyses are a key element of evidence-based health and social care, researchers frequently adopt either an eight- or a five-step approach (Khan *et al.*, 2003, pp. 118–121; Uman, 2011, pp. 57–59). Table 1 illustrates the differences between the two methodological approaches. In fact, the two approaches do not differ essentially. While Uman (2011) opted for an approach with very thoroughly described steps, Khan *et al.*’s (2003) approach does not miss out any important measures mentioned by Uman. On the contrary, Khan *et al.*’s five-step approach represents a highly aggregated version of Uman’s approach since Uman’s steps two to five are all covered in step two of Khan *et al.*’s proposed approach (Khan *et al.*, 2003, pp. 119–120; Uman, 2011, pp. 57–58). In conclusion, Khan *et al.*’s suggested methodological approach for conducting a systematic review is considered to be the best suited approach for two fundamental reasons. First of all, it essentially covers all necessary steps, which are to be taken for conducting a high-quality systematic review. Hence, Uman’s recommended approach does not necessarily add more value.

Second of all, Uman's recommended step eight, which describes the dissemination of findings, is not required and, thus, is out of the scope of the underlying thesis. For these very reasons, Khan et al.'s approach is discussed in more detail in the following chapter.

Step	Eight-Step Approach	Five-Step Approach
1	Formulate Review Question	Frame Question
2	Define Inclusion and Exclusion Criteria	Identify Relevant Publications
3	Develop Search Strategy and Locate Studies	Assess Study Quality
4	Select Studies	Summarize Evidence
5	Extract Data	Interpret Findings
6	Assess Study Quality	
7	Analyse and Interpret Results	
8	Disseminate Findings	

Table 1: Comparison of two Methodological Approaches for Systematic Reviews

3.2. The Five-Step Approach

As stated earlier, Khan et al.'s five-step approach appears to be the best suited methodological approach for providing a well-founded answer to the research question. This subchapter follows two objectives. First of all, it provides a brief explanation to each of the steps. Second of all, it discusses how the single steps are tailored and applied to the research needs of the underlying thesis. Together they represent the research strategy.

3.2.1. Step 1: Framing the Question

The initial step of a systematic review is to frame a question, which captures all relevant issues that are to be discussed. Hence, a question should be formulated to the extent that it defines and narrows the scope of the research. Once again, for the purpose of this thesis, the following questions were formulated:

- CRQ: How can MNEs restructure their foreign business operations in order to manage and mitigate the impact of the new threat of terrorism?
- SQ1: How does terrorism represent a risk to FDI?
- SQ2: Which business operations of MNEs are the most vulnerable to terrorism?
- SQ3: Which counterterrorism measures do exist on corporate level?

According to Siddaway (2014), the first stage of conducting a systematic review is to determine the scope of the research. This is primarily done by the formulation of one or more questions. Siddaway further acknowledged that a “clear, specific and answerable research question(s) are essential to a successful review” (Siddaway, 2014, p. 2). In this regard, the research questions of this thesis appear to qualify as a research question since it meets all the aforementioned criteria.

Another measure, which helps to determine the scope of the research is to clarify whether similar or comparable systematic or literature reviews have already been conducted (Siddaway, 2014, p. 2). As already mentioned in the introduction, RAND had already performed a literature review on the topic and additionally provided a framework for considering defensive approaches. In essence, there are two reasons for considering RAND’s contribution as an eligible starting point. First of all, it has been more than 10 years since the last review. In fact, the literature on the topic, which has rapidly expanded ever since, has not been accounted for yet. Second of all, it captures all relevant literature on the topic and, thus, reflected the current state of research back in those days after the terrorist attacks of 9/11. For these very reasons, RAND’s contribution provides an excellent starting point and, therefore, narrows down the scope of the thesis in terms of a shorter research period, which is to be covered.

3.2.2. Step 2: Identifying Relevant Publications

As a second step, the relevant publications are to be identified. In this regard, a number of measures can assist in successfully identifying relevant literature. As a general rule, the search for relevant studies should be both extensive and not limited to language restrictions (Khan *et al.*, 2003, p. 118). However, it is necessary to narrow the scope by formulating preliminary in- and exclusion criteria. This is also acknowledged by Uman, who states that “[i]t is [...] critical to operationally define what types of studies to include and exclude” (Uman, 2011, p. 58). When correctly implemented, these criteria allow for (1) specifically addressing the underlying research questions, (2) ensuring the quality and similarity of included studies, and (3) clearly defining the boundaries of the systematic review (Siddaway, 2014, p. 2).

For the purpose of this thesis, a wide range of scientific databases including EBSCO, JSTOR, and SpringerLink were searched to identify both primary and secondary studies on the general economic impact of terrorism. In doing so, the scope of literature was sufficiently broad for further progress. Before analysing the literature in-depth, the preliminary searched literature was assessed in a two-step process by screening title and abstract against the stipulated key search terms represented in Table 2.

Thereafter, the main body of the text and conclusion were further screened against the aforementioned set of stipulated search terms. As illustrated in Table 2, 68 search terms were identified and allocated to a total of six categories accordingly. The identified search terms also account for synonyms, verbs, adjectives, and different spellings, if applicable. For strategic reasons, the identification of search terms was limited to singular wordings. Since the screening is based on the combination of letters, it was determined that a match of a singular wording would suffice for identifying a literature as relevant or not. It was found that a combination of three search terms sufficed to determine a literature presumably relevant. In this regard, the search was further limited to literature related to IB.

Topic by Category	Search Terms
Definitions	Definition, Define, Meaning, Means
Terrorism	Attack, Event, Evolve, Incident, Modern Terrorism, New Challenge, New Dimension, New Terrorism, New Threat, Risk, Terrorism, Terrorism Risk, Terrorism Threat, Terrorist, Threat
September 11, 2001	9/11, September 11
Economic Effects	Aftermath, Economic Consequences, Economic Cost, Economic Impact, Economic Repercussion, Repercussion
FDI	(Foreign) Capital Flow, Depress, Dissuade, FDI, Foreign Capital, Foreign Direct Investment, Foreign Investment, Investment, Leave, Retreat
Counterterrorism Measures on Corporate Level	Antiterrorism, Anti-Terrorism, Company, Corporate, Corporation, Counter, Counter measure, Countermeasure, Counterterrorism, Counter-terrorism, Defense, Defensive, Enterprise, Expenditure, Firm, Framework, Guideline, Measure, Microlevel, Micro-Level, MNC, MNE, Multinational, Multinational Corporation, Multinational Enterprise, Private Sector, Private-Sector, Response, Security, Spending, Terrorism Policies

Table 2: Search Terms by Topic

For resource constraints, the search underlay some language limitations. Specifically, to German and English literature. Preliminary search revealed the following. Except for two unpublished German contributions, all other identified literature, which were categorized as presumably relevant, were available in English. In this regard, a preliminary search in the Cochrane Library, which represents a search engine for systematic reviews, also revealed that to date no systematic review has been conducted on the effect of terrorism neither on FDI nor on MNEs. In addition, internet engines and libraries were searched for scholarly books, articles published in academic journals, and other scientifically substantiated as well as unpublished contributions. Overall, this effort resulted in a total number of 107 presumably relevant literature. In addition, a total of 12 potentially relevant literature were already cited in RAND's literature review. Except for one citation (i.e., Enders and Sandler, 1996), which was determined to provide many significant implications, the remaining 11 potentially relevant literature were excluded to avoid any duplication. The preliminary amount of literature by reference type before and after the elimination of duplicates as well as full-text exclusions is indicated in Table 3.

Books & Contributions	Internet Documents	Journal Articles	Report or Gray Literature	Total Amount
16	12	50	29	107
Before Elimination of Duplicates and Exclusions				
Books & Contributions	Internet Documents	Journal Articles	Report or Gray Literature	Total Amount
15	3	38	19	75
After Elimination of Duplicates and Exclusions				
Books & Contributions	Internet Documents	Journal Articles	Report or Gray Literature	Total Amount
6	1	12	8	27
After Full-Text Exclusions				

Table 3: Preliminary Amount of Relevant Literature by Reference Type

3.2.3. Step 3: Assessing Study Quality

Subsequently, a total of five inclusion criteria were determined in accordance with the relevant issues captured by the research question as well as the sub-questions. This adoption assisted in further scoping. It was determined that an identified literature is qualified for inclusion when at least three out of five inclusion criteria are met. If, however, some literature shall be included even when it does not meet the threshold of meeting at least three criteria, the decision must be justified and documented. Accordingly, all identified literature as well as the inclusion criteria and justifications for inclusion are documented in a digital spreadsheet. The spreadsheet was populated with data extracted from a list of preliminary relevant literature provided by the literature management programme Citavi and excludes any other sources ineligible for inclusion (e.g., citations for definitions and news articles).

For illustration purposes, an excerpt of the spreadsheet is depicted in Table 4 accordingly. In respect thereof, the column “inclusion/ exclusion” represents the final decision, whereas blue-shaded rows indicate duplicates and grey-shaded rows indicate full-text exclusions. Accordingly, “TER” indicates that the literature in question must be published *after* the terrorist incident of 9/11 and take into account the new threat of terrorism ever since 9/11. For FDI, two criteria were defined. “LOC” and “DEP” indicate that the literature shall be included when it discusses the effect of terrorism risk on the location decision of FDI as well as MNEs retreating from FDI position due to increased terrorism risk respectively. In contrast, “MEA” is the identifier for inclusion when the literature discusses counterterrorism measures on corporate level. Finally, “PAR” qualifies a literature for inclusion when the participants of the study were either MNEs or business leaders. In other words, “PAR” represents the minimum acceptable level of research design. No additional criteria for the adopted research design was determined as, by definition, a systematic review is a synthesis of relevant findings irrespective of the applied research method. As indicated in Table 3, this effort resulted in a final amount of 27 relevant literature.⁶

⁶ See Appendix 2: Overview on Literature Selection Procedure, pp. 83-85.

Journal Article
Book
Unpublished
Other

20

3.2.4. Step 4: Summarizing the Evidence

According to both Khan et al. (2003) and Uman (2011), data is synthesized by means of a “tabulation of study characteristics, quality and effects as well as the use of statistical methods for exploring differences between studies and combining their effects (meta-analysis)” (Khan *et al.*, 2003, p. 118; Uman, 2011, p. 58). Since the objective of this thesis is to provide a systematic review excluding a meta-analysis, the step is skipped accordingly. More specifically, the engagement in a meta-analysis is not feasible due to the limited availability of empirical studies on the economic repercussions on micro-level.⁷ However, for the sake of clarity and improved transparency, an overview of research findings is presented after the systematic review accordingly.⁸

3.2.5. Step 5: Interpreting the Findings

Finally, the research findings are to be interpreted. They are accounted for in the subsequent chapters accordingly. Generally, it can be stated that elaborate efforts in searching a large number of databases provided some safeguard against missing relevant studies.

3.3. Flow Diagram on Systematic Review

For illustration purposes, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), for instance, provides “an evidence-based minimum set of items for reporting in systematic reviews and meta-analyses” (PRISMA Statement, 2015).⁹ In respect thereof, Figure 2 depicts the aforementioned results of the applied five-step approach in accordance with the PRISMA flow diagram. Since no meta-analysis is to follow the systematic analysis, the very last step illustrated in PRISMA’s flow diagram is greyed out.

Overall, the flow diagram indicates that both the determined search terms as well as the stipulated criteria described in step 2 and 3 accordingly facilitated a robust method for identifying relevant literature. The applied method allowed for a successful and thorough screening phase resulting in the exclusion of 32 literature and further 48 full-text exclusions during the eligibility phase. In other words, the two-step assessment of preliminary searched literature – specifically, the assessment of full-text articles during the eligibility phase – was crucial for the determination of the final amount full-text articles to be included.

⁷ See 4.2 Systematic Review, pp. 35-70.

⁸ See 4.3 Overview of Research Findings, pp. 70-73.

⁹ Another tool is provided by the AMSTAR.

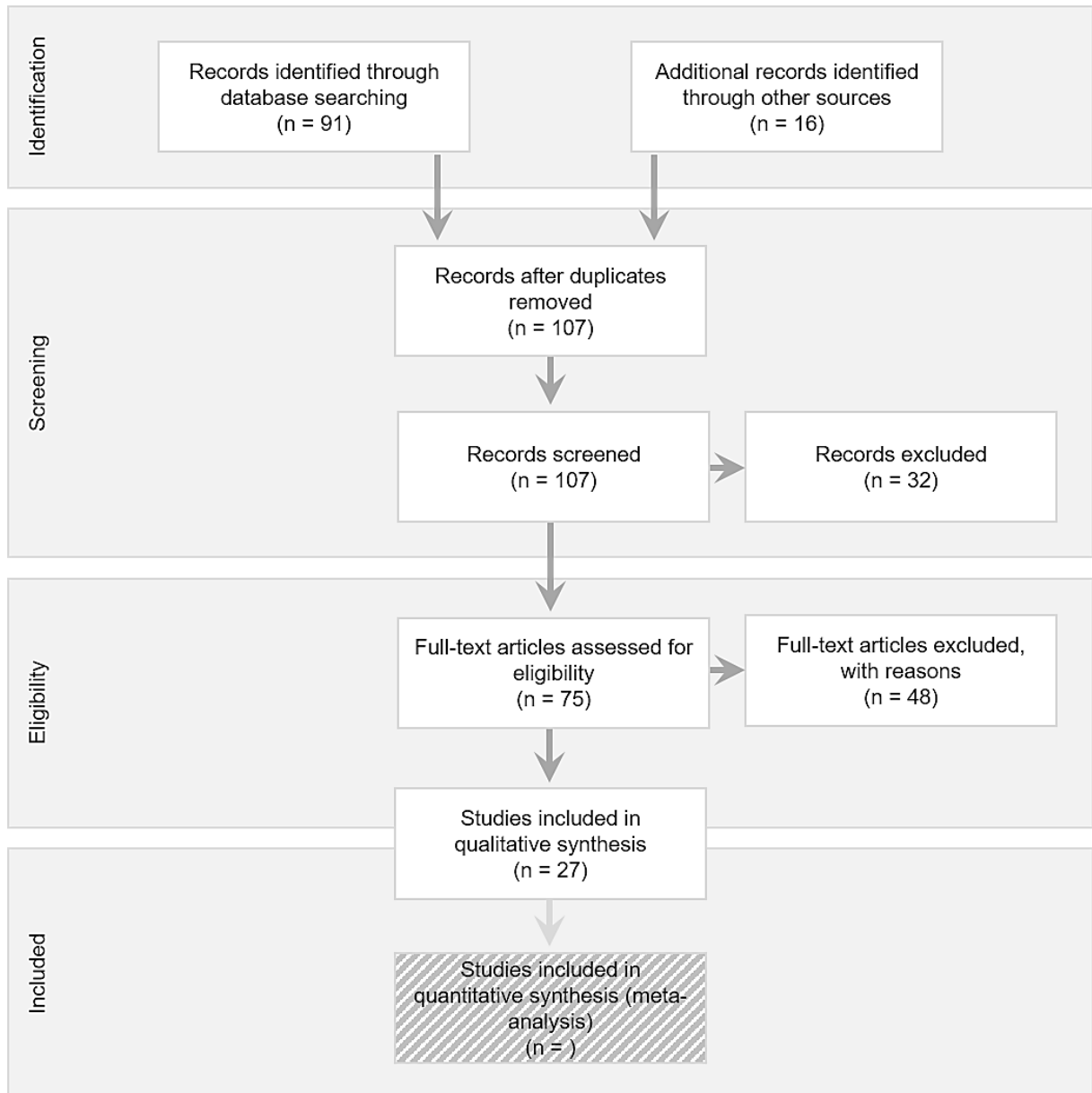


Figure 2: Flow Diagram in Accordance to PRISMA

4. Findings

This chapter is designated to provide a comprehensive systematic review of relevant literature and, thus, represents a substantive part of this thesis. As mentioned in the previous chapter, RAND's literature review conducted in 2007 represents the foundation of the thesis since it is presumably the latest literature review conducted on both the economic impact of and counterterrorism measures against the increasing threat of terrorism. Yet, the literature on the topic, which has rapidly expanded ever since RAND, has not been accounted for. Therefore, the forthcoming systematic review represents a valuable complementary contribution to RAND's findings.

Initially, this chapter opens with RAND's literature review conducted in 2007, henceforth "RAND". Subsequently, the research findings on the sub-questions are presented. Together, RAND as well as the systematic analysis of literature, which has emerged after RAND's contribution, represent the current state of research. Generally, the literature selected is reviewed in accordance with the issues covered by the sub-questions – specifically, the relationship between terrorism risk and FDI of MNEs as well as the identification of vulnerable business operations and counterterrorism measures on corporate level. Thus, this literature review follows a top-down approach. Beginning with the elaboration on the how terrorism represents a risk to FDI, the review becomes increasingly condensed by finally focussing on the counterterrorism measures on corporate level. Specifically, the determined relevant literature is assessed by reviewing research design and research findings. Thereafter, practical implications and research limitations are discussed in order to reveal the gaps in literature. Overall, a total amount of 27 literature was qualified for inclusion. For strategic reasons, the identified relevant literature is reviewed by topic in a chronological order.

4.1. RAND Report

Since RAND serves as the foundation of the systematic review, it is necessary to shed light on various aspects of RAND including the purpose, findings as well as the limitations. In fact, the outline of these aspects assists in the determination of RAND's scope or research and uncovers gaps for future research. The following paragraphs discuss each of these aspects accordingly.

4.1.1. Purpose

“Since September 11, 2001, a great deal of attention has been focused on the economic consequences of terrorism. It has come not only from individuals and organizations responsible for combating terrorism who want to understand how to reduce the economic damage that terrorist action can cause to a nation, but from terrorists as well. Following the significant costs of the September 11 attacks, economic targeting – the desire to intentionally create economic damages significant enough to hurt or influence a targeted nation – took a more prominent place in the statements of Osama bin Laden and like-minded terrorists targeting the United States” (Jackson et al., 2007, iii).

As stated in the preface of their report, the RAND Corporation – a non-profit and non-partisan research organization that engages in the development of solutions to public policy challenges (RAND Corporation, 2018) – addressed the increasing threat of terrorism by examining the economic repercussions of terrorism. In respect thereof, the report pursued three goals. First of all, it attempted to illustrate the potential economic effects of episodic versus campaign terrorism. Second of all, it was meant to increase the awareness of policymakers about the full range of economic costs that may result from economic targeting. Lastly, it pursued to explore the range of existing countermeasures that might be used to respond to this threat (ibid., p. 4).

The research, which was conducted in cooperation with the Center for Terrorism Risk Management Policy (CTRMP), is the presumably latest literature review on the economic effects of terrorism and is considered to provide a significant contribution for a large audience including federal and state policymakers, insurers, commercial organizations, and others who have a stake in ensuring the economic security of the United States in the face of the terrorist threat” (ibid., p. iii).

4.1.2. Method

With the overall objective to both promote a better understanding on the increasing threat of terrorism to the U.S. and provide a framework for effective defensive strategies, RAND’s opted for a rather conservative research method. Essentially, conclusions were drawn on the analysis of existing literature on the topic. Consequently, its research was solely populated with secondary data of quantitative and qualitative nature, which were published between 1981 and 2007. According to the citations listed in the bibliography, RAND used a mix of scholarly books, articles published in academic journals, and other scientifically substantiated as well as unpublished contributions with the majority of it being published after

the terrorist attacks of 9/11. In essence, 48 and 42 citations published in 2004 and 2005 were considered respectively.¹⁰ Therefore, it can be assumed that RAND, in fact, succeeded in capturing the effects of the increased terrorist threat after the 9/11 attacks.

In respect of the overall objective, RAND structured their report as follows. In the first section introduces the concept of economic targeting as well as the outline of the report. Section two and three explore the economic impact of terrorism by contrasting to cases to one another – specifically, the 9/11 attacks and the Provisional Irish Republican Army (PIRA). Section four determines both the types of economic costs as well as their drivers. In addition, it explores the correlation between the perception of risk and increased economic costs and, thus, provides a better understanding of the economic costs. Section five addresses defensive strategies in terms of policies as well as issues of consideration when developing a defensive plan. Finally, section six concludes.

4.1.3. Findings

In this paragraph RAND's research findings are summarized and presented in a chronological order in accordance with the six chapters of RAND's report.

In section one, RAND briefly introduced the economic consequences followed by both the 9/11 attacks committed by al Qaeda and PIRA's economic targeting activity. Despite the differences, RAND acknowledged that "the parallel between the PIRA operations and al Qaeda's attacks on energy production facilities in Saudi Arabia and the World Trade Center in New York's financial hub are striking" (ibid., p. 2). Based on this brief introduction, RAND provided a definition of economic targeting by denoting that economic targeting originates from two sources. Specifically, the credible *threat* to destroy and *actual* damage of property or harm people. In other words, economic costs appeared to be rooted in increased uncertainty, which in turn, coincided with a change in the perception of a terrorist threat. Moreover RAND, distinguished between two types of economic targeting. The terrorist event of 9/11 is characterised by isolated, high-profile, and high-impact attacks occurring at a defined point in time, whereas the PIRA's attacks are defined as campaigns of repeated and smaller-scale incidents. Therefore, RAND classified those attacks as episodic and campaign terrorism accordingly (ibid., pp. 1-5). Finally, RAND made the following conclusion.

¹⁰ Jackson *et al.* (2007, pp. 51–61). In total, 166 citations were used including both books and contributions, internet documents, journal articles as well as reports and gray literature.

“Episodic terrorism has a large attack cost component, potentially less cost driven by threat; campaign terrorism is much more driven by costs from responses to threat than by attack costs” (ibid., p. 4).

In section two, RAND explored the economic repercussions of the 9/11 attacks and emphasized the difficult measurability of costs incurred by such events. While the expenditures associated with the physical destruction of property and clean-up efforts, for instance, are easier to be determined, there are, in fact, also indirect costs including increased spending on security measures and increased opportunity costs due to delays to travellers and commuters, for instance. It also appeared that terrorism, as in the case of 9/11, had a major effect on specific industries – particularly aviation.

In response to the change in perception and increased vulnerability to terrorism, both the U.S. government¹¹ and the private sector tightened their security measures, which resulted in an increase of ad valorem costs by 1 to 3 per cent. In particular, possible disruptions in the transportation system were addressed by increased inventory levels, for instance, costing the U.S. economy up to 80 billion USD in 2002. Hence, RAND discovered that, in fact, many businesses suffered from the increasing threat of terrorism such that “[m]any business began to include resilience and robustness measures as part of their business planning after 2001” (ibid., p. 9). Moreover, it was found that the change in risk perception and increased vulnerability to terrorism also affected location and resource allocation decisions. It was even apparent that some investors retreated from foreign investment positions. Finally, RAND concluded that the costs associated with increased security and preparedness measures are, in fact, “determined by the level of threat that government, businesses, and individuals perceive and for how long the perception of elevated threat is sustained” [...] “[I]f the fear of repeat attacks persists [...] then increased security spending and effects on behaviour will remain cost drivers for a longer period” (ibid., 11; 7-12).

In contrast to the prior section in which the economic consequences of episodic terrorism were discussed, section three addressed those consequences of campaign terrorism. The terrorist campaign PIRA, which was active between 1969 and 1990, was established with the overall objective to damage the economies as well as to influence decision-making of the UK and Northern Ireland ranging from attacks and hoaxes aimed at transportation networks, energy infrastructures, central business districts, and financial

¹¹ In 2004, total gross budget authority for defence and homeland security activities amounted 41 billion USD, which corresponds to approximately “double the amount allotted to those activities before September 11” CBO (2003, p. 12, 2004, p. 1).

institutions, through arsons and bomb attacks on commercial establishments including retail stores, restaurants and hotels to assassinations of business leaders (ibid., p. 13).

It was the increased fear and uncertainty, which contributed to an increase of indirect costs considerably. In response to the increased violence, governments and businesses diverted resources to security measures including law enforcement, military operations, and intelligence organizations respectively.¹² In particular, substantial investments in building physical and technological defences were made. Despite the direct costs, PIRA's attacks also incurred opportunity costs. "Although the increase in security jobs reduced the overall job losses, the growth in the security sector represented a significant diversion of resources from productive employment in a region" (ibid., p. 16). The tourism industry suffered from a sharp drop in demand and emigration was also impacted by tighter security measures. It was also found that large foreign businesses insulated themselves from the risk of violence by retreating and substituting other locations. Finally, RAND reached to the conclusion that the costs of economic targeting, which are characterized by the combination of continuous spending on security and preparedness measures and the costs arising from behavioural changes over long periods of time, are practically difficult to be determined as they include costs on both macro- and micro-level (ibid., pp. 13-21).

Section four represents a substantive part of RAND's research conducted as it provides a framework for understanding how economically targeted terrorism may incur costs to the government, businesses, and individuals. In essence, RAND distinguishes between three essential categories in regard of costs – specifically, attack costs, security and preparedness costs, and behavioural change costs. In respect thereof, RAND denoted that "[w]ithin each category, one needs to look at government, businesses, and individuals respectively for how much each contributes to the total costs of the terrorist activity" (ibid., p. 22). Attack costs are incurred during a terrorist attack and can even continue to accrue in its immediate aftermath. Those include physical damage to structures or other capital and costs from individuals killed or injured, for instance. Security and preparedness costs, in contrast, include both expenditures for security, response, and recovery measures as well as indirect costs of those measures¹³. In this regard, RAND pointed out that it is the increased need for security and preparedness measures that triggers the diversion of resources from productive to unproductive use within an economy.

¹² Jackson *et al.* (2007, p. 15). "The total cost of extra security for the years 1969-1989 (in 1982 prices) was £9,826 million [...] in both Northern Ireland and the Republic of Ireland".

¹³ Jackson *et al.* (2007, p. 23). Those include "e.g. increased wait times from security searches, inefficiencies in transport or supply chains".

Lastly, behavioural change costs are incurred as the government, businesses, and individuals “alter their normal behaviour in response to the threat of terrorism” (ibid., p. 24). Those costs include reductions in demand induced by fear or uncertainty and shifts in investment behaviours resulting from a change in risk perception, for instance.¹⁴ Figure 3 illustrates how these costs are incurred on the various levels including the government, businesses, and individuals. Consequently, these assumptions provided the foundation of RAND’s conceptual framework for the examination of costs associated with economically targeted terrorism.

	Attack Costs	Security and Preparedness Costs	Behavioural Change Costs
Government	<ul style="list-style-type: none"> • Damage to government property 	<ul style="list-style-type: none"> • Security measures • Preparedness measures 	<ul style="list-style-type: none"> • Diversion of resources from other uses to security • Locational inefficiencies (e.g., costs from dispersal of employees and activities for security purposes)
Businesses	<ul style="list-style-type: none"> • Damage to property or capital goods • Drop in value of financial resources • Cascading effects from other parts of the economy 	<ul style="list-style-type: none"> • Security measures • Preparedness measures • Risk management 	<ul style="list-style-type: none"> • Reduced or shifted business expenditures, economic activity, or individual spending on goods and services • Reduced or shifted investments
Individuals	<ul style="list-style-type: none"> • Property damage • Injuries and fatalities • Drop in value of financial resources 	<ul style="list-style-type: none"> • Preparedness measures 	<ul style="list-style-type: none"> • Lost wages from reduced participation in the labour market (voluntary or involuntary)

*Figure 3: Potential Economic Costs of Terrorism
(Jackson et al., 2007, p. 25)*

¹⁴ See

In essence, RAND identified two cost drivers. There are two possible outcomes. If the government, businesses or individuals perceive a certain level of threat, this threat must be counterbalanced with the effectiveness of their current security and preparedness measures. In this regard, analysts may provide a sophisticated insight by assessing whether the measures taken are effective enough to counterbalance against the perceived threat. Should there be, however, a counterbalance the government, businesses, and individuals have two options. They either increase their spending on security and preparedness measures in order to tackle the perceived threat or they alter their economic behaviour, which in turn, results in the aforementioned behavioural change costs. Figure 4 illustrates this mechanism.

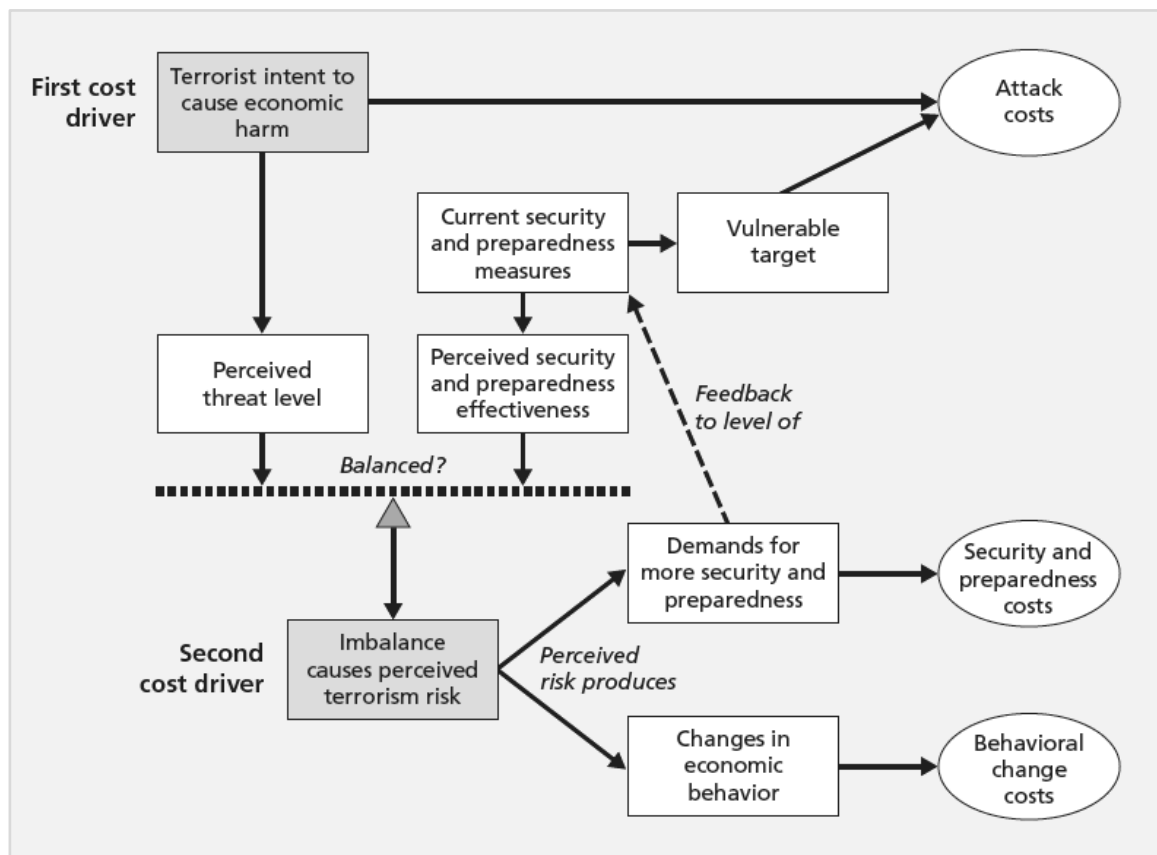


Figure 4: Conceptual Framework for Examining Economically Targeted Terrorism (Jackson et al., 2007, p. 36)

In addition to the framework presented, RAND discussed the changes in behaviour in response to the increasing risk of terrorism on corporate as well as on individual level. RAND found evidence for businesses “to substitute less risky options to limit their exposure or address the potential consequences of terrorist activity” (ibid., p. 30).

“For example, businesses that a terrorist incident affects and that can substitute other goods, services, or transportation modes for those unavailable or affected by the incident can reduce the actual costs caused by an attack” (ibid.).

In other words, businesses, which are on flexible footing in terms of substitution appeared to respond better as they can recover more easily or even withstand the impacts of economically targeted terrorism. In this regard, RAND also pointed out that this substitution behaviour is also reflected in businesses' location decisions. "A perception of terrorist risk in one area may lead firms to locate in places and invest in ways that they might not otherwise have done" (ibid.). Accordingly, RAND referred to a number of studies conducted by Enders and Sandler (1996), Rogers (2000), Nitsch and Schumacher (2004), Abadie and Gardeazabal (2005) who found empirical evidence for the deteriorating effect of terrorist incidents on FDI. Despite the substitution behaviour, businesses may also opt for hedging risk by increased "spending on risk management and insurance, increase their inventories [...], or change their investment mix to safer or less vulnerable financial instruments. Also, the adaption of production to expected market changes represents an effective reaction (ibid., pp. 22-36).

In the penultimate section RAND clarified that "[i]mplementing a defensive strategy to protect the nation requires action not just by government, but by individuals and firms as well" (ibid., p. 36). RAND demonstrated two policy levers to guide national responses to economically targeted terrorism. In essence, the government can either engage in the overall reduction of potential attack costs followed by future events¹⁵ or take measures to shift the perceived level of risk associated with terrorism and "thereby reducing the potential for security and preparedness and behavioral change costs" (ibid., p. 37). In this context, RAND presented four possible options that may be adopted in order to apply these two levers – specifically, security and preparedness measures, robustness and resilience measures, insurance and compensation, and public information and risk communication each of which is briefly discussed in the following subsections.

As the highest-level response to terrorism, *security and preparedness measures* can reduce the probability of terrorist attacks in general or at sites of particular concern and, at the same time, limit the change in behaviour by matching the security and preparedness measures with the perceived level of terrorist threat.

Though the government "is often best positioned to secure economically important targets" (ibid., p. 38), it is for the private sector to take measures to protect their owned sites. This, however, is often associated with considerably large investments. Therefore, RAND added the following.

¹⁵ Jackson *et al.* (2007, p. 37). "One approach is to lower the probability of a successful attack; another is to limit the consequences of attacks that are successfully carried out".

“From a purely economic viewpoint, the decision to implement security and preparedness measures should be driven by whether the benefits of added investment outweigh the costs of doing so. Additional resources should be allocated until the marginal benefits (e.g., reductions in expected attack costs or costs resulting from behavioral changes) no longer exceed the marginal costs” (ibid.).

Despite the fact that such a match can be considerably problematic in practice, RAND added that the perception of an “appropriate” level of security and preparedness may differ from one individual to another. In contrast to security and preparedness, which are considered preventative measures, RAND attached great importance to the adoption of *robustness and resilience measures*, which facilitate the limitation of damages incurred by a terrorist attack. Robustness measures include and is not limited to emergency response and rapid damage containment capabilities and the maintenance of redundant elements in systems. In this particular case, RAND mentioned Petroski who stated “[t]he new challenge to architects and engineers is to design structures that look as good as they ever have but to embed in them features that can withstand attacks” (Petroski, 2004, p. 164). Resilience, in contrast, is characterized as an economy’s ability to reduce the damages by being flexible enough to adapt to the altered environment. In particular, RAND distinguished between inherent and adaptive resilience. A party is inherently resilient if it can substitute “other inputs for those curtailed by an external shock or letting markets reallocate resources in response to price signals” (Jackson *et al.*, 2007, p. 40), for instance. In contrast, a party is adaptively resilient if it can alter its procedures during a crisis situation. Another resilience measure firms can opt is to shift activities to a later point in time when the economy has gradually recovered.

Another point worth mentioning is how affected parties – the private sector in particular – can respond to supply disruptions. Strategies include and are not limited to preplanning how firms will allocate products to customers in the event of scarcity to avoid damaging inefficiencies and building more flexibility into production systems, for instance. According to RAND, it should be kept in mind that robustness and resilience measures, however, come at a cost in regard of “inefficiencies of maintaining slack capacity and building stronger systems than most circumstances necessarily require” (ibid., p. 41). Due to the many practical implications associated with possible strategies, Figure 5 provides an overview on possible robustness and resilience measures in respect of the reduction of disruptions of both supply and demand.

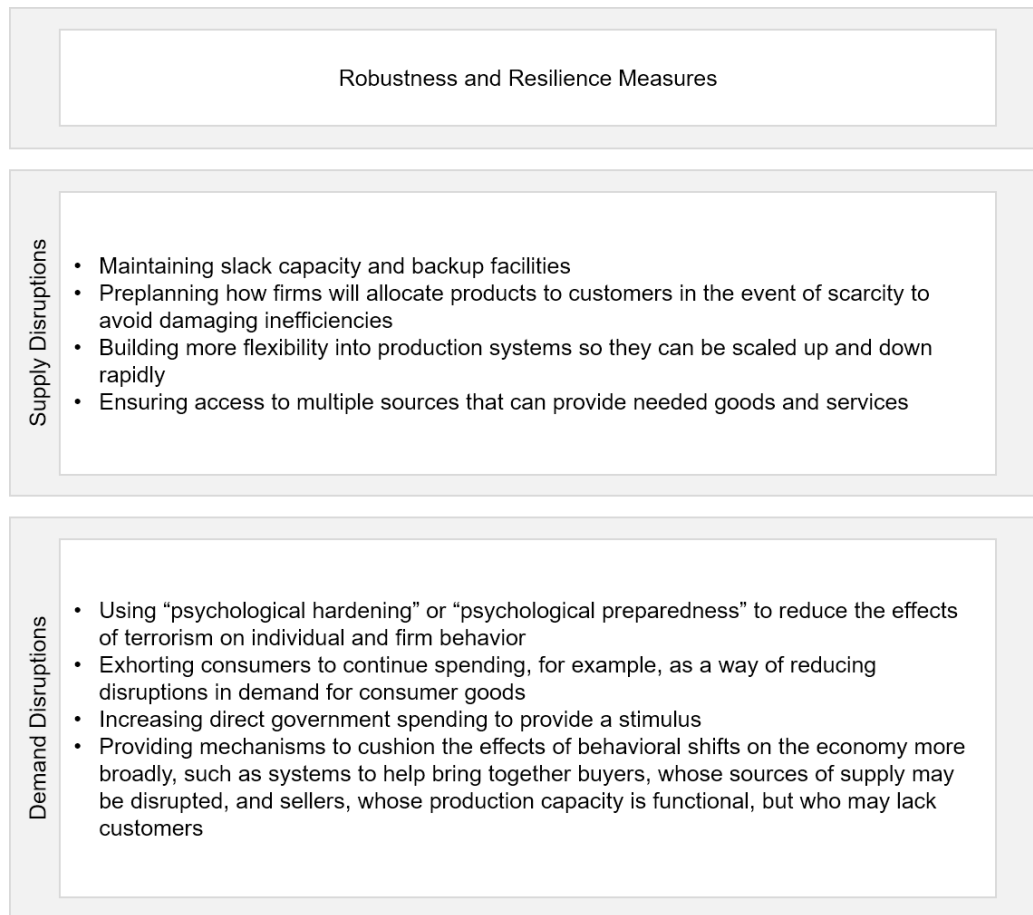


Figure 5: Strategies to Reduce Disruptions in Supply and Demand (Jackson et al., 2007, pp. 40–41)

In respect of *insurance and compensation*, RAND maintained that an economy should facilitate the transfer or reallocation of costs to others within the same economic system. For instance, costs suffered by an individual can be transferred and covered by an insurance company. In this regard, affected parties are provided with resources in order to recover and compensation of costs. Especially for policymakers, this implication may be of significance.¹⁶

Last but not least, RAND reached to the last option to apply the two aforementioned levers – specifically, public information and risk communication. RAND found evidence for the effectiveness of information sharing. Not only does it inform other market participants about the terrorist threat and security and preparedness measures adopted, but it also may steer “individuals’ and firm’s perception of the terrorism risk level and [...] guide their behaviors in response to those perceptions” (ibid., p. 43). Also, it should be borne in mind that accurate information, in fact, forms the foundation for good decision-making. Though RAND attached great importance to the provision of information, it also reaches to the following conclusion.

¹⁶ See Appendix 4: Insurance and Compensation Mechanisms for Reallocating Costs, p. 86.

“But efforts to disseminate public information must be implemented carefully. If the information provided does not, in fact, reflect actual levels of threat or preparedness, it has the potential to create unnecessary costs. Inordinate expenses can accrue not just when the public underestimates the threat environment, but also when its estimates of the threat are unrealistically high. Inflating the terrorist danger in public discussion risks generating a demand for more and more security or producing additional behavioral change costs” (ibid., pp.44-45).

Finally, RAND provided the last issues to be borne in mind when developing a defensive plan on national level. Thus, these final remarks are basically directed to policymakers. In terms of information, RAND maintained that those should be obtained or even estimated at reasonable costs. For insurance and compensation, it seems to be useful to distinguish between episodic and campaign terrorism as the latter has a repetitive pattern, which in turn, “may produce an unpredictable and continuing obligation that extends into the future” (ibid., p. 45). In respect of robustness and resilience measures, RAND argued that the benefits go well beyond the reduction of damage as the probability for falling victim to economically targeted terrorism is also reduced. It must also be borne in mind that “[a]ssessments of the benefits of specific measures must be made in a dynamic context, with the understanding that terrorist groups are adaptive adversaries who will change their behaviour in response to the incentives generated by preparedness measures” (ibid., p. 46). Also, it is considered to be useful to align public and private incentives by providing “security and preparedness guidelines, financial incentives (e.g., taxes or subsidies), regulation or mandates, or inspection processes” (ibid., p. 47). In other words, the engagement in developing guidelines in terms of preparedness for a larger audience appears to be an effective instrument for better matching the behaviour of affected parties to the threat environment (ibid., pp. 37-47).

In the last section of their report, RAND argued that, in fact, the magnitude of the total economic repercussions followed by a terrorist attack is yet unclear. However, RAND acknowledged that the “[r]esearch is currently progressing toward an increasingly detailed and integrated understanding of how the economic effects of terrorism play out” (ibid., pp. 49-50), which in turn, represents an ideal link to the research underlying this thesis.

4.1.4. Limitations

Though RAND represents the presumably latest and only literature review to date, its limitations are rather manageable. By merging the findings of a vast amount of literature on the topic ranging between 1981 and 2007, RAND, in fact, succeeded in acknowledging the increasing threat of terrorism to the government, businesses, and individuals. However, it must be borne in mind that RAND's initial objective was to reflect the economic repercussions on the U.S. economy. Thus, they drew conclusions on a number of studies, which found empirical evidence for specific markets other than the U.S. Enders and Sandler (1996), for instance, who investigated the economic costs of terrorism in terms of FDI in two considerably small and homogeneous markets – specifically, Spain and Greece. Hence, it is rather difficult to draw general conclusions on the deteriorating effect of terrorism on FDI for the U.S. market, for instance.

Moreover, there are two rather unsettling issues. First of all, the literature is mainly limited to English publications. Second of all, the studies considered in their literature review mainly drew on data and statistics provided by the U.S. authorities. Hence, there is reason to believe that RAND's conclusions may be biased. However, this can partially be contrasted by the fact that this report was initially meant to serve as a guideline for “federal and state policymakers, insurers, commercial organizations, and others who have a stake in ensuring the economic security of the United States in the face of the terrorist threat” (ibid., p. iii).

Another point of criticism is that since RAND did not conduct a systematic review, it is not fully transparent how they selected the literature and when the majority of literature on the topic evolved most rapidly, for instance. It was also mentioned that there is less quantitative data on the economic effects of PIRA in England. This, in turn, may raise the question whether PIRA is a good example to choose for campaign terrorism. Also, it remains questionable whether campaign terrorism is a (frequently) apparent phenomenon in the Westernized world ever since the terrorist attacks of 9/11 since these attacks introduced another dimension of threat. In fact, RAND denoted that “analogies about potential effects should a similar campaign occur in the United States must be tentative” (ibid., p. 21). Another issue, which was totally missed out is the potential threat associated with cyberterrorism.

In conclusion, it appears to be considerably difficult to gain in-depth insights from the literature conducted by RAND since it barely reveals the magnitude of economic costs to businesses. Though the report is said to provide a framework for understanding economically targeted terrorism and demonstrated a framework for defensive strategies, it is yet more directed to serve U.S. policymakers.

4.2. Systematic Review

RAND's research findings presented produces an eligible starting point for the systematic review. In other words, the systematic review also represents a part of the current state of research. In the following paragraphs, the systematic review is performed in both a chronological and conceptual order. Thus, the systematic review provides answers to the sub-questions in the following two paragraphs accordingly.

4.2.1. Relationship between Terrorism Risk and FDI of MNEs

Ryans and Shanklin (1980) were one of the first to acknowledge an existing relationship between terrorism and investment decisions of MNEs. Though their research did not account for the new dimension of terrorism risk ever since 9/11, it was still determined eligible for consideration for its many significant implications. In their study, which was initially designed to show how managers cope with terrorism, Ryans and Shanklin discovered that terrorism appears to have a de facto direct impact on multinational decision-making leading to MNEs either adopting separate strategies for countries at risk or amending their general approach to IB. Their research was designed as follows. With the purpose of providing a greater understanding on how to operate with less anxiety in high risk areas, Ryans and Shanklin performed a qualitative analysis based on a written questionnaire. The questionnaire, which was distributed to 82 upper echelon international corporate executives in companies among the 200 largest U.S. and 250 largest overseas MNEs¹⁷ during the fall of 1979, included both structured and open-ended questions. The answers were later complemented by interviews with a number of experienced executives of prominent MNEs. To ensure the heterogeneity of the results, Ryans and Shanklin used one definition of terrorism.

They reached to the conclusion that terrorism affects MNEs' decisions in terms of investment, personnel policies, risk assessment, and security requirements. Especially in regard of investment decisions, Ryans and Shanklin acknowledged that terrorism adds a new dimension of risk. Unlike political risks, which include government overthrow, expropriation, confiscatory taxation, or restrictions on profit repatriation, terrorism is perceived to be less predictable and, thus, more fatal. Thus, the greater the risk of terrorism, the greater the probability of MNEs to either retreat from positions of high commitment or operate through distributors and licensees. This includes the establishment of new plants in high-risk countries. However, Ryans and

¹⁷ Ryans and Shanklin (1980, p. 67). "[F]orty-eight answers were obtained from executives of U.S. multinationals and thirty-four from managers of overseas MNCs".

Shanklin observed that MNEs, which are already highly committed through direct investments in high-risk countries, stay as long as possible.

Finally, Ryans and Shanklin stated that the respondents perceived terrorism to rank second to inflation when it comes to market barrier. Thus, investments in high-risk countries must yield a greater return on investment (ROI)¹⁸ than other investments in low-risk countries (Ryans and Shanklin, 1980, 66-68; 72).¹⁹

In their case study of Spain and Greece, Enders and Sandler (1996) were one of the first to quantify the macroeconomic impact in terms of economic costs of terrorism on a nation's growth. Though Enders and Sandler's research was also mentioned by RAND, it qualified for re-consideration due to its significant implications in regard of terrorism risk and FDI of MNEs. As stated by Enders and Sandler, economic costs may have at least four origins: (1) losses from tourist revenues, (2) attacks aimed at FDI interests causing a reduction of an economy's future stock of capital through decreased inflows of foreign investment, (3) destruction of infrastructure due to terrorist attacks causing economic disruption, and (4) opportunity costs caused by resources used to both deter terrorist attacks and capture terrorists. Specifically, Enders and Sandler addressed the problem whether terrorist events can depress the inflow of foreign capital through an atmosphere of intimidation and increased financial risks.²⁰

Country	Incident Total 1968 - 1991	Victim Type		
		Corporation Personnel	Private Parties (e.g., Tourists)	Foreign Diplomats
Spain	263	122 (144)	47 (14)	51 (13)
Greece	367	64 (63)	55 (10)	155 (27)

Numbers in parentheses are the number of a given kind of attack that resulted in property damage.

Source: ITERATE 2,3, and 4

*Table 5: Victim Characteristics of Terrorist Incidents: Spain and Greece
(Enders and Sandler, 1996, p. 337)*

¹⁸ See also Bowman, Edward H. (1980). A risk/return paradox for strategic management.

¹⁹ See also Kunreuther *et al.* (2003). Besides the discussion of models, which enable insurers and reinsurers to assess the premiums they should charge and how much coverage they can assume, Kunreuther *et al.* explained the impact of terrorism on the annual ROI required by investors who commit to a catastrophe bond.

²⁰ See Appendix 5: Research Methodology Adopted by Enders and Sandler (1996), p. 87.

Enders and Sandler reached the following conclusion. As illustrated in Table 5, corporate personnel and tourists are particularly involved with NFDI.²¹ Furthermore, terrorist incidents appeared to have a deteriorating effect of 13.5 per cent and 11.9 per cent on net FDI (NFDI) respectively. Also, as they contrasted their results for Spain and Greece against three large EU countries including France, West Germany, and Italy, they further confirmed their assumption that the larger economies can better shield themselves from the impact through a more diversified pool of investors (Enders and Sandler, 1996, 331-333; 336-337; 349-350; Sandler and Enders, 2008, pp. 2–3).²²

There is a considerable amount of literature that focussed on the economic consequences of terrorism. Specifically, on macroeconomic consequences. As presented earlier, Enders and Sandler (1996), for instance, addressed the economic costs of terrorism, which in turn, impact an economy's growth. Koen et al. (2002), however, considered the macroeconomic consequences in the aftermath of the 9/11 terrorist attacks. Though their study focussed on the long-lasting *macroeconomic* repercussions, they provided significant implications on the impact of terrorism on FDI, albeit indirectly. Koen et al.'s research is of conceptual nature and is, therefore, except for the OECD statistics, based on a mix of primary and secondary data. They reached the conclusion that economic consequences may stem from three particular channels of influences: shrinking insurance coverage due to greater risks, increased trade costs possibly affecting international trade, and heightened public²³ and private security spending, all of which are reactions on both the immediate policy response in the aftermath of the terrorist incidents and the medium-term policy implications for regulatory, trade, and fiscal policy. Koen et al. reported the costs associated with the destruction physical assets of private businesses, state and local government enterprises, and for the federal government during the 9/11 attacks to amount up to 14 billion, 1.5 billion, and 0.7 billion USD respectively. In addition, as illustrated by 9/11, a combination of increased uncertainty, massive shake in household and business confidence²⁴, and a greater exposure of most businesses due to a shrinkage of insurance coverage for terrorism-related risks, impacted individuals and businesses' readiness to agglomerate in metropolitan areas. However, statistics show that the adverse impact on financial markets was only temporary. Furthermore,

²¹ Enders and Sandler (1996), p. 337. "[...] [C]orporate personnel are the preferred target in Spain, while foreign diplomats are the preferred target in Greece".

²² See Appendix 6: Implications for Microeconomic Consequences, p. 88.

²³ See also Blomberg *et al.* (2004, 2; 19). "[...] [T]errorism is associated with a redirection of economic activity away from investment spending and towards government spending". „A decline in the investment rate and a rise in the government spending rate would be consistent with conflict and terrorism leading to a reallocation of resources away from the accumulation of productive inputs through reduced investment spending, towards increased spending on security (and presumably less productive government activities)".

²⁴ See Appendix 7: Business and Consumer Confidence in Comparison, p. 89.

a survey conducted shortly after the 9/11 attacks showed that only a small number of transnational corporations intended to delay or even cancel investment projects for the next years as a result of the terrorist attacks. This confirms Ryan & Shanklin's (1980) statement that MNEs that are already highly committed through direct investments in high-risk countries, stay as long as possible (Ryans and Shanklin, 1980, p. 67).

Regarding the impacted sectors, Koen et al. stated that the economic repercussions of 9/11 impacted a vast majority of sectors. However, some sectors were hit especially hard. In the U.S. and many other OECD countries, the aviation industry²⁵, hotels, restaurants, travel agencies, and other tourism-related businesses^{26,27} suffered a substantial loss in capital and demand, while the insurance sector was confronted with a catastrophe of unprecedented magnitude with estimated losses ranging between 30 and 58 billion USD.^{28,29} In addition, some industries including transportation, construction, tourism, energy generation, aviation, and aviation faced hikes in insurance premiums³⁰ with the latter being affected the strongest. In sum, Koen et al. maintained that 9/11 illustrated that terrorist attacks can lead to a chain reaction in terms of macro- and microeconomic consequences. Businesses face a combination of increased uncertainty, massive shake in household and business confidence, increased exposure due to a shrinkage of insurance coverage, decrease in labour productivity of private sector by 0.5 per cent, and increased private security spending by approximately 5 per cent of GDP – a combination, which might dissuade foreign capital inflows. However, Koen et al. also see opportunities in insurance premiums as this new pricing power might attract the entry of new capital in industries, albeit at a higher risk (ibid., 2; 4-13; 16; 19-32).

After the terrorist attacks of 9/11, Evans (2003) acknowledged the economic impact of terrorism in terms of declining FDI figures. In fact, he accomplished in finding, substantiating, and reporting the deteriorating effect of terrorism on global FDI inflows. His findings were mainly based on figures retrieved from databases including Export Development Canada (EDC), UNCTAD, and Bloomberg. Evans reached to the following conclusion. Overall, it

²⁵ Koen *et al.* (2002, p. 19). As a consequence of the attacks of 9/11, the air traffic was completely shut down for 4 days in the U.S. Also, the U.S. faced a general sharp drop in the demand for airport transportation services around the globe in the following months after 9/11.

²⁶ Ibid, p. 12. "Hotels, restaurants, travel agencies, and other tourism-related businesses confronted a shark drop in demand, in the U.S. but also in many other countries, in particular in the Caribbean and in the Middle East. In the retail sector, customers initially tended to desert upscale department stores in favour of large discount outlets."

²⁷ See also Gold (2004b, p. 3).

²⁸ Ibid, p. 17. Insurance market losses includes property, business interruption, workers' compensation, aviation, liability, other lines (non-life), and life and health.

²⁹ See Appendix 8: Insurance Market Losses, p. 90.

³⁰ Ibid, p. 19. On a year-on-year comparison, the insurance costs for U.S. airlines increased by 233 per cent in the fourth quarter.

appeared that the significant drop in global FDI especially between 2000 and 2001 may be attributed to a general “downturn in the international business environment and increased investor uncertainty” (Evans, 2003, p. 2). In fact, Evan discovered that foreign capital investments were shifted away from the U.S. to overseas markets – specifically, to China and East Europe.³¹ For many globally operating firms, China is among others favoured for its cost-effective production. On a global scale, FDI inflows declined by an estimated 27 per cent in 2002, following a 51 per cent decline in 2001. The global figures are illustrated in Table 6. According to Evans, the significant drop may be attributed to a number of factors. First, 9/11³² appeared to have caused a massive shake in confidence resulting in investors’ unwillingness to make new investments. Second, the war in Iraq as well as the SARS outbreak also may have contributed to a significant decline of FDI inflows in the early months of 2003.³³ Third, “FDI inflows to the industrialized countries remain sluggish as M&A activity has yet to recover and concerns over corporate balance sheets linger” (ibid., 3; 1-2; 4-10).³⁴

Country	1995	1996	1997	1998	1999	2000	2001	2002
World Total	331	386	478	694	1,088	1,492	735	534
annual % change	28.8	16.6	23.8	45.2	56.8	37.1	-50.7	-27.3
Developed Countries	203	220	268	484	838	1,227	503	340
annual % change	40.0	8.4	21.8	80.6	73.1	46.4	-59.0	-32.4
share of total (%)	61.5	57.0	56.1	69.8	77.0	82.2	68.4	63.7
Developing Countries	127	166	210	209	250	265	232	194
annual % change	13.4	30.7	26.5	-0.5	19.6	6.0	-12.5	-16.4
share of total (%)	38.5	43.0	43.9	30.1	23.0	17.8	31.6	36.3

Source: UNCTAD World Investment Report, 2002. Data for 2002 are preliminary.

*Table 6: Global FDI Inflows (in bn USD)
(Evans, 2003, p. 2)*

³¹ See Appendix 9: FDI Flows to Europe, p. 90.

³² Evans (2003, p. 2). In fact, Evans even described it an “on-going war on terrorism”.

³³ (Ibid., p. 2). Regarding the SARS epidemic, Asia presumably experienced the largest impact.

³⁴ (Ibid., p. 1-10). For prospects, Evans referred to a UNCTAD survey conducted in 106 countries during the first quarter of 2003. It revealed that particularly Western countries reported the largest number of delayed and cancelled foreign investments. The sluggish development of FDI in Western countries, in turn, may be traced to a downturn in M&A activity. In respect thereof, Evans stated the following. “Among the developed nations, most of the weakness in cross-border investment this year is again expected to be concentrated in the United States, United Kingdom and Japan. In recent years, cross-border M&A accounted for roughly 90% of FDI in the G-7 group of nations” (ibid., p. 4).

Now turning to the impact of terrorism on FDI, which was also discussed in two chapters of Suder's (2004) book "Terrorism and the International Business Environment: The Security-Business Nexus". After 9/11, the book was one of the first to collect relevant and conceptual articles that examined the nexus between terrorism and IB. As one of the contributors to that book, Czinkota et al. (2004) opted for a research design that is based on a mix of primary and secondary literature and reached to the following conclusion in regard of the impact of terrorism on FDI. Terrorists seemingly prefer targeting innocent individuals including IBs rather than the military or the government. In 2001, for example, international terrorists attacked almost 400 business facilities. In contrast, military and government facilities were targeted in a total of 35 events³⁵ (US Department of State, 2002, p. 174). Furthermore, as companies decide to increase their foreign involvement, they may choose from a number of entry modes including export, import, FDI, for instance. However, as denoted by Czinkota et al., companies should be aware that each mode can be affected by terrorism (Czinkota *et al.*, 2004, pp. 43–44). Though Czinkota et al. provided the conceptual foundations of the impact of terrorism on IB, yet they added little contribution to the understanding of an existing nexus between terrorism and FDI.³⁶

In a subsequent article published in Suder's (2004) book, McIntyre and Travis (2004) discussed the impact of terrorism on FDI in more detail by pointing out that the terrorist events of 9/11, in fact, initiated a change in various environments including global politics, business, and economics. Essentially, McIntyre and Travis distinguished between the differential impact of terrorism on FDI to developed and developing countries. Just like Czinkota et al. (2004), McIntyre and Travis opted for a research design that is based on mix of primary and secondary literature. They reached to the following conclusion. Initially, they complemented Czinkota et al.'s (2004) earlier statement that businesses appear to be among the preferred targets. Historically, terrorist attacks have been directed at nation-states – specifically, their governmental facilities or civilian populations. McIntyre and Travis argued that if terrorists face a destabilizing effect with attacking nation-states, they prefer directing their attacks at business operations and hubs in order to produce harm to nation-states, albeit indirectly. Also, McIntyre and Travis introduced an adapted framework, which was initially presented by Enderwick (2001). In an attempt to account for and present the multiple impacts of 9/11, Enderwick developed a circular framework with three circles – specifically, 'primary impacts' at the centre, surrounded by 'secondary impacts', 'response-generated impacts' and 'longer-term issues'. Industries are then allocated to the circles based on the impact. Typically, the airline and tourism industry are located at the centre. Thus, the further away an industry is located from

³⁵ Czinkota *et al.* (2004, p. 174) Figure includes terrorist attacks directed at diplomats.

³⁶ See Appendix 10: Framework for the Analysis of Terrorism and IB, p. 91.

the centre, the less directly affected, more distant temporally, and also less concretely linked in causality it is. According to McIntyre and Travis, Enderwick's model did not address the impact of uncertainty, risk, and competitive advantage. Hence, as illustrated in Figure 6, McIntyre and Travis modified the framework by establishing two groups (McIntyre and Travis, 2004, p. 123; Enderwick, 2001). In respect thereof, the upper group represents the categorized industries services, investment, and trade, and the lower group represents uncertainty, risk, and competitive advantage, are highly intertwined.³⁷ As acknowledged by McIntyre and Travis, both uncertainty and risk play a role in the ROI of an associated FDI.³⁸ In other words, an increased risk level must be offset by an equivalent increase in return.³⁹ They also found support in Evans (2003) performed an economic analysis and forecasting for global FDI flows, which was discussed earlier (see Table 6). Once again, global FDI inflows peaked in 2000. With the 9/11 attacks, however, this figure suffered a severe decline especially in developed countries. Since there is no empirically founded direct causal link between the 9/11 attacks and the decline in FDI, McIntyre and Travis denoted that the 9/11 attacks appeared to have accelerated the rate of reduction in FDI through elevated risk and uncertainty (ibid., 120-124; 146-148; Evans, 2003, p. 2).

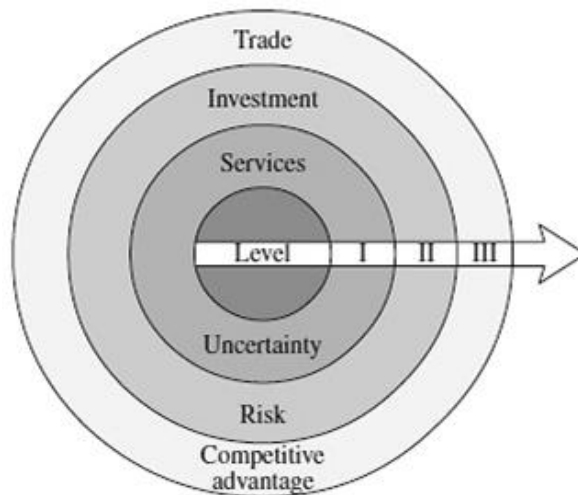


Figure 6: Adapted Circular Framework on Global Investment and Trade Flows (McIntyre and Travis, 2004, p. 123)

³⁷ McIntyre and Travis (2004, p. 123). "For example, uncertainty in the wake of a terrorist act leads to a perception of increased risk, which can repel direct manufacturing and facilities investment and possibly lead to more merchandise exports and imports to compensate or substitute for reduced foreign direct equity investment. Some countries might also be able to convert a low risk level of terrorism into a competitive advantage, compared to other regions, thereby attracting more investment, increasing domestic production and possibly reducing the levels of trade in merchandise".

³⁸ Suder (2004, p. 68). In a previous chapter, Suder acknowledged that terrorism increases the complexity of the geopolitics dimension in risk assessment for IBs. In particular, EU's capital investments into developing countries are exposed to a diversified and global risk.

³⁹ McIntyre and Travis (2004, p. 146). Apart from the level of uncertainty and risk that have an impact on FDI, McIntyre and Travis suggested a definite push-pull dynamic to FDI. While a push originates from the domestic market situation, a pull stems from foreign market attractiveness.

In a subsequent paper, Czinkota et al. (2005) partially addressed the correlation between terrorism and FDI by exploring the direct and indirect threats of terrorism to operations of the firm as well as the practical implications to management and marketing. Based on the analysis of primary literature as well as interviews, Czinkota et al. reached to the general research proposition that the firm's vulnerability to terrorism is affected by the firm's foreign market entry mode. Depending on the firm's level of commitment, its business operations may be more prone to the direct and indirect threats of terrorism. Thus, it is assumed that firms prefer exporting as a non-equity over FDI as an equity mode of entry when it comes to the entry to high-risk or volatile markets. Consequently, as proposed by Czinkota et al., FDI-based entries in high-risk or volatile markets must be associated with a higher expected ROI than export-based entries (Czinkota et al., 2005, p. 594).

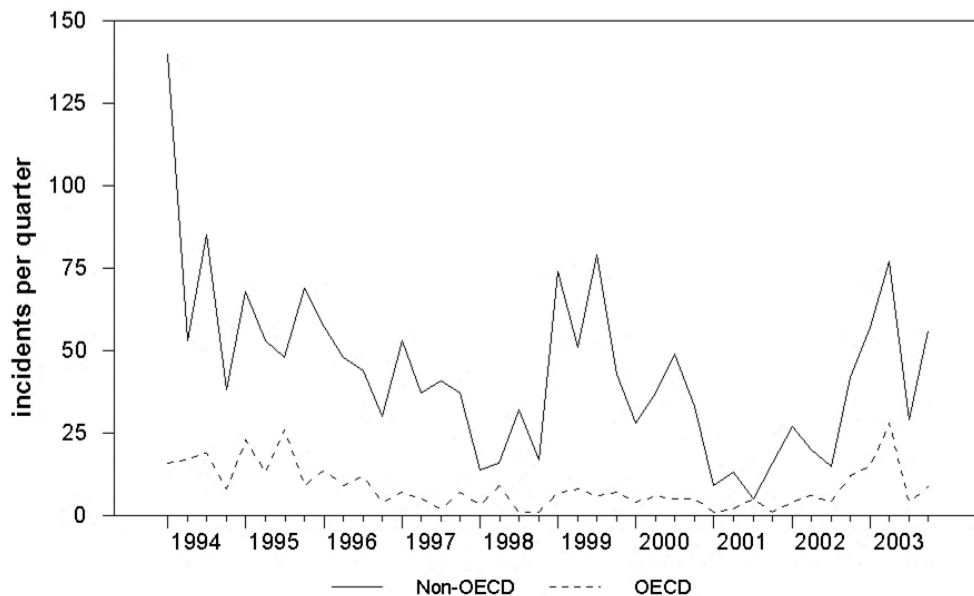


Figure 7: Terrorist Incidents in OECD and Non-OECD Countries
(Enders et al., 2006, p. 524)

Enders et al. (2006) also attempted to explore to what extent terrorism – specifically, transnational terrorism – has altered the business environment in terms of U.S. FDI flows. By means of a time-series intervention analysis covering the pre- and post-period of 9/11, they found evidence for the negative impact of terrorism on U.S. FDI flows. Enders et al. assumed that investors retreated and shifted their assets to safer venues for a couple of reasons.

“First, even in the absence of a direct terrorist attack, protecting facilities from potential attacks raises operating costs and, therefore, limits returns. In addition to the costs of directly securing a plant, building, or office, a firm in a hostile environment must maintain security clearance for its employees and pay additional insurance charges. Second, terrorist attacks can destroy infrastructure, thereby causing business

disruptions. For example, a terrorist attack on a railroad line may cause shipping delays for a substantial period of time. Third, recruiting costs may rise because personnel from the home office may not wish to work in a terrorism-prone region. These enhanced costs reduce the returns on U.S. FDI and may divert these assets elsewhere. Fourth, terrorism augments the general level of uncertainty, which redirects FDI to safer venues (Enders et al., 2006, p. 517)".

Overall, Enders et al. generated their data from the International Terrorism: Attributes of Terrorist Events (ITERATE) data set, which collects its data on the date of the incident, location, type, number of victims.⁴⁰ It was found that the drop in U.S. FDI flows was not long-lived. Except for Turkey, U.S. FDI flows rebounded in the years after 9/11.⁴¹ As shown in Figure 7, it also appeared that non-OECD countries were more affected by terrorist incidents. Though the attacks in OECD countries was small in effect, it had a significant impact on the stock of U.S. FDI in those countries (ibid., 517-520; 524; 530-531).

In a related article, Willis (2006) discussed the concept of terrorism risk and how it affects resource allocation in terms of funds used to defend terrorism. In essence, it was determined that funds shall be allocated in accordance to the level of terrorism risk.⁴² Though the article does not substantiate the relationship terrorism risk and FDI of MNEs, it does, in fact, contribute to the understanding of terrorism risk and was, therefore, considered relevant to understand the aforementioned relationship. Generally, the estimation of terrorism risk is impeded by a couple of factors. First, no shared and precise definition of terrorism exists. Consequently, stakeholders often refer to different concepts of risks. Second, "terrorism risk changes over time as terrorist motives, capabilities, and targeting change and adapt to risk mitigation efforts" (Willis, 2006, p. 4). Furthermore, its measurement must also account for differences in the perception of terrorist risk of various cities exposed to that risk. For these very reasons, Willis referred to one of his earlier working papers, where he conceptualized terrorism risk as a function of threat, vulnerability, and consequences. Threat is considered as "[t]he probability that a specific target is attacked in a specific way during a specified time period" (ibid., p. 7), whereas vulnerability is defined as "[t]he probability that damages (where damages may involve fatalities, injuries, property damage, or other consequences) occur, given a specific attack type, at a specific time, on a given target" (ibid., p. 9). Consequences, in turn, are determined as "[t]he expected magnitude of damage (e.g., deaths, injuries or property damage), given a specific attack type, at a specific time, that results in damage to a specific target" (ibid.). As shown in Figure 8, risk is defined as the intersection of events where

⁴⁰ Enders et al. (2006, p. 518). The number of victims includes both people killed and wounded.

⁴¹ See Appendix 11: U.S. FDI in Selected Countries (in mn of 1994 USD), p. 92.

⁴² See Appendix 12: Estimation of Terrorism Risk in Urban Areas, p. 93.

threat, vulnerability and consequences are all present. Similarly, this conceptualization of terrorism risk allows for an adequate resource allocation given the parameters threat, vulnerability, and consequences (ibid., p. 2-21). Consequently, the function reads as follows.

$$Risk = Threat * Vulnerability * Consequence \quad \text{or}$$

$$Risk = P(\text{attack occurs}) * P\left(\frac{\text{attack results in damage}}{\text{attack occurs}}\right) * E\left[\frac{\text{damage}}{\text{attack occurs and results in damage}}\right]$$

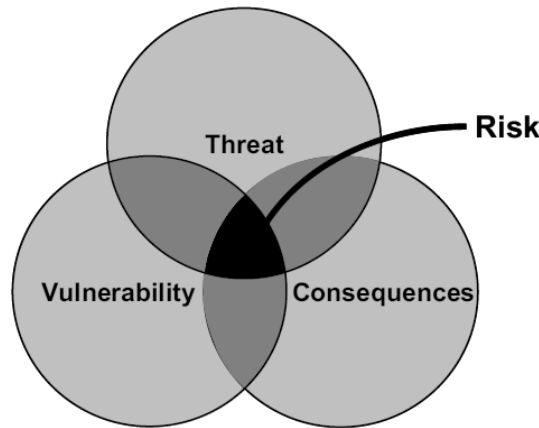


Figure 8: Terrorism Risk
(Willis, 2006, p. 11)

In their article, Wernick and Glinow (2012) addressed the increasing threat of terrorism to international luxury hotels and, thus, investigated its impact on a specific industry. Specifically, Wernick and Glinow referred to the Mumbai Attacks of 2008 when among others two of Mumbai's landmark properties were attacked. More specifically, the Taj Mahal Palace and Tower as well as the Oberoi Trident complex were targeted. Furthermore, it was determined that the Mumbai attacks clearly showed that both Western tourists and business people were especially targeted. From a total of 166 being killed, 28 were foreign nationals. As a result of these attacks, India reported an economic downturn amounting up to 40 billion USD, which can be traced back to both a generally impacted business environment and loss of income from the tourism industry. However, the Mumbai attacks were not an isolated case. In fact, it was reported that "the number of major terrorist attacks against hotels around the world has more than doubled in the eight years since 9/11, from 30 to 62, while the number of different countries affected has jumped to 20 from 15" (Wernick and Glinow, 2012, p. 3). More specifically, records showed that Western-branded luxury hotels were especially preferred targets of terrorists. For instance, Marriott and Sheraton were attacked 10 times ever since 9/11. In respect thereof, Wernick and Glinow listed four reasons for why international luxury hotels appear to be particularly targeted. First, hotels are considered a symbol for Western affluence and influence, where foreign diplomats, business people, tourists, and local elites

reside. Second, “hotels are open environments with multiple points of entrance and egress and a constant flow of traffic” (ibid., p. 4) and are, thus, considered a soft target compared to government and military facilities, which are much more secured. Third, due to the massive “causalities, widespread panic, and extensive media attention”, terrorists may be rewarded with prompt recruitments. Lastly, terrorist groups appear to lack “the resources and training to mount a successful attack on a Western embassy or airline, and so have turned their attention to easier targets – hotels” (ibid., 5; 2-10; 12-16; 18-19).

By means of an econometric model, Filer and Stanišić (2012) found that all three forms of capital flow – specifically, FDI, equity portfolio investment, and lending (debt) – are negatively correlated with terrorism. However, the relationship between terrorism and MNE’s FDI is the only statistically significant one (Filer and Stanišić, 2012, p. 13). In essence, Filer and Stanišić employed an unbalanced panel of more than 160 countries over a time period of 25 years and used a fixed effects regression framework to test the relationship between terrorism and capital flows. In addition, Filer and Stanišić also tested for negative spill-over effects of terrorist incidents on capital flows. The econometric model, which was populated with data generated from the Global Terrorism Dataset (GTD), allowed for the following conclusions. Essentially, it was found that all three forms of capital flow were negatively correlated with terrorism with the relationship between terrorism and FDI being the only statistically significant one.⁴³ In other words, increased terrorism activity was associated with a substantial downturn in FDI inflow measured as a percentage of GDP. Also, Filer and Stanišić found evidence for negative spill-over effects. As mentioned in the introduction, Stanišić (2013) later complemented these research findings with especial regard to negative spill-over effects of terrorism on other investors. It was found that terrorism has a significant effect on both size and probability of an investment. The perception of increased risk also appeared to incentivize investors to reallocate their capital to less risky economies. Stanišić also found empirical evidence for the aforementioned negative spill-over effects on other investors (ibid., 1-2; 5-7; 9; 13-15; 17).

Bos et al. (2013) also attempted to investigate the impact of terrorism on FDI – specifically, on U.S. investors’ behaviour before and after the terrorist attacks of 9/11. Just as Filer and Stanišić (2012), Bos et al. adopted a time-series analysis and populated their empirical model with data generated from the GTD. In this regard, Bos et al. “analyse[d] 16,728 terrorist attacks that occurred in 144 countries on 4,009 days between 1998 and 2010. Out of a total of 3,270 trading days on the NYSE in our sample, there are 2,868 days during which information on terrorism can enter the market” (Bos et al., 2013, p. 2). In respect thereof, Bos et al. reached to the conclusion that “[t]he relationship between large terrorist attacks, the stock

⁴³ See Appendix 13: Effects of Terrorism on Conventional FDI (1980-2008), p. 94.

of foreign direct investment built up by U.S. firms in the region and share prices on the New York Stock Exchange is only significant, both statistically and economically, after the tragic events of September 11, 2001” (ibid.). In fact, U.S. firms suffered from decreased share prices and a general price volatility.

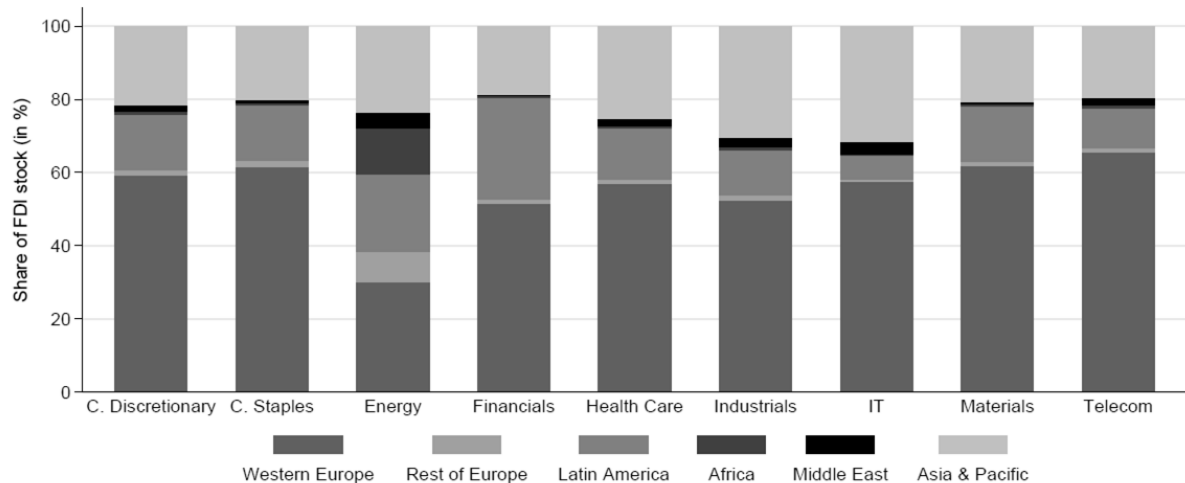


Figure 9: U.S. FDI - Sector Distribution Geographical Areas
(Bos et al., 2013, p. 33)

The results showed that share prices reacted negatively to large terrorist incidents in proportion to the FDI stock of U.S. firms. Moreover, Bos et al. confirmed Evans’ (2003) results that “[t]he main beneficiary of U.S. outward FDI was Western Europe” (ibid., p. 9). The statistics are presented in Figure 9. In sum, the results also illustrate that 9/11 increased investors’ awareness for the potential economic impact of terrorism. Consequently, “investors need to take into account the geopolitical situation in regions where firms locate their FDI before they invest” (ibid., 28; 2; 5; 9; 21; 23-25; 27; 33).

In another related study, Bandyopadhyay et al. (2014) also employed econometric techniques to examine the relationship between terrorism, FDI, and aid. Though Bandyopadhyay et al. initially attempted to investigate how terrorism affects FDI, which in turn, is considered “an important engine for development” (Bandyopadhyay et al., 2014, p. 25), their findings represent empirical evidence for the increasing terrorist risk on FDI of MNEs. Their empirical model was populated with data of 78 developing countries over the period between 1984 and 2008 (ibid., p. 31). Also, in this case, conclusions were drawn on data generated from the GTD. In essence, Bandyopadhyay et al. differentiated between domestic and transnational terrorism and paid particular attention to the latter as it has a greater marginal impact on FDI, “because foreign personnel and assets may be targeted directly” (ibid., p. 26). Overall, Bandyopadhyay et al. also found further confirmation for increased costs of doing business as well as reduced output. Furthermore, it appeared that “one incident of

transnational terrorism causes far more adverse effect on FDI/GDP than does one incident of domestic terrorism” (ibid., p. 48).⁴⁴ Consequently, it can be stated that Bandyopadhyay et al.’s study is another example for the blurring borders between macro- and microeconomic consequences. Moreover, it stresses the importance of understanding how macroeconomic consequences affect business of MNEs (ibid., 25-27; 31; 34; 48).^{45, 46}

Last but not least, Bezić et al. (2016) performed the most recent study to date on the deteriorating effect of terrorism on FDI. Specifically, Bezić et al. utilized a dynamic panel model to empirically test the effect of terrorism on FDI of selected EU and EEA member countries. In fact, the model accounted for the effects of 29 sample countries between 2000 and 2013.⁴⁷ The sample countries were selected in accordance to “economies at very high risk, high risk, medium risk, low risk, insignificant risk, or no risk of terrorist attacks” (Bezić *et al.*, 2016, p. 340). Finally, Bezić et al. concluded that terrorism induces among others a negative investment climate. Specifically, FDI inflow per capita appeared to be reduced by 5.76 per cent if the number of terrorist incidents is increased by 1 per cent. Furthermore, the results revealed that the magnitude of natural disasters, in contrast, were relatively weak and insignificant. Also, Bezić et al. indicated that spill-over effects in terms of an economic slowdown of one economy to its associated region is possible. Consequently, Bezić et al. confirmed a positive and statistically significant relationship between terrorism and incoming FDI (ibid., 334; 340; 342-344).

⁴⁴ Bandyopadhyay *et al.* (2014, p. 48). In terms of aid it was found that aid mitigates the adverse effect of both domestic and transnational terrorism on FDI/GDP.

⁴⁵ Shah and Faiz (2015). By means of a panel econometric estimation model on annual data from 1980-2012 of five SAARC member nations – specifically, Bangladesh, India, Nepal, Pakistan and Sri Lanka – Shah and Faiz also found confirmation for the deteriorating effect of terrorism on FDI.

⁴⁶ Shahzad *et al.* (2015). Taking Pakistan as an example, Shahzad et al. also found further empirical evidence on macroeconomic level for the depression of FDI. See also Serfraz (2017). What is the effect of foreign direct investment inflows on economic growth in Pakistan? An empirical analysis in the light of religious sectarianism as catalyst for terrorism.

⁴⁷ Bezić *et al.* (2016, p. 340). The sample included Austria, Bulgaria, Cyprus, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom, Switzerland, Norway, and Iceland.

4.2.2. Vulnerable Business Operations

In their working paper, Koen et al. (2002) performed a cross-sectoral investigation on the economic consequences of terrorism on both macro- and micro-level based on both primary and secondary literature. Essentially, their paper attempted to analyse “the economic consequences of terrorism, both in terms of immediate policy response in the aftermath of the attacks and of medium-term policy implications for regulatory, trade and fiscal policy” (Koen et al., 2002, pp. 4–5). To this extent, Koen et al. examined the short-term effects and authorities’ crisis management decisions, the reaction of the insurance industry, the impediments to international trade as well as the rise in national defence and domestic security spending. In regard of business operations’ increased vulnerability, it was found that terrorism may cause massive disruptions in the general transportation system due to tighter security screenings of border crossings. As a consequence of tighter security measures, overall transportation of goods by sea and air. For example, in the aftermath of 9/11, the most severe – though only for a short period – impediment was experienced at the U.S.-Canada land border.

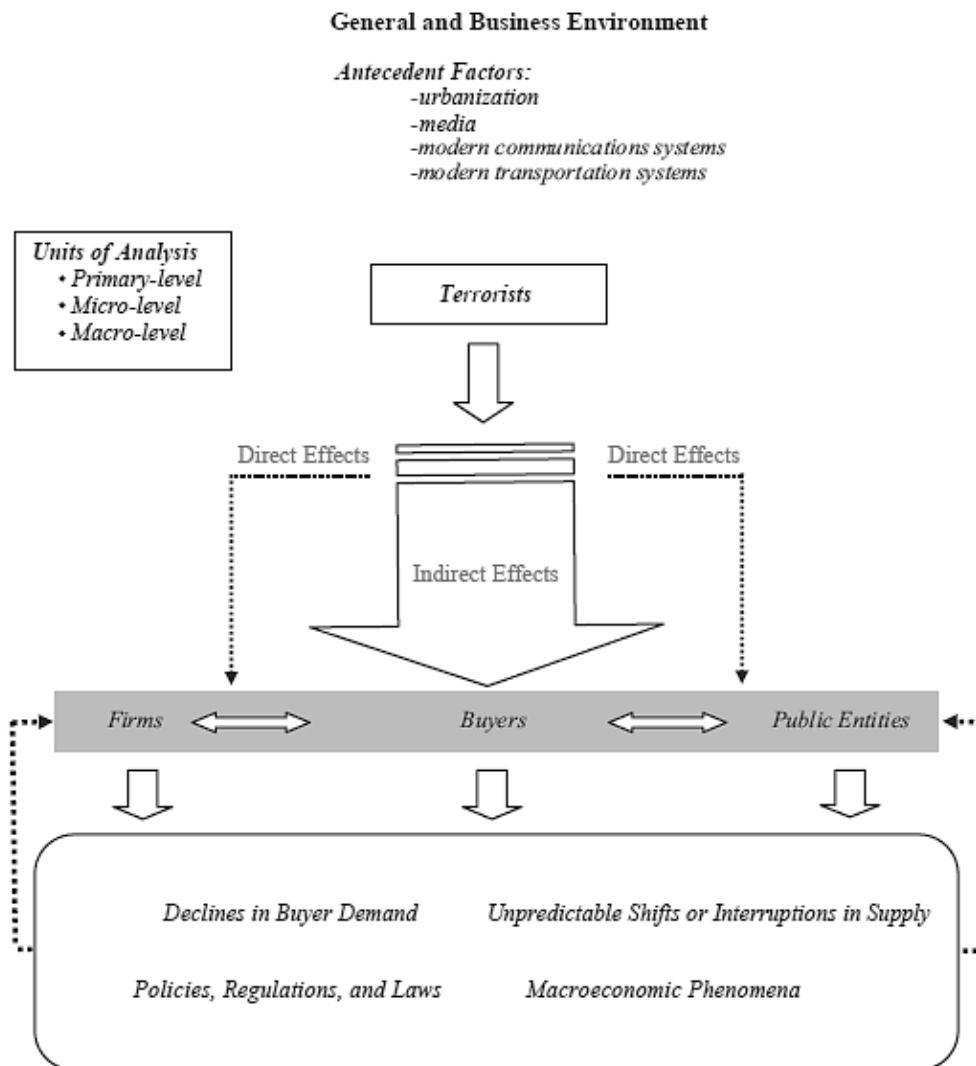
“[O]n average half a million vehicles and \$1.4 billion in bilateral trade cross each day. There, beside the opportunity cost of long waits, the slowdown of border crossings had a strong impact on the operations of firms, especially in the automotive industry, where the breakdown of just-in-time supply chains led to several factory shutdowns on both sides of the border” (ibid., p. 23).

As mentioned earlier, Czinkota et al. (2005) addressed the positioning of terrorism in management and marketing by providing crucial research propositions. Once again, based on both the analysis of primary literature as well as interviews, Czinkota et al. reached to the conclusion that a firm’s level of foreign commitment affects its vulnerability to terrorism. In order to decrease the indirect effects of terrorism⁴⁸ and at the same time mitigate a firm’s vulnerability, Czinkota et al. denoted the effectiveness of understanding “the most vulnerable links in the firm’s value chain” (Czinkota et al., 2005, p. 601).

“International business is particularly susceptible to terrorism because terrorism is especially disruptive to international supply chain and distribution activities and their accompanying information flows, as well as the demand for both industrial and consumer goods by buyers worldwide” (ibid., p. 584).

⁴⁸ Czinkota et al. (2005, p. 596). “A central conclusion of our research is that while the potential for direct effects of terrorism is statistically insignificant, various indirect effects are likely and in fact are occurring and affecting the activities of countless firms”.

In other words, the increasing threat of terrorism may pose a risk to any business operating internationally as buyer demand may be reduced, shifts or even interruptions in value and supply chains, and new policies, regulations, and laws may be legislated in the aftermath of a terrorist attack. Especially, new policies as well as new regulations and laws may have a significant effect on businesses' performance as they might hamper business operations. This is depicted in Figure 10.



Source: Adapted from Czinkota, Knight, and Liesch (2004)

*Figure 10: Framework for the Analysis of Terrorism and International Business
 (Czinkota et al., 2005, p. 585)*

Consequently, Czinkota et al. formulated the following proposition in regard of *sourcing, production, and distribution*. “As the salience of terrorism increases, managers are more likely to consider it in the development of supply chains and distribution channels, as well as in the strategies in logistics, materials management, and distribution activities” (ibid., p. 590). Additionally, it is suggested that firms shall employ diversification strategies in terms of the supply of critical input goods by increasing the number of suppliers, for instance. Also, the self-production of critical input goods may increase the firm’s flexibility and response to the increasing threat of terrorism. In respect of inventory, firms are further suggested to revise their inventory management. Safety stocks of inventory or a general increase of inventory levels of critical input goods may function “as a cushion against the direct and indirect effects of terrorism” (ibid., pp. 590-591).

Czinkota et al. also indicated that the changing business dynamics may be reflected in *pricing* due to increased insurance costs, higher inventory levels, and increased security costs, just to mentioned a few. Thus, the following propositions in regard of pricing were formulated. Terrorism might create an upward pressure on pricing and lead managers to increase prices and at the same time “result in falling buyer demand, creating downward pressure on pricing, and lead managers to lower prices in order to stimulate demand. This is where marketing efforts may deliver substantial benefits. According to Czinkota et al., greater impetus shall be added to marketing communication – specifically, recovery marketing – as it may, in fact, be “useful for restoring buyer confidence and spending” (ibid., p. 592) and, thus, limit the effects of terrorism. For these very reasons, it is proposed that “marketing communication is particularly useful in dealing with the direct and indirect effects of terrorism. In the aftermath of terrorist attacks, marketing communications can contribute significantly toward reducing buyer dissonance in the purchasing process” (ibid., p. 593). Hence, Czinkota et al. reached to the conclusion that overall managers are more likely to account for the effects of terrorism when developing or revising their business strategy when the salience or perception of terrorist threat increases (ibid., 581; 584; 586-588; 590-592; 596; 601). The concerns of threatened value chain activities were also addressed by Suder and Czinkota (2005).

In another article, Suder and Czinkota (2005) followed a rather generic approach to discuss both the links between a company's value chain and the impact of terrorism on FDI and international production. In fact, they were one of the first to acknowledge the economic indirect effects of terrorism on value chain activities of MNEs. In this regard, Suder and Czinkota addressed the lack of the analytical representation of the magnitude of indirect effects. Based on a literature review of terrorism and global business literature, Suder and Czinkota concluded that with 9/11, the threat, event, and aftermath do no longer remain local or national, but, in fact, affect investment, location, logistics, supply-chain and other performance-linked decisions. This is sufficiently facilitated by the adoption of risk assessment. To acknowledge the increased terrorism risk, Suder and Czinkota extended Dunning's (1977) work, specifically the OLI paradigm, by incorporating the terrorism dimension through risk assessment advantages ("R"). In the traditional sense, the OLI paradigm "explains why (Ownership advantage) and how (Internalization advantage) a firm decides to become a multinational and where (Location advantage) it is more likely to invest" (Franco *et al.*, 2008, p. 7). The importance of this incorporation is significantly supported by the concept of risk and return as mentioned in prior subchapter, which discussed the impact of terrorism risk on FDI of MNEs.⁴⁹ In fact, Suder and Czinkota reported that recent empirical findings revealed "that MNEs clearly take into account a risk that goes beyond direct physical damage" (Suder and Czinkota, 2005, p. 8). It is the dispersion of uncertainty in the IB environment in terms of consumer demand, supply, government policies and laws, macroeconomic phenomena, and the nature of relations between countries. In the respect thereof, Suder and Czinkota addressed the impact of entry mode choice on a firm's value chain.

As illustrated in upper half of Figure 11, Suder and Czinkota identified four threats to a company's value chain out of ten prior-determined value chain activities – specifically, procurement, service provision, international trade relations, and conformity to government security rules and requirements. In the lower half of Figure 11, in contrast, the vulnerable value chain activities, which are prone to the threat, the act, and the aftermath of terrorism are identified. Thus, the contemporary terrorism risk represents a new and particularly demanding challenge in terms of internationalization. In the face of terrorism, companies increasingly strive for a balance between stabilizing risk and ensuring sufficient compensatory revenue for a given exposure. In other words, managers naturally seek to overcome the effects of terrorism via the judicious management of resources, strategies, and processes (*ibid.*, 3; 5; 7–8; 10; 12; 14).

⁴⁹ See also Bowman, E. H. (1980). A risk/return paradox for strategic management.

FINDINGS

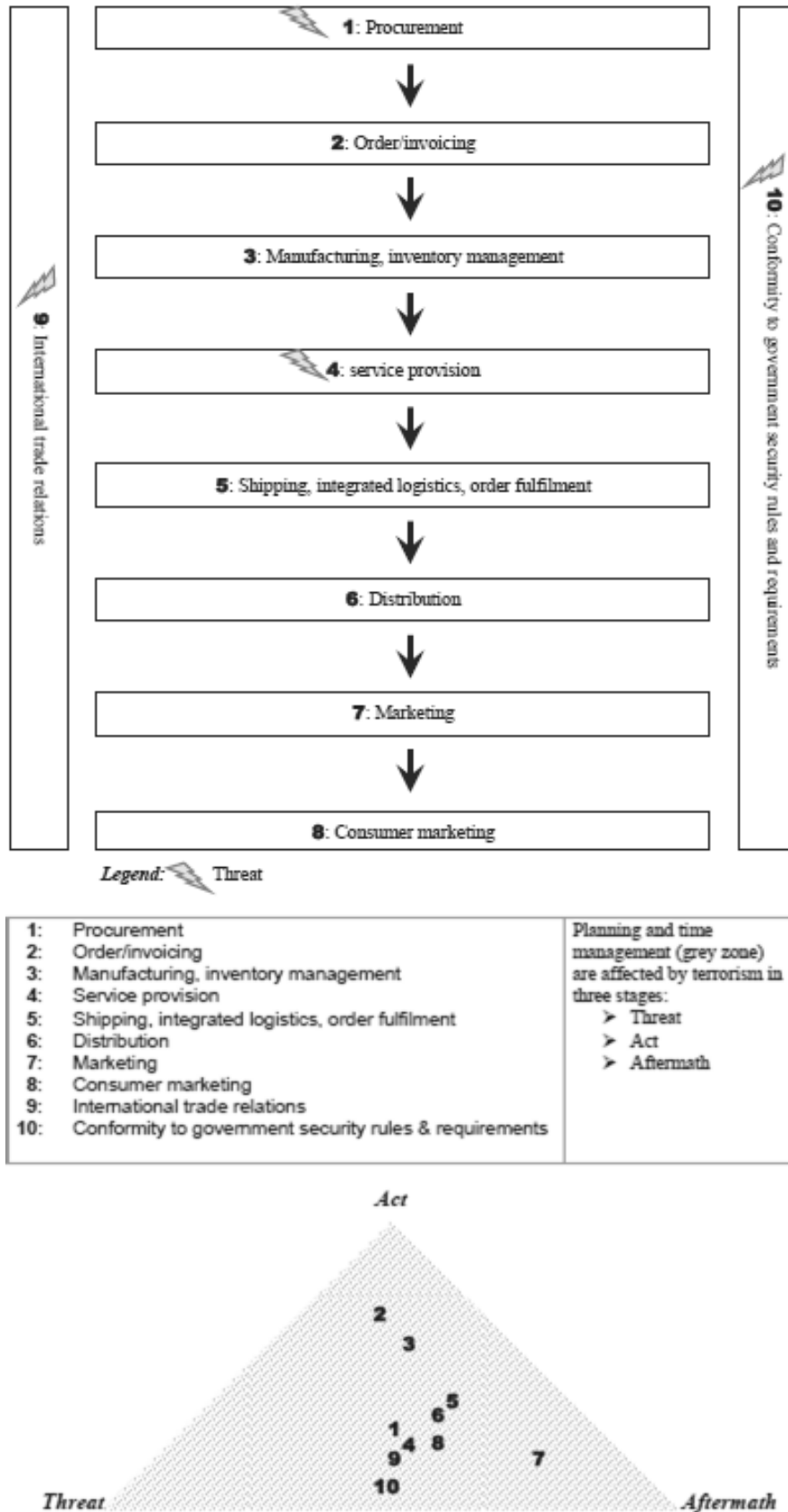
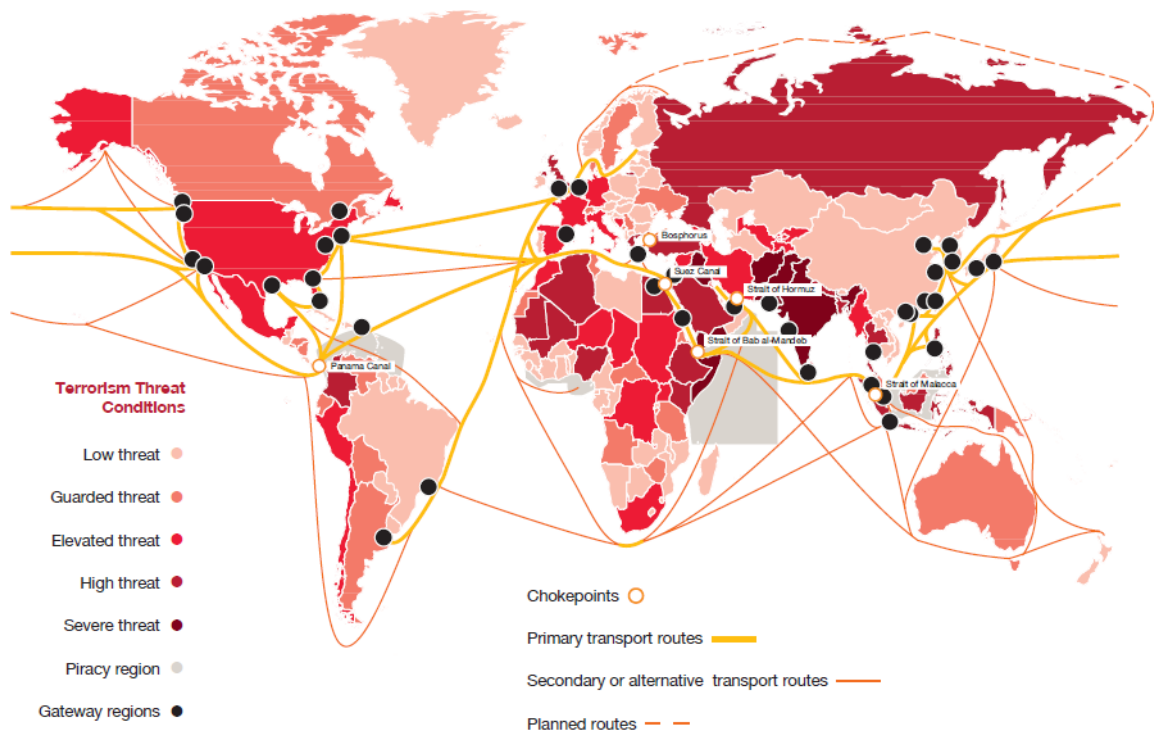


Figure 11: Vulnerable Links in Value Chain Activities
(Suder and Czinkota, 2005, 12; 14)

In their survey, Schneider et al. (2009) addressed the economics of terrorism and counterterrorism by examining the concepts, causes, economic effects, and security measures against terrorism on policy level. In regard of the economic effects, Schneider et al. addressed specifically the effects of terrorism on various levels including households as well as the private and public sector. Essentially, Schneider et al. found that “[o]ne of the reasons for [...] [the] increase [in businesses being targeted] is that companies source from, operate in and supply to insecure countries, thus exposing themselves to greater threats of terrorism; another important reason are substitution effects of terrorists who shift their attention from better protected public buildings towards relatively easier to targets” (Schneider *et al.*, 2009, p. 38). In other words, Schneider et al. further confirmed earlier research by acknowledging that businesses became, in fact, preferred targets of terrorist attacks. Furthermore, Schneider et al. denoted that irrespective of firms suffering from the physical destruction of assets, terrorism entails increased levels of market, credit, operational, and business volume risk, which in turn, may affect a firm’s stock price.

In terms of vulnerable business operations, Schneider et al. also recognized that supply chain interruptions have especially received much attention in literature due to their severe impact on a firm’s economic performance especially in comparison to competitors whose business activities are less vulnerable to terrorism. Though the importance of tightened security measures is especially acknowledged in literature, Schneider et al. also countered that they, in fact, impact economic efficiency negatively due to increased overhead investments, for instance. In terms of security measures on corporate level, Schneider et al. found that the increasing threat of terrorism incurs expenses for security technology, insurance coverage including risk premium, higher compensation for employees at risk, and so forth. However, since the probability of the occurrence of a terrorist event may differ from business to business. Therefore, Schneider et al. suggested that investments in security shall be evaluated and justified accordingly (*ibid.*, 38-39; 71; 73).

PricewaterhouseCoopers (2011), henceforth “PwC”, also employed a Delphi study on the impact of terrorism on supply chains. In this respect, PwC consulted leading experts for supply chain security from academia, business practice, technology development and politics from 25 countries⁵⁰ to explore the significance of supply chain security in times of increased terrorism threat. Thus, PwC’s report makes a significant contribution for those companies, whose business is highly dependent on global supply chains. Overall, logistics hubs and gateway regions were identified to be the most vulnerable to attack. In a broader sense, transportation and logistics companies are not only required to identify vulnerable business processes, but also need to reconsider their business strategy in terms of safer transport routes, which in turn, may result in “higher transport costs, longer travel times and potential problems meeting schedules when alternative routes are used” (PwC, 2011, p. 8). Further it was determined that the (1) aviation sector including airlines and airport facilities, (2) ships including any water-borne vehicle or maritime vessel, (3) vehicles including cars, (mini) buses, and trucks, and (4) trains including subways are particularly targeted (ibid., p. 12). The maritime sea routes as well as crucial chokepoints at risk are illustrated in Figure 12 accordingly.



Source: Aon's 2010 Terrorism Threat Map, *The Geography of transport systems*, National Center for Ecological Analysis and Synthesis

Figure 12: Supply Chain Risk Map for Maritime Sea Routes and Crucial Chokepoints (PwC, 2011, p. 17)

⁵⁰ PwC (2011, p. 9). The sample countries covered both emerging and mature economies.

Besides transport routes at risk, PwC also acknowledged the ever-increasing threat of new forms of terrorist attacks including CBRN⁵¹ and cyberattacks.

“Virtual threats need to be taken just as seriously as physical ones. Indeed, we believe that cyber attacks designed to induce physical damage will be an increasing threat for the transportation and logistics industry. Greater investment to secure technologies from cyber attacks will be absolutely mandatory. Data will be at risk too, and while privacy concerns won’t go away, we think the need for greater security will become paramount” (ibid., p. 8).

PwC’s report sheds more light into the various aspects of supply chain security by pointing out that security is not just about the physical security of goods being transported, but also about virtually stored data. Due to the increasing threat on various levels, companies are suggested to assess their vulnerability carefully in order to determine the optimal level of investment into both their ICT systems and general preventive and reactive measures.

Finally, Zeneli et al.’s (2018) article is the most recent empirical contribution in regard of the identification of vulnerable business operations and counterterrorism measures on corporate level. Therefore, Zeneli et al.’s contribution represents a perfect transition to the following sub-chapter in which the counterterrorism measures on corporate level are discussed. In terms of vulnerable business operations, Zeneli et al. discussed how MNEs – especially those operating in emerging markets – can increase their security through the development of corporate preparedness. Essentially, Zeneli et al. attempted to explore the correlation between terrorism and MNEs business processes – specifically, “operational costs, marketing planning, supply chain management, as well as distribution activities” (Zeneli et al., 2018, p. 310) by means of a moderated regression analysis. Therefore, they succeeded in addressing a rather contemporary issue. As depicted in Figure 13, the search engine “Google” has recognized an upsurge in terrorism-related writings particularly since 1998. Just like other scholars including Knight and Czinkota (2008), for instance, Zeneli et al. adopted a two-phase research design comprised of qualitative interviews. The results were later complemented by the research findings of an online survey distributed to internationally active MNEs based in the U.S.

⁵¹ Ibid., p. 12. For example, the U.S. milk supply chain once experienced highly concentrated toxin.

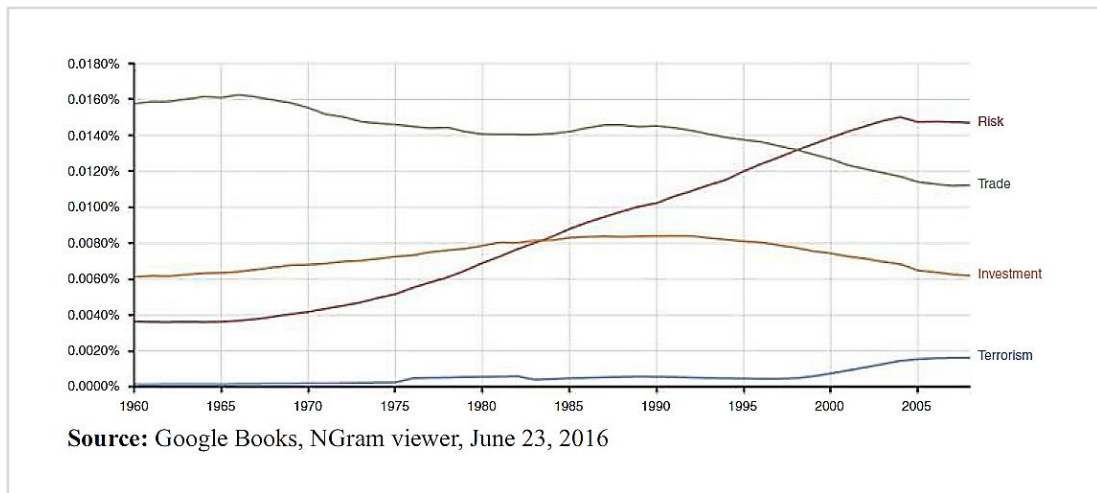


Figure 13: Search Development of Terrorism-Related Writings
(Zeneli et al., 2018, p. 311)

Again, just like Knight and Czinkota (2008), Zeneli et al. put great emphasis on international marketing. Despite the importance of marketing to restore consumer confidence, Zeneli et al. suggested that “international marketing activity is also vulnerable to terrorism because it can disrupt international supply chain and distribution activities, [and accompany] [...] information flows” (ibid., p. 313). In this regard, Zeneli et al. formulated a set of hypotheses. Following Knight and Czinkota’s argumentation, Zeneli et al. hypothesized that the threat or occurrence of terrorism has an upward pressure on international marketing costs. Consequently, marketing planning may be affected. Similarly, terrorist threat generally causes disruptions in the international supply chain, which in turn, may impel MNEs to design and organize their global supply chains and distribution channels accordingly. Another commonality to earlier research findings is that Zeneli et al. attach great importance to prior collected international experience and organizational resources. In other words, it is suggested that MNEs with “substantial business experience [...] perform better when confronting terrorism in their global operations” (ibid., p. 316). Moreover, it is considered that organizational resources including “in-house knowledge, skilled personnel, superior strategies, and financial assets” (ibid., p. 317) assist MNEs in accelerated organizational performance. More specifically, it is suggested that the resource-based view (RBV) may assist MNEs in the efficient allocation of resources considering the increasing threat of terrorism to business operations. Up to this point, Zeneli et al., therefore, supported earlier discussions. As illustrated in Table 7.

FINDINGS

Variable	1	2	3	4	5	6	7
1. Terrorism	1.00						
2. Cost of International Marketing	0.30**	1.00					
3. International Supply Chain Disruption	0.25**	0.67**	1.00				
4. International Marketing Planning	0.42**	-0.06	-0.14	1.00			
5. Global Supply Chain Organization	0.30*	-0.05	-0.14	0.53**	1.00		
6. Global Distribution Channel Organization	0.41**	0.07	0.08	0.52**	0.45**	1.00	
7. International Experience	-0.06	0.21*	0.22*	-0.24**	-0.14	-0.20*	1.00
Mean	3.66	2.50	2.44	3.34	3.06	3.64	2.85
SD	0.78	0.83	0.93	0.88	0.78	0.68	0.85
Composite Reliability	0.74	0.68	0.72	0.79	0.74	0.70	0.71
Average Variance Extracted	0.53	0.44	0.68	0.59	0.55	0.52	0.48

Notes: *,** Significant at 0.05 and 0.01 levels, respectively

*Table 7: Summary Statistics and Intercorrelations for Several Variables
(Zeneli et al., 2018, p. 319)*

By means of the moderated regression analysis, Zeneli et al. found statistically significant correlation between terrorism and international marketing costs, international supply chain disruptions, international marketing planning, global supply chain organization, and global distribution channel organization, just to mention a few. Thus, MNEs – especially, those with operations in emerging markets – are highly recommended to perform a thorough risk assessment. Consequently, MNEs are offered a set of benefits. First of all, the identification of vulnerable business operations assists MNEs in revising their current strategies including the efficient allocation of organizational resources. Second of all, the adoption of a thorough risk assessment assists in uncovering potential cost drivers. In this regard, Zeneli et al. suggested the continuous employment of environmental scanning and forecasting, which can be performed by contracted consultants, for instance. Consequently, an MNE's flexibility in terms of restricting in times of increased risk, for instance, helps the MNE to reduce the vulnerability of its business operations to the increasing threat of terrorism. Meaning, corporate preparedness is considered crucial for business continuity (ibid., 310-311; 313-317; 321-325).

4.2.3. Counterterrorism Measures on Corporate Level

As presented earlier, Ryans and Shanklin (1980) were one of the first to acknowledge the impact of the increasing threat of terrorism on IB. Once again, Ryans and Shanklin discussed the effect of terrorism on MNEs' decisions in terms of investment, personnel policies, risk assessment, and security requirements. Hence, Ryans and Shanklin rather emphasized how managers cope with terrorism rather than identifying the single business operations, which are at risk. Specifically, it is found that poses human lives at risk. For this reason, Ryans and Shanklin put great emphasis on the changes in personnel policies by denoting the following.

"In the short run, terrorism affects the firm's use of expatriates, its expatriate selection policies, its high-risk area training requirements, and its need for security measures and personnel. [...] Over a longer period, terrorism may affect the orientation and outlook of top management. One U.S. executive said that terrorism could result in his firm's making little or no use of expatriates, and in top managers without enough overseas experience. This could translate into an isolationist orientation at the highest level of a worldwide firm. Another U.S. manager said that calculated reduction in the number of expatriates is another step toward the loss of U.S. dominance abroad" (Ryans and Shanklin, 1980, p. 68).

In other words, it appears that firms need to revise their personnel policies in order to reduce their personnel's exposure to terrorism – especially when expatriates are sent to areas at high-risk. For instance, firms may use expatriates for a pre-specified period or even employ nationals instead. It was reported that with increasing salience of terrorism, expatriates are less attracted to accept assignments in high-risk areas. In this regard, Ryans and Shanklin warned that those expatriates who are willing to accept those assignments may not necessarily be the best candidate. Especially when an expatriate is accompanied by family, more security measures are to be taken. First of all, the expatriate may demand a higher compensation for the hazardous duty in a high-risk area. Second of all, special training and orientation programs are to be extended to the family of the expatriate. In other words, "[t]errorism erodes the firm's ability to make personnel assignments solely on the basis of merit or employee qualification" (ibid., p. 69). In contrast, the employment of nationals is considered to generate long-run benefits (ibid., pp. 68-69). Another possible measure to opt in order to reduce personnel's exposure is the development of security planning and procedures, for instance.

According to Ryans and Shanklin, MNEs facing the increasing threat of terrorism are particularly required to develop or revise their contingency plans. In addition, insurance may be a useful tool to partially shield an MNE from the economic effects in the aftermath of a

terrorist attack. The analysis of surveys conducted also revealed that firms increasingly employ security personnel, “whether they be full-time employees or consultants” (ibid., 70; 66-69; 72).

Another crucial article in the field of corporate measures for the management of terrorism is presented by Harvey (1993). Though Harvey did not account for the new threat of terrorism after 9/11, it still makes a significant contribution in understanding how MNEs deal and respond to terrorism in general. Just like Ryans and Shanklin, Harvey conducted a survey on corporate programs for the management of terrorist threats since U.S.-based MNCs appeared to be preferred targets of terrorist attacks even in future and, indeed, the terrorist incidents of 9/11 Harvey was right (Harvey, 1993, p. 466).⁵² Essentially, Harvey attempted to explore (1) the existence of formal corporate programs designed to deal with terrorism, (2) protection and/ or assistance of governments, (3) the activities undertaken in corporate programs to protect executives in countries at high-risk and physical facilities, and (4) the potential threats MNCs were facing (ibid., p. 467). Accordingly, Harvey’s survey covered 178 companies listed on the Fortune 500 companies that generate at least 25 per cent of their revenues in foreign markets as those may be especially exposed to terrorism. As illustrated in Figure 14, management efforts in dealing with terrorism can be divided into three particular phases. Overall, Harvey achieved an effective response rate of 44 per cent. Harvey’s results concerning formalized corporate measures designed to deal with terrorism are summarized in Table 8.

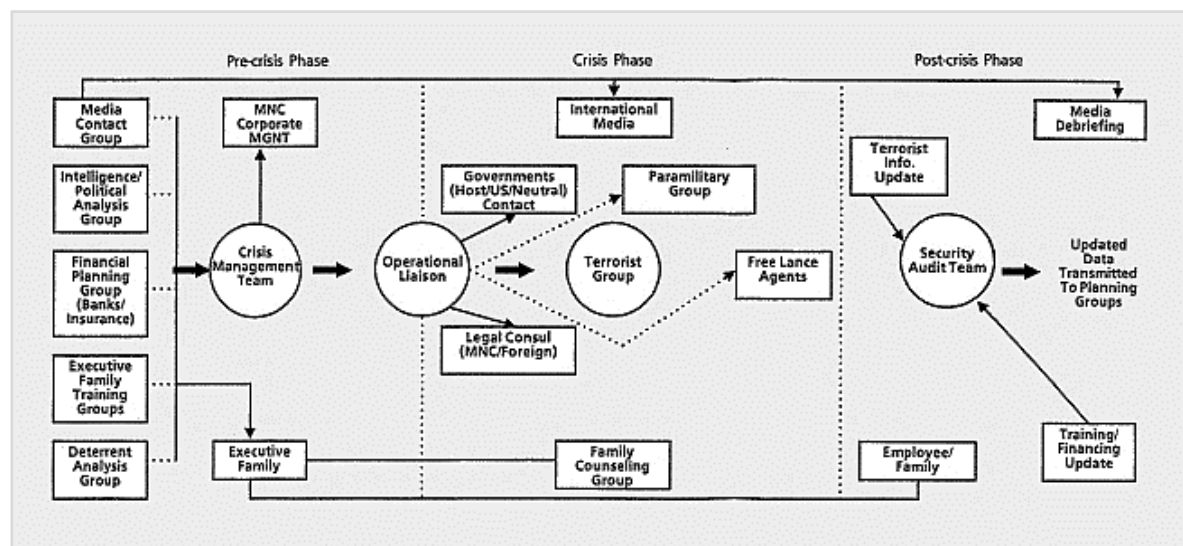


Figure 14: Taxonomy of Terrorist Crisis
(Harvey, 1993, p. 468)

⁵² Harvey (1993, p. 476). “[...] United States corporations remain the most vulnerable and will provide easy targets for terrorists in the future”.

Concerning training measures, the survey showed that programs for executives frequently included the avoidance of kidnapping, defensive driving skills⁵³, and measures to take when being kidnapped.^{54,55} The results also revealed the major concerns of MNCs regarding terrorist attacks. In essence, the major concerns were the “kidnapping of expatriates, the ability to negotiate successfully with terrorists and the random terrorist activities, particularly bombing incidents that are taking place more frequently in foreign markets” (ibid., p. 474).⁵⁶

Overall, Harvey reached to the conclusion that less than 50 per cent of the surveyed MNCs formalized corporate counterterrorism measures for various reasons. First, firms perceived that their businesses are not big in size as well as not important enough to fall victim to terrorist attacks. Second, terrorism was considered a temporary “trend”. Third, MNCs trusted government efforts in fighting and limiting the economic effects of terrorism for corporations. Fourth, full corporate protection was perceived to be too difficult. Lastly, corporate efforts in counterterrorism were considered to be too costly in order to pay off (ibid., 465-469; 471-477).

Program Characteristics	Yes	No	<1 Year	1-3 Years	3-5 Years	6-9 Years	>10 Years
Existence of formal program	42%	58%					
Length of time program has been implemented			23%	24%	42%	2%	9%
Dollar amount spent annually (international beyond normal security)			\$500,000 to \$2,000,000		\$2,000,000 to \$4,000,000		\$4,000,000 to \$6,000,000 >\$6,000,000
Purchase of security devices/equipment, i.e., means to protect executive and assets	—			32%	41%	27%	
Training executives	10%	47%	18	10	15		
Training middle managers/foreign national employees	27	45	27	—	—		
Protection of assets	—	—	37	39	24		
Training families	49	51	—	—	—		
Allocation dollars to terrorist security planning	38	54	8	—	—		
Collection of data worldwide on terrorist activities	37	53	10	—	—		

Table 8: Formal Corporate Measures Against Terrorism
(Harvey, 1993, p. 471)

⁵³ Ibid., p. 472. “[In essence], avoiding being kidnapped while driving and altering routes to and from work”.

⁵⁴ Ibid. “[In essence], what to do and not to do after becoming a hostage”.

⁵⁵ See Appendix 14: Activities Included in Corporate Training Programs, p. 95.

⁵⁶ See Appendix 15: Major Concerns of MNCs in Regard of Terrorist Attacks, p. 95.

As mentioned in the prior sub-chapter, Koen et al. (2002) addressed economic consequences of terrorism on both macro- and micro-level. Especially in the light of globalization, which has facilitated among others a decline in transportation costs and increased labour productivity, the impact of terrorism on international supply chains appears to be a drawback. In fact, terrorism or businesses increased vulnerability to terrorist attacks cause the reversion of benefits put forth by globalization. Instead, businesses are forced redesign international supply chains, rethink just-in-time systems, and increase inventories all of which are associated with increased costs in terms of opportunity as well as holding and insurance costs, for instance. In addition, workers employed abroad might undergo visa requirements, which especially impedes the employment of expatriates, for instance. In terms of labour productivity, it is believed that increased security spending may be caused by two factors. First, more labour is hired for ICT consultancy and security guards protecting commercial premises, for instance. Second, controls at airports and borders are time-consuming. In numeric terms, labour productivity was assumed to be reduced by 0.5 per cent GDP. Finally, Koen et al. concluded that increased spending on security appeared to have a small, but yet permanent effect on both production factors and the level of productivity.⁵⁷ Furthermore, internationally operating businesses are especially exposed to terrorism and, thus, shall redesign their supply chains (Koen *et al.*, 2002, 5; 23; 26; 28; 32).

Mazzarella (2005) also discussed the impact of the increasing threat of terrorism to business deals of multinational corporations. Mazzarella identified the most significant costs of terrorism on IB and presented methods for reducing the economic effects in the aftermath of a terrorist attack. In respect thereof, Mazzarella essentially drew on a mix of primary and secondary literature covering the period between 1980 and 2005. His article is considered especially crucial as it is one of the least contributions, which identifies six corporate cost drivers of terrorism including the physical security of personnel, property, plant, and equipment, security consultants, global supply chains, reduced direct investments and operations in high risk areas, personnel issues, as well as political risk insurance. In terms of the improving the physical security of personnel, property, plant, and equipment, it is suggested that terrorism entails both fixed and variable costs. Permanently incurred costs just as the increased property surveillance, for instance, is considered a fixed cost, whereas the employment of security consultants is considered a variable cost. In this regard, Mazzarella also denoted that increased investments in physical security may cause “negative psychological effects in some employees that will, in turn, possibly reduce their job performance” (Mazzarella, 2005, p. 61).

⁵⁷ Koen *et al.* (2002, p. 31). Additionally, Koen et al. assumed that “[t]he shrinkage of terrorism-related insurance coverage may have a detrimental impact on investment, as lenders become wary of greater potential risks”.

In contrast to permanently employed security personnel, security consultants are hired for a limited period of time with the strategic benefit of providing a detailed analysis of the area where the firm considers its business operations to be at risk. Due to their objectivity and access to a number of data, the employment of security consultants may, in fact, facilitate corporate managers to make more informed business decisions. Additionally, the larger pool of information may assist in risk modelling. As a consequence of the short-term employment, security consultants tend to be more expensive. However, they are assumed to provide managers with an in-depth understanding on the business environment at risk, which in turn, facilitate better decision-making given a certain level of risk. In this regard, Mazzarella also acknowledged the efforts of the GTI, which is also provided by independent security consultants.

Just like earlier scholars and other contributors, Mazzarella confirmed that firms sourcing from international suppliers are particularly exposed to terrorism threats. Essentially, Mazzarella accounted for increased supply chain costs stemming from both securing the transportation of goods and the risk of delays and disruptions. As a response to the aftermath of 9/11, the shipping industry invested a considerable amount in improved security resulting in both tightened regulations and increased costs. In order to decrease a firm's vulnerability to supply chain disruptions, firms are suggested to reconsider the increase of safety stocks instead of the reliance on just-in-time inventory management. However, it also appeared that some firms adopted a selective approach regarding inventory management. In fact, as a firm perceived increased levels of threat, it increased its inventory on-hand accordingly and, thus, kept its inventory costs relatively low.

In regard of FDI, Mazzarella referred to Ryans and Shanklin's (1980) research findings and further complemented them by those of UNCTAD. Accordingly, it appeared that MNCs did not retreat from foreign positions when the investment was associated with a considerable ROI. In terms of personnel, Mazzarella acknowledged that "[t]he threat of terrorism causes some multinational firms to make, at times, inefficient personnel decisions" (ibid., p. 65), which in turn, may also increase MNCs' costs. Essentially, Mazzarella referred to Ryans and Shanklin's results by stressing expatriates' decreasing willingness to fill overseas assignments at high-risk areas. Should those expatriates be willing to expose themselves to risk, they naturally receive higher compensation according to the risk and reward concept. Turning back to inefficient personnel decisions, Mazzarella stated that these adverse selection costs may, however, be reduced by the employment of *unmarried* expatriates. Costs associated with a breakdown of business operations in the event of a terrorist attack may be avoided by the determination of the so-called "skeleton staff". Essentially, those are in charge of business continuity and, thus, avoid the costs of a total breakdown of business operations. The costs of

the increasing threat of terrorism may also be reflected by increased insurance costs. The higher the overall level of perceived risk and uncertainty, the higher insurance cost, which in turn, bears an increased risk premium driving up the costs of MNCs. Lastly, Mazzarella discussed how MNCs can assess risk. Generally, it is proclaimed that political risk insurance appears to be an effective tool when it comes to the limitation of economic repercussions. However, as discussed earlier, terrorism differs from conventional political risk. Consequently, depending on the insurer and its perceived level of risk, MNCs may face unjustified high insurance costs. In respect thereof, Mazzarella suggested the adoption of a proper risk model, which facilitates corporate managers to determine a possibly accurate risk level. "Managers then can share the risk modeling results with insurance underwriters to negotiate lower premiums or reduce coverage levels" (ibid., p. 70). As an example, a prominent finance company located in New York could save more than 400,000 USD when it performed a terrorist risk analysis. Irrespective of the countermeasure adopted by a firm, Mazzarella pointed out that management shall account for terrorist risk when determining the present value of the firm's future profits. Consequently, future cashflows are discounted by the perceived level of risk. Subsequently, Mazzarella concluded that "[g]lobal terrorism causes international firms to divert scarce resources and management talent from primary business operations to focus on mitigating the risk of terrorist attack" (ibid., p. 71), which in turn, increase the costs of an MNC (ibid., pp. 59-71).

In their article, Liesch et al. (2006) also addressed firms' internationalization process under conditions of risk by incorporating Miller's (1992) framework for integrated risk management in IB as well as Dunning's (1977) OLI paradigm. According to Liesch et al., a firm's internationalization venture is characterized by two factors: a product-market-mode (PMM) combination and risk and return. The PMM is described as "a particular product/service targeted at a particular market and delivered via a particular entry and operational mode" (Liesch *et al.*, 2006, p. 811). Essentially, Liesch et al. differentiated between systematic and unsystematic risk and return. Thus, they essentially complemented earlier research (i.e., Bowman, 1980) by accounting for risk, which "occurs in the macro-environment and affects all firms within that environment" (ibid., p. 812) as well as for risk, which "occurs at the micro-level of the firm and is generally attributable to organizational factors within management's control" (ibid.) respectively. In respect thereof, Liesch et al. denoted that managerial preferences can be depicted by indifference curves.

In essence, any point on a certain indifference curve generates an expected rate of return at an associated level of risk that is indifferent from any other point on the curve. Thus, any managerial decision, which generates the same expected rate of return at a certain level of risk shall be on the indifference curve in order to be indifferent from any other managerial preference. According to this concept, managers are assumed to accept a certain level of risk as long as it generates a high utility.

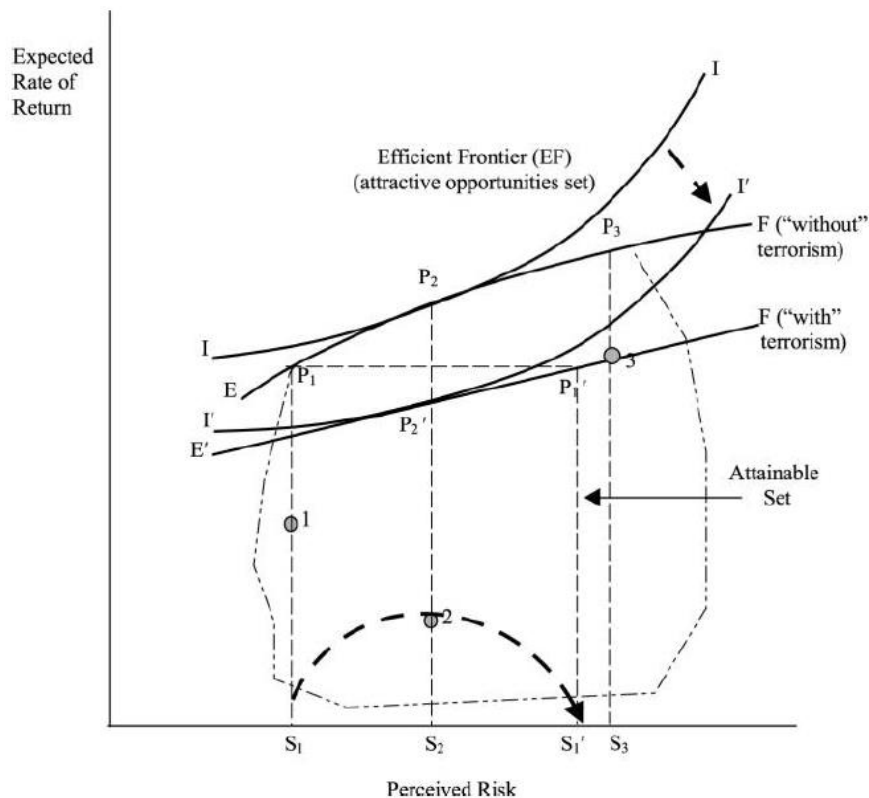


Figure 15: Opportunity Sets at Different Terrorism-Induced Risk Levels
(Liesch et al., 2006, p. 815)

However, indifference curves can shift. For comparison, Figure 15 demonstrates two opportunity sets at different terrorism-induced risk levels – specifically, with and without terrorism. Accordingly, an opportunity set is optimal or attractive, when a firm's utility is optimized. This occurs when the highest possible indifference curve and the attractive opportunity frontier intersect at a certain terrorism-induced level. Finally, Liesch et al. reached to the conclusion that uncertainty and fear may, in fact, impact managerial decisions and motivate avoidance behaviours. Though their article adds little contribution to the identification of single business operations at risk, Liesch et al. still make a significant contribution in such that they underline the impact of uncertainty on a firm's internationalization venture. Essentially, it is highly important that managers reduce information asymmetries and opt for PMM combinations along the indifference curve (ibid., 809; 811-815; 817-820).

In their working paper, Knight and Czinkota (2008) also addressed the relationship between terrorism and IB. Specifically, they attempted to explore the responses on corporate level to the increasing threat of terrorism. In respect thereof, they conducted a large-scale empirical study on U.S. firms. These results, in turn, facilitated the development of a taxonomy. Specifically, Knight and Czinkota identified three major clusters of firms, which essentially differ in both the perception and responses to the impact of terrorism. Like in an earlier article of Czinkota et al. (2005), Knight and Czinkota presented a conceptual framework for the analysis of terrorism and IB.⁵⁸ However, for the purpose of the underlying working paper, this framework was adapted. As illustrated in Figure 16, terrorism addresses and involves three major actors – specifically, firms, consumers, and governments who may be affected in terms of both direct and indirect effects of terrorism.⁵⁹ In this regard, Knight and Czinkota, however, denoted that it is the indirect effects that affect IB the most. As discussed earlier, indirect effects are, by definition, characterized by declines in consumer demand as a result of fear, unpredictable shifts or interruptions in the supply of inputs, resources, and services, as a result of “increased security measures and other factors lessen the efficiency of global transportation and logistical systems” (Knight and Czinkota, 2008, p. 6) as well as policies, regulations, and laws as a result of improved security conditions. Due to the risk of high impact on corporate level, the involved parties are believed to *usually* respond to the increasing threat of terrorism.

⁵⁸ See Figure 10: Framework for the Analysis of Terrorism and International Business, p. 49.

⁵⁹ Knight and Czinkota (2008, p. 6). “Direct effects comprise the immediate business consequences of terrorism, as experienced by individual firms [...] [while indirect effects] include declines in consumer demand; unpredictable shifts or interruptions in value and supply chains; new policies, regulations and laws; as well as harmful macroeconomic phenomena and deteriorating international relations that affect trade”.

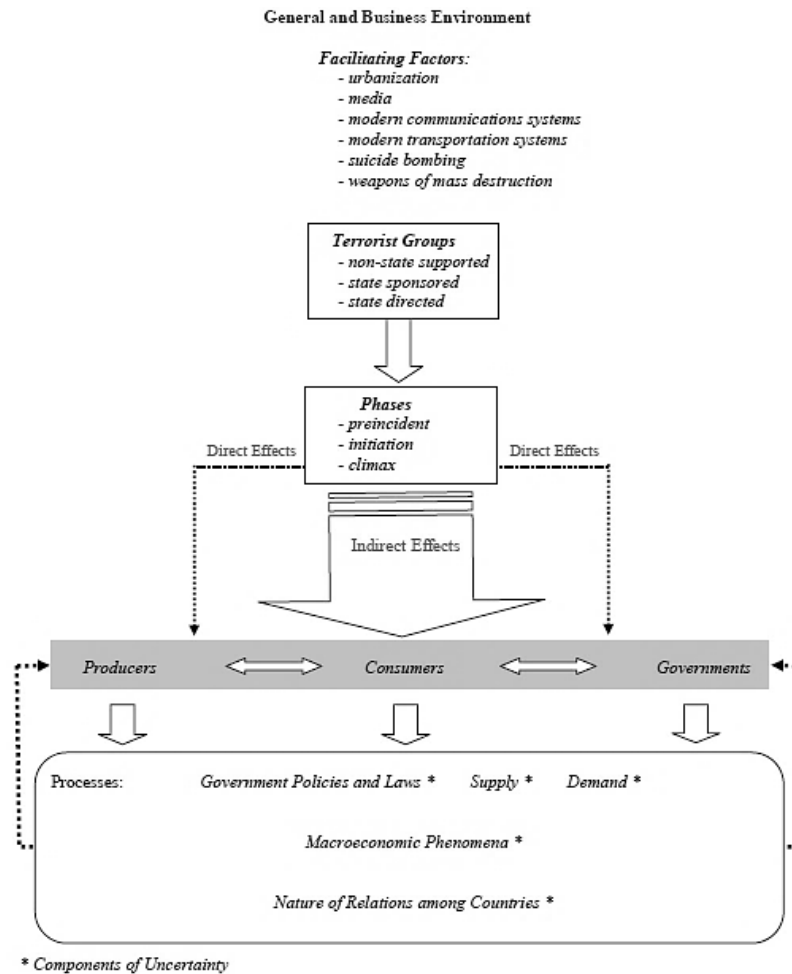


Figure 16: General Model of Terrorism and International Business
(Knight and Czinkota, 2008, p. 4)

In order to determine when and how firms respond to the increasing threat of terrorism, Knight and Czinkota formulated and essentially differentiated between three categories of firms – specifically, better resourced firms, more internationally experienced firms, and more international firms. For each category, Knight and Czinkota assumed that as the salience of terrorism increases, the underlying firm (1) is more likely to prepare for the threat of terrorism, (2) is more likely to invest money in order to minimize or thwart the effects of terrorism, and (3) is more likely to include terrorism in those factors that it considers when developing or revising its business strategy (ibid., pp. 9-10). Knight and Czinkota's methodology was as follows. They opted for a two-phase research design consisting of qualitative interviews as well as a survey conducted on a large sample of 527 randomly selected firms from and around the U.S. Both were conducted in 2005.⁶⁰ The sample size was required to be large as Knight and Czinkota

⁶⁰ Ibid., p. 10-11. "In the sample of firms, 58 percent had between 100 and 499 employees, 29 percent had 20 to 99 employees, and the remainder had fewer than 20 employees. In terms of annual revenues, 65 percent had revenues of \$2.5 million to \$100 million, 20 percent had less than \$2.5 million, and the remainder had greater than \$100 million. Sixty three percent of the respondents had been in business

assumed that terrorism may affect the business operations of both domestic and international businesses irrespective of their size and international experience, for instance.

In terms international market entry mode, Knight and Czinkota found that exporting appeared to be preferred with 59 per cent of the firms surveyed. In contrast, only a few firms engaged in FDI. Additionally, Europe was singled out to be the most preferred IB environment followed by North America – specifically Canada and Mexico, and Asia. Thus, Knight and Czinkota confirmed earlier findings (e.g., Evans, 2003).

Ultimately, Knight and Czinkota found that when ranking the indirect effects by importance, firms perceived the increase in insurance costs to be the greatest burden followed by the requirement of increased integrity of IB partners, more delays in IB activities, as well as a decline in trust respectively. However, only five to seven per cent of the firms surveyed reported to suffer from “unpredictable shifts or interruptions in supply chains, decreases in consumer demand, [or] deteriorating international trade relations” (ibid., p. 11). Additionally, only one quarter developed a contingency plan though 50 per cent of the firms surveyed reported to be concerned about the indirect effects of terrorism. In fact, less than 20 per cent incorporated the effects of terrorism into their supply chains and distribution channels – not to mention about the development and revision of marketing strategy in order to restore consumer and investor confidence. Also, it was found that only 8 per cent were considering to retreat from foreign positions, which in turn, confirmed earlier findings too (e.g., Ryans and Shanklin, 1980). Knight and Czinkota also revealed that only 18 per cent were seriously considering the adoption of counterterrorism measures. In the aftermath of 9/11, about 50 per cent of the firms experienced no significant delays in the international shipping. Yet, more than 50 per cent suffered from increased supply chain costs, “but only a quarter had raised their prices [...]” (ibid., p. 12).

In regard of responses on corporate level, it was further suggested that more than 40 per cent did not respond to the increasing threat of terrorism at all. For the remaining firms, “[a]bout one-quarter of all respondents had spent over \$50,000 in new technology and systems upgrades to comply with post-9/11 federal antiterrorism mandates. Only eight percent had spent more than \$200,000 for such upgrades. Fully 77 percent of the respondents had not pursued such upgrades, or had spent less than \$50,000 on them” (ibid.). As a consequence, Knight and Czinkota’s taxonomy was based on these results.

for over 20 years, 20 percent for 11 to 20 years, and the remainder for less than 11 years. Regarding international operations, 71 percent got up to 20 percent of their total sales from international sources, 19 percent got up to between 20 and 39 percent of their sales internationally, and the remainder got over 39 percent of their sales from abroad. In other words, most of the firms are only moderately international in their business dealings”.

Essentially, Knight and Czinkota differentiated between three clusters. In total, 141 firms were allocated to cluster one. Those were found to be “relatively more concerned about the effects and potential threat of terrorism” (ibid., p. 13) and, thus, prepared for possible disruptions in their supply chain as well as for a contingency plan. Specifically, it was found that those firms were considering a relocation of “value-chain activities or [a general revision of] business activities in order to minimize the potential threat” (ibid., p. 14). Cluster two, in contrast, consisted of 152 firms. Those firms were characterized by less involvement in IB compared to cluster one, “implying that management is relatively less experienced [in] international business” (ibid.). Respectively, those firms “experienced unpredictable supply-chain shifts and interruptions in their international sourcing activities, more delays in international business, and felt more concerned about disruptions to sources of input goods [...]. In addition, these firms have experienced more rising supply-chain costs and longer delays in international shipments since the 9/11 terrorism event” (ibid., p. 15). As a consequence, those firms were assumed to be relatively less prepared for terrorism. Finally, firms allocated to cluster three were assumed to be neither concerned nor prepared for terrorism. In fact, 234 firms were resource constrained with respect to employees and annual sales revenue. Similarly, those firms were “much less likely to have experienced terrorism threats, much less likely to have experienced international business delays or interruptions in international supply chains, and substantially less concerned about the effects or threat of terrorism” (ibid., p. 16).

Subsequently, Knight and Czinkota reached to the conclusion that their empirical study, in fact, revealed a de facto impact of terrorism on firms and their operations’ vulnerability. More internationally experienced firms appeared to be more concerned and were, thus, more likely to prepare for it. Just like other scholars, Knight and Czinkota acknowledged the importance of the diversification of international activities across regions as well as industries. Finally, Knight and Czinkota made the remark that especially SMEs may face increased vulnerability, which may be owed to resource constraints (ibid., 2-4; 6-7; 9-17).

Last but not least, as mentioned earlier, international luxury hotels including Marriott, Sheraton, Hilton, Hyatt, Radisson, Ritz Carlton, Four Seasons, and Days Inn appear to have become preferred targets ever since the terrorist attacks of 9/11. According to Wernick and Glinow (2012) the upsurge in hotel attacks is due to government and military facilities, which have upgraded their security immensely, making it less feasible for terrorist to attack those facilities with the available resources. In contrast, hotels are considered soft targets, which also offer terrorists an open environment with multiple entries and less security checks compared to airports, for instance. Though their article is focused on the vulnerability of international luxury hotels, it still provides an in-depth understanding on the counterterrorism measures on corporate level.

Generally, there is a number of security measures international luxury hotels can opt for. In terrorist hot spots like Jakarta, for instance, the Grand Hyatt has implemented high security measures including physical inspections of all vehicles before they pass the entrance, baggage of hotel guests as well as hotel guests, staff, and even delivery people who have to pass metal detectors before entering the building (Wernick and Glinow, 2012, p. 8). In other words, hotels with high reputation located in regions at high-risk, accepted increased investments in lobby security to limit the possible “damage to the company’s brand by management’s failure to take reasonable precautions against a terrorist attack” (ibid., p. 9). Irrespective of the high security measures at the Grand Hyatt Hotel in Jakarta, Wernick and Glinow generally reported little consensus on the appropriate level of security. It was even found that tight security measures may have two effects. It can either appeal to those tourists who value or even expect high security at the hotel where they reside or even “undermine the welcoming ambiance [...] and drive away guests” (ibid., p. 10). Therefore, it is generally important that MNEs carefully assess their exposure to terrorist risk and determine the appropriate level of security. Overall, Wernick and Glinow presented a set of possible strategies. First, MNEs are recommended to adopt target hardening. For instance, MNEs shall limit the disclosure of non-essential information of their buildings as those thought be misused and facilitate detailed planning of an attack just like in the case of the Mumbai attacks where the attackers were precisely navigated through the building via VoIP. Furthermore, it shall be borne in mind that terrorists may also seek employment in order to gain access to sensitive information. Therefore, it is recommendable to perform thorough background checks of job candidates. Second, employees shall undergo awareness trainings. Only when employees know how to recognize a threatening situation, they can instantly report their observations. For instance, housekeeping staff shall report the presence of weapons in guest rooms. Consequently, awareness trainings enable the assurance of security. Third, the architectural design of a building can make it less feasible for terrorists to attack or incur massive casualties. For instance, “Marriott works with designers and architects at the inception of new projects to ensure that security is given prominence. Requirements for hotels to be built in high threat locations include shatter-resistant window film, walk-through metal detectors, exterior security cameras, bomb-sniffing dogs (where culturally permissible), and hydraulic barriers” (ibid., p. 15). Lastly, Wernick and Glinow recommended MNEs to work closely with local police and first responders.

Subsequently, Wernick and Glinow also provided practical implications for both business travellers and IB. In summary, business travellers are recommended to choose smaller hotels over large hotel chains while MNEs shall adopt five strategies to manage the uncertainties associated with their business environments: avoidance, control, cooperation, imitation, and flexibility. Generally, MNEs are suggested to cede promising opportunities in economies exposed to high risk. Also, uncertainty can be limited cooperating with “governments, other

stakeholders and even competitors to form partnerships and alliances that may help them understand the nature of the threat, analyze [...] [MNEs'] specific vulnerabilities, and take action to thwart potential attacks" (ibid., p. 19). Lastly, it is highly important to maintain a certain level of flexibility and resilience as suggested by many other researchers and scholars including RAND, for instance (ibid., 2-10; 12-19).

4.3. Overview of Research Findings

Overall, the systematic review revealed that firms, in fact, account for the increased terrorism risk and appear to alter their managerial behaviours in terms of investment decisions as well as to increase or upgrade their corporate preparedness in order to limit the indirect effects of terrorism. When considering FDI, it seems there is some disagreement or inconsistency in literature. While some studies including Enders and Sandler (1996) and Evans (2003), for instance, found evidence for the deteriorating effect of terrorism on FDI, others including Ryans and Shanklin (1980), McIntyre and Travis (2004), Czinkota et al. (2005), and Mazzearella (2005) reported that firms only retreat from foreign positions when the ROI of a foreign investment at a given level of risk is undesirable. Similarly, it was found that a stable economic, political, and legal environment influences FDI decisions positively (i.e., developing versus developed countries) as larger and economically stable countries are expected to better shield themselves from the negative effects in the aftermath of a terrorist attack. In other words, a firm's vulnerability to terrorism may be dampened by the counterterrorism measures taken on national level (i.e., new policies, regulations, and laws).

In addition, it was also found that FDI of MNEs operating in specific industries tends to be relatively more vulnerable to the increasing threat of terrorism compared to firms operating in other sectors. In this regard, both the aviation and tourism industry appear to be affected the most (e.g., Ito and Lee, 2004 and Wernick and Glinow, 2012).

While the literature on the impact of increased terrorism risk on FDI of MNEs is rather dispersed covering mainly macroeconomic consequences, the literature on which business operations of MNEs are the most vulnerable to terrorism and which counterterrorism measures do exist on corporate level is more straight forward. Overall, literature to date has showed that the level of corporate preparedness may be essentially determined by a number of factors including the firm's vulnerability, exposure, level of foreign commitment, resources including knowledge, and international experience, just to mention a few. More specifically, a firm's level of resource commitment is affected by the perceived level of threat and perceived effectiveness of already existing security and preparedness measures. Generally, if a firm considers its security and preparedness measures to be inappropriate, it is likely to increase

its costs associated with an upgrade of these measures. For instance, Suder and Czinkota (2005) found evidence that specific value chain activities – specifically, procurement, service provision, international trade relations, and conformity to government security rules and requirements – are more vulnerable than others. In respect thereof, RAND suggested that a firm, which considers itself to be exposed to terrorism risk, should carefully assesses its risk and the associated costs (i.e., attack costs, security and preparedness costs, and behavioural change costs) to limit the economic effects in the aftermath of a terrorist attack. This also applies to a firm's robustness and resilience measures.

If supply and demand disruptions are expected to be very likely and incur increased costs, firms are suggested to take preventative measures including the reduction of dependence on a few suppliers, the avoidance of transportation routes at risk, and the increase of safety stocks, for instance. Besides, the upgrade of physical security including corporate facilities, supply chains as well as IT, which in turn, shield firms from general business disruptions and financial protection through insurances, literature also suggested that firms shall address personnel issues. In fact, personnel at risk shall receive both defence training and higher compensation (e.g., Ryans and Shanklin, 1980 and Harvey, 1993).

In sum, the systematic review of a total of 26 literature has, in fact, revealed a number of significant managerial implications. As determined in the methodology chapter, the summary of research findings also represents a general step of a systematic review. More specifically, this step is only necessary when a subsequent meta-analysis is performed. However, for the sake of clarity and improved transparency, an overview of research findings is presented after the systematic review subsequently. Respectively, Table 9 represents a comprehensive overview on the key findings. In addition to the key findings listed in the subsequent table, there is a number of issues to be considered. First, literature has acknowledged the benefits of diversification strategies. For instance, firms facing terrorism risk may increase the pool of suppliers or even produce critical inputs themselves (e.g., Czinkota *et al.*, 2005). Second, corporate preparedness appears to be complement or even secure business continuity. Third, in the aftermath of a terrorist attack, recovery marketing may particularly contribute to the dampening of economic effects on micro-level. Fourth, the RBV may assist managers in determining their business' vulnerability by incorporating their international experience, for instance. Lastly, continuous environmental screening and forecasting are recommended.

	Author, Ed. or Org.	Year	TER	LOC	DEP	MEA	PAR	Summary of Key Findings
Relationship between Terrorism Risk and FDI of MNEs	Ryans, John K.; Shanklin, William L.	1980		•	•	•	•	
	Enders, Walter, Sandler, Todd	1996						
	Koen, Vincent; Lenain, Patrick; Borturi, Marcos	2002	•			•		► Exant significant relationship between terrorism and FDI ► Negative spill-over effects on both neighbouring regions and investors are possible
	Evans, Todd	2003	•	•	•			
	Czinkota, Michael R.; Knight, Gary A.; Liesch, Peter W.	2004	•	•	•	•	•	► Terrorism is associated with increased risk and uncertainty ► Risk is considered the product between threat, vulnerability, and consequences
	McIntyre, John; Travis, Eric Ford	2004	•	•	•	•	•	► Increased risk shall be addressed by tightened counterterrorism measures resulting in increased (trade) costs
	Czinkota, Michael R.; Knight, Gary A.; Liesch, Peter W.; Steen, John	2005	•	•	•	•	•	
	Enders, Walter, Sachsida, Adolfo; Sandler, Todd	2006	•	•	•	•		► Firms appear to be the preferred targets ► Aviation, hotels, restaurants, travel agencies, and other tourism-related businesses appear to be the most severely impacted industries
	Willis, Henry H.	2006			•			
	Wernick, David A.; Glinow, Mary Ann von	2012	•	•		•		► A firm's vulnerability is determined by the foreign market entry mode choice ► Non-equity based market entry modes are preferred over equity-based market entry modes in high-risk areas
	Flier, Randall Keith; Stanisk, Dragana	2012	•	•	•			► Equity-based market entry modes in high-risk areas must be associated with a relatively high ROI
	Bos, Jaap W.B.; Frömmel, Michael; Lamers, Martien	2013	•	•	•			
	Bandyopadhyay, Subhayu; Sandler, Todd; Younas, Javed	2014	•	•				
	Bazic, Hri; Galovic, Tomislav; Mšević, Petar	2016	•	•	•			
	Koen, Vincent; Lenain, Patrick; Borturi, Marcos	2002	•				•	
Vulnerable Business Operations	Czinkota, Michael R.; Knight, Gary A.; Liesch, Peter W.; Steen, John	2005	•	•		•	•	► Indirect effects on value chain activities
	Suder, Gabriele; Czinkota, Michael R.	2005	•	•	•			► Need for conformity to government security rules and requirements
	Schneider, Friedrich; Brück, Tilman; Meierrieks, Daniel	2009	•	•	•	•	•	► Supply chain and distribution ► Disruptions impact JIT systems particularly
	PwC	2011	•			•		► Logistics hubs and gateway regions are the most vulnerable to a terrorist attack ► Increased costs associated with e.g., tightened security measures and employee compensation
	Zeneli, Valbona; Czinkota, Michael R.; Knight, Gary	2018	•	•	•	•		
Counterterrorism Measures on Corporate Level	Ryans, John K.; Shanklin, William L.	1980		•	•	•	•	► Tighter physical security of personnel, property, plant, and equipment including security consultants and security guards
	Harvey, Michael G.	1993				•	•	► Insurance including the adoption of a proper risk model to re-negotiate insurance premiums
	Koen, Vincent; Lenain, Patrick; Borturi, Marcos	2002	•			•		► Revision of supply chains
	Mazzarella, John J.	2005	•			•		► Reconsideration of JIT systems
	Liesch, Peter; Steen, John; Knight, Gary; Czinkota, Michael R.	2006	•			•		► Increase of inventory levels
	Knight, Gary A.; Czinkota, Michael R.	2008	•			•	•	► Corporate programmes for protection, self-defense, and increased awareness
	Wernick, David A.; Glinow, Mary Ann von	2012	•	•		•		► Reduction of foreign market commitment including FDI

Table 9: Comprehensive Overview on Key Findings

5. Research Limitations

As mentioned in the introduction, the research underlying this thesis underlies some limitations. Once again, this thesis attempted to provide a systematic review of extant literature on the impact of terrorism on IB after the terrorist incidents of 9/11 to date. Thus, the presentation of the current state of research contributed to a presumably increased awareness as well as improved understanding of how terrorism impacts IB and how the associated risk can be managed and mitigated on micro-level – specifically, corporate level.

Though the underlying research findings may assist corporate managers, companies providing consulting services, policymakers, scholars, young academics, and professionals, it is inevitable to demonstrate the associated limitations underlying this research. In respect thereof, this chapter is organized as follows. Initially, an overview on the general limitations is provided. Those limitations include among others the ones mentioned in the introductory chapter. Subsequently, a deeper insight into limitations is given. In this regard, more light is shed on various aspects, which emerged during the process of elaborating the thesis. Together, these limitations provide a solid foundation for the directions for future research, which are to follow in the subsequent chapter.

In general, the research underlying this thesis is sought to provide both practical implications and suggestions to a larger audience. Yet, it is limited to policies on corporate level and, thus, neither intended to provide an in-depth understanding of the existing counterterrorism policies nor to make a political judgement. Since counterterrorism policies on national level generally attempt to limit the economic repercussions of terrorism on macro-level rather than on micro-level, this consideration is out of scope of this research. In addition, it can be stated that even if those policies specifically address the limitation of economic repercussions on micro-level, extant literature to date including RAND show that effort towards defensive measures should be taken by both the government and firms in order to be effective.

Similarly, it is to be stressed that this thesis neither elaborated on the historic evolvement of terrorism nor on the terrorist groups and their various objectives. More specifically, with some exceptions, the focus was laid on the effects of the new threat of terrorism ever since the terrorist incidents of 9/11.

Furthermore, the underlying research excluded the detailed presentation of macroeconomic consequences of the increasing threat of terrorism. Once again, this can partially be traced back to the fact that this thesis attempted to examine the management and mitigation of the increased terrorism risk on corporate rather than on national level. The detailed presentation of the various modes of market entry other than FDI was also out of scope of this research. Lastly, due to the various research designs, objectives as well as limited amount of empirical studies on the topic, it was neither feasible to conduct a meta-analysis nor an empirical analysis due to limited availability of statistical studies.

Despite the general limitations mentioned above, there is a number of other limitations to be considered. More specifically, those gradually emerged during the process of the systematic review of extant literature to date.

With respect to the extant literature on the topic, it can also be maintained that it is mainly limited to the economic repercussions on the U.S. market. In this regard, the only exceptions were the studies conducted by Enders et al. (2006), Shah and Faiz (2015), Bezić et al. (2016) as well as Serfraz (2017), just to mention a few. As a consequence of the focus on the U.S. market, the literature underlying the systematic review only considered publications and other significant contributions including reports and gray literature, which were available in English. With respect to the publishing authors, the systematic review also revealed that extant literature tends to be biased. In essence, three of Suder's contributions published between 2004 and 2013 and eight of Czinkota's contributions published between 2004 and 2018 were reviewed systematically.

In addition, except for a few studies including Koen et al. (2002), Filer and Stanišić (2012) and Bezić et al. (2016), the research was limited in such that it did not provide deep insights into the effects on the stock market as well as on possible spill-over effects. This can essentially be led back to the thesis being mainly constrained to the economic repercussions on micro-level, which are generally more difficult to measure relative to macroeconomic consequences.

Regarding FDI, the following limitations were identified. First, only the increased terrorism risk ever since the terrorist attacks of 9/11 was considered to have induced a decline in FDI flows. However, Evans (2003), for instance, reported that the epidemic outbreak of SARS also contributed to a downturn in FDI, though partially. Second, it is to be stressed that except for Suder and Czinkota (2005) publication on OLIR, all reviewed literature explored how terrorism affects FDI decisions, when they have already been committed. In other words, extant literature focussed on whether terrorism motivates firms to retreat from foreign positions in countries at high risk. Third, the thesis did not elaborate on push and pull factors for FDI into specific countries or industries.

Another limitation is that the underlying research did not cover the various new forms of terrorism including cyberterrorism in detail. This is due to two reasons. First of all, the preliminary search for relevant literature on the topic revealed only two and one presumably relevant contributions in regard to measures against cyberterrorism and CBRN respectively within the field of IB. Accordingly, those include Caruso and Locatelli (2014), Giacomello (2014), and Feng *et al.* (2014). Second of all, RAND's literature review as well as its framework for defensive approaches served as a foundation for the underlying thesis. In respect thereof, RAND neither accounted for the impact of cyberterrorism nor the threat of CBRN attacks.

Consequently, a detailed consideration of the effects of cyberterrorism would have distorted the picture of an updated literature review and, thus, would have impacted the significance of the underlying thesis. Also, a consideration of the increasing threat of CBRN would have expanded the scope immensely without significantly having contributed to practical implications for corporate managers who seek to manage and mitigate its effect on their business operations. This is also due to the fact that (potential) CBRN attacks must be addressed by safety engineers.

Finally, this research did not provide a detailed analysis on the costs of counterterrorism. In fact, the systematic literature review revealed that it is difficult to draw a clear line between direct and indirect costs, which makes the determination of the exact amount of costs rather unfeasible. Also, the extent of countermeasures is particularly dependent on various factors including the size of the firm, its exposure to terrorism risk, the vulnerability of its business operations, prior international experience, and insurance coverage, just to mention a few.

6. Directions for Future Research

As pointed out in the previous chapter, the outlined research limitations provide a solid foundation for future research. Overall, a number of gaps in scientific literature were identified, which are presented one by another in the following paragraphs. In essence, the systematic review revealed that literature on the topic is rather rudimentary. Therefore, a meta-analysis is considered to complement literature to date by providing a comprehensive analysis on effects of the increasing threat of terrorism to IB. In fact, the underlying research designs vary from surveys with no statistical analysis to empirically founded studies making it unfeasible to conduct a meta-analysis. While a vast amount of empirical studies on the impact of terrorism on macroeconomic repercussions exist, which in turn, facilitate the performance of a meta-analysis, statistical studies on microeconomic level appears to be rather limited. Especially when considering questionnaires, it appears that literature to date accounts only little for managerial behaviours (e.g., risk behaviour, employee selection process and investments into counterterrorism measures including the engagement in formal training programmes, logistics⁶¹, and insurance⁶²). In this regard, the consideration of managerial behaviours may assist in differentiating between and identification of preventative and reactive measures (i.e., insurance coverage and the role of recovery marketing). The incorporation of social science may also contribute significantly to the understanding of corporate responses to terrorism. Essentially, these findings could contribute to the development of a generic managerial framework for MNEs facing the increasing threat of terrorism. In any case, it appears that the underlying systematic literature review may serve as a solid foundation.

Furthermore, the systematic review showed a strong tendency towards the extensive use of or referral to databases provided by U.S. authorities and institutions. Yet, many studies have focussed on the economic repercussions on the U.S. market. However, comprehensive studies including the GTI/ GTD, which collect various information on the terrorist incidents occurring all around the world, make it feasible to measure the economic impact of terrorism on corporate level in both various industries and various countries. In turn, these findings may indeed provide managerial implications. While there is a vast amount of literature on how terrorism is countered by nations^{63,64}, national institutions like the German Chamber of

⁶¹ See PwC (2011). *Transportation & Logistics 2030: Volume 4: Securing the supply chain*.

⁶² See KPMG (2016). *Political risk and crisis management insurance: Opportunities for growth*.

⁶³ The Council of the EU and the European Council (2018). In fact, the Council adopted a counterterrorism strategy in 2005, which promotes the effective fight against terrorism on a global scale to make Europe safer. Essentially, this strategy is based on four pillars including prevention, protection, pursuit, and response.

⁶⁴ Ibid. The directive 2015/0281 (COD) complements the achievements of the institutions on EU level, for instance.

Commerce, for instance, appear to provide only little information on how the private sector can deal with the increasing threat of terrorism, not to mention about guidelines. The preliminary search for literature revealed only one presumably relevant report. Essentially, on behalf of the German Institute for International and Security Affairs, Schneckener (2002) elaborated on the involvement of terrorist networks. Thus, this report only represents a related contribution and provides little managerial implications. Additionally, Wernick and Glinow (2012), for instance, maintained that terrorists became technologically savvy. In particular, preliminary search of literature showed that businesses' vulnerability to cyberterrorism increases with the rapid advancements in technology such as VoIP back in 2008, which eased the communication between and coordination of terrorist, who committed the Mumbai attacks. Though the underlying thesis broadly excluded the examination of the extent to which the use of technology facilitated the success of terrorist attacks, it might be interesting for future IB literature to shed more light on how technological developments favoured the involvement of new forms of terrorism. Similarly, the underlying thesis did not elaborate on the exploratory power of various terrorism databases including the GTI/ GTD and ITERATE, for instance. Therefore, it would be worth examining to what extent those indexes and general findings contribute to managerial implications.

Finally, another aspect, which is worth considering in future research is Suder and Czinkota's (2005) OLIR concept. In fact, it appears to be the only contribution, which illustrates how MNEs can incorporate terrorism risk into their foreign investment decisions and, at the same time, identify value chain activities, which are most probably vulnerable to the increasing threat of terrorism. In this regard, it would be interesting to examine whether these value chain activities – specifically, procurement, service provision, international trade relations, and conformity to government security rules and requirements – are only vulnerable to manufacturing or also to service providing firms. Essentially, the systematic review revealed that literature to date has not differentiated between vulnerability of MNEs engaged in manufacturing and services though IB literature commonly differentiates between these two (e.g., Blomstermo *et al.*, 2006). This might, therefore, be another possible aspect worth addressing in future research. Similarly, Czinkota's framework for the analysis of terrorism and IB as well as the general model of terrorism and IB⁶⁵ imply the effect of (national) policies, regulations, and laws on IB. In fact, IB needs to account for changes in laws and determine to what extent those changes affect their business (e.g., increased ad valorem costs).

⁶⁵ See Figure 10 and Figure 16, respectively.

7. Conclusion

The current state of research provides significant evidence for an existing negative correlation between terrorism risk and IB. In fact, the rapid evolvement of IB literature on the increasing threat of terrorism to MNEs business operations ever since the terrorist incidents of 9/11 give evidence of the new dimension of terrorism introduced by 9/11. More specifically, businesses, corporate managers or OECD countries in general appear to have become the preferred targets as a result of better secured government and military facilities. In other words, terrorism studies have, in fact, become an integral part of IB (i.e., Suder and Czinkota, 2013). More specifically, the direct economic effects of terrorism are considered to be determined more easily as opposed to the indirect economic effects. Literature to date shows equivalent effects on three levels including the government, businesses, and individuals. An increased salience of terrorist threat is associated with increased fear and uncertainty, which in turn, tend to alter normal consumer behaviour, cause disruptions in businesses' supply chains, increase international transaction costs, and impact both procedural changes (i.e., new policies, regulations, and laws) and foreign investment decisions, just to mention a few.

In respect thereof, this thesis has addressed the threat of this new dimension of terrorism to IB by considering both the relationship between terrorism risk and FDI of MNEs as well as the identification of vulnerable business operations and counterterrorism measures on corporate level. In fact, the systematic review of extent relevant literature to date complemented RAND's literature review and framework for defensive approaches by accounting for new studies, which have rapidly evolved ever since RAND's contribution of 2007. In other words, the systematic review allowed for both an updated review of literature as well as the identification of vulnerable business activities, which in turn, may assist a large audience including corporate managers, companies providing consulting services, policymakers, scholars, young academics, and professionals.

Essentially, the underlying thesis addressed the three research questions including (1) how MNEs can restructure their foreign business operations in order to manage and mitigate the impact of the new threat of terrorism, (2) how terrorism represents a risk to FDI of MNEs, and (3) which business operations of MNEs are the most vulnerable to terrorism and which counterterrorism measures do exist on corporate level. Given that the literature on the topic has expanded rather rapidly ever since 9/11, it was determined that a systematic review is the best suited approach for providing a well-founded answer to the research questions underlying this thesis. In addition to RAND's literature review, which accounted for 166 citations covering the period between 1980 and 2007, a total of 27 relevant literature were determined and reviewed.

Similarly, extent IB literature including Czinkota et al. (2005), Knight and Czinkota (2008), and Zeneli et al. (2018) stressed the role of marketing in the aftermath of a terrorist attack. Accordingly, the revision of a firm's marketing strategy may enable the firm to recover rather quickly from drops in sales resulting from massive shakes in consumer confidence.

Overall, it can be concluded that extent IB literature to date partially provided evidence for the existing negative correlation between increased terrorism risk and FDI flows of MNEs given that foreign investment decisions are particularly dependent on the ROI associated with the level of risk accepted by the firm. Similarly, literature suggested that once firms have already committed to foreign investments, they are less likely to retreat from this foreign position. This might be the case, because managers generally perceive terrorism as a temporary issue or foreign commitment significantly contributes to revenues that a retreat from foreign positions is not desirable or even unfeasible (e.g., Harvey, 1993, and Knight and Czinkota, 2008). Besides, the systematic literature review also revealed that literature to date significantly contributes to the identification of vulnerable business operations and, at the same time, provides crucial managerial implications on how MNEs can manage and mitigate the impact of the new threat of terrorism. In fact, literature suggests that MNEs shall account for the economic effects of a terrorist attack by engaging in the development of defensive approaches, which preferably go beyond the physical upgrade of security measures (i.e., employee training). Together, those measures generate two benefits. First, MNEs limit the economic effects and financial drawbacks in the aftermath of a terrorist attack. Second, the development of contingency plans including marketing measures may, in fact, assist MNEs in securing the continuity of their business.

Appendix

Appendix 1: Definition of Terrorism by Country in OECD Countries

	Status of definition of terrorism	Intention of terrorist act	Identification of those behind the act	Means used	Targets/effects
Australia	Contained in s 5 Terrorism Insurance Act 2003 Act of terrorism has to be certified by the Commonwealth Treasurer, after consultation with the Commonwealth Attorney-General.	Action done or threat made, with the intention of advancing a political, religious or ideological cause, with the intention of coercing or influencing by intimidation the government of Australia or the Australian States or Territories, or a foreign country, or intimidating the public.	Not specified	An act (or threat of an act), that is not advocacy, protest, dissent or industrial action, that causes specified damage.	An action that causes serious harm to a person, serious damage to property, causes death or endangers life or creates a serious health or safety risk, or seriously interferes with, or disrupts or destroys an electronic system.
Austria	Industry definition	To influence the government or put the public or any section of the public in fear.	Terrorist organisations or individuals NB: Standard policy conditions for property and loss insurance excludes inter alia damages incurred as a consequence of acts of violence committed by (political or) terrorist organisation (not defined). Such damage can only be covered through a special agreement.	Act or threat of violence	Human life, tangible or intangible property or infrastructure
France	Article L421-1 of the Criminal Code (no distinction between the notions of "attack" and "terrorist act")	Seriously and intentionally disrupt law and order.	Individual or joint undertaking	Intimidation or terror List of offences: 1. Deliberate attempts on people's lives, deliberate attacks on people's wellbeing, abduction and false imprisonment, as well as the hijacking of aircraft, ships and any other means of transport; 2. Theft, extortion, destruction and damage, as well as computer-related crime; 3. Offences relating to combat groups and movements that have been disbanded; 4. The manufacture or possession of arms, lethal weapons and explosives, as defined in Article 3 of the Act of 19 June 1871 repealing the Act of 4 September 1870 on the manufacture of weapons of war; The production, sale, import or export of explosive substances, as defined in Article 6 of Act No. 70-575 of 3 July 1970, amending the regulations applying to explosive powders and substances.	
Germany	Definition of terrorism under EXTREMUS AG	Acts committed for political, religious, ethnic or ideological purposes suitable to create fear in the population or any section of the population and thus to influence a government or public body.	Persons or groups of persons		The insurer shall indemnify, if this has been specially agreed, in respect of insured property which is destroyed, damaged or lost due to: a) fire, explosion, b) impact or crash of aircraft or aerial bodies and vehicles, also craft, of all kinds, their parts or their cargo, c) Other malicious damage, insofar as the mentioned perils are caused by an act of terrorism committed in the Federal Republic of Germany.

Appendix 1: Definition of Terrorism by Country in OECD Countries (cont.)

	Status of definition of terrorism	Intention of terrorist act	Identification of those behind the act	Means used	Targets/effects
Netherlands	Definition used for the operation of the Terrorism Risk Reinsurance Company	Attacks or series of attacks likely to have been planned or carried out with a view to serve certain political and/or religious and/or ideological purposes.	Whether or not in any organizational context	Any violent act and/or conduct – committed outside the scope of one of the six forms of acts of war as referred to in Article 64(2) of the Insurance Business Supervision Act [1993 wet toericht verzekeringbedrijf] – in the form of an attack or a series of attacks connected together in time and intention, as a result whereof injury and/or impairment of health, whether resulting in death or not, and/or loss of or damage to property arises or any economic interest is otherwise impaired.	Acts against persons and property of any nature.
Spain	Definition of the risks covered by the Consortium (no prior government statement is needed in order to compensate for damage under this heading) Specific case of state terrorism Criminal Code definition of terrorism (Section 2, Art. 571)	Every act committed with the object of destabilizing the established political order or generating fear and insecurity in the social environment in which they are perpetrated Disrupt the Constitution or seriously undermine law and order	Not specified	Act of violence	People and goods
Switzerland		In pursuit of political, religious, ethnic, ideological or similar purpose which may result in putting the public or any section of the public in fear or influencing any government or governmental organization	Members of armed factions or people working for or in co-operation with armed factions, organizations or groups whose aim is to disrupt the Constitution or seriously undermine law and order	Acts of destruction or fires started deliberately	Not specified
United Kingdom	Reinsurance (Acts of Terrorism) Act 1993 (for Pool Re arrangements in Great Britain – other arrangements apply in Northern Ireland). The issue of a certificate by the UK Treasury (or, if refused, by a decision of a Tribunal) is required for an act to be recognized as a “terrorist act” for the purpose of the scheme, under the Reinsurance (Acts of Terrorism) Act 1993.	Acts of persons acting on behalf of, or in connection with, any organization which carries out activities directed towards the overthrowing or influencing, by force or violence, of her Majesty’s government in the United Kingdom or any other government de jure or de facto.		Act or threat of violence. The definition shall not include civil unrest (act of violence against persons or property committed in the course of unlawful assembly, riot or civil commotion or associated looting)	Commercial property and consequent business interruption costs arising from an act of terrorism
United States	Terrorism Risk Insurance Act of 2002 – Public Law 107-297 An act of terrorism is an act certified by the Secretary of the Treasury in concurrence with the Secretary of State and the Attorney General of the United States.	Part of an effort to coerce the civilian population of the United States, or to influence policy or affect the conduct of the US by coercion	It must be committed as part of an effort to coerce U.S. civilians or to influence either policy or conduct of the U.S. Government through coercion	Violent act or dangerous act	Endanger human life, property or infrastructure that results in damages within the United States, or outside the US in the case of an attack of an air carrier or vessel, or premises of a US mission

Appendix 2: Overview on Literature Selection Procedure

[illegible]

Appendix 2: Overview on Literature Selection Procedure (cont.)

Author, Ed. or Org.	Year	Title	Reference Type	Inclusion Criteria (abbr.)					Inclusion Criteria (Full)					Justification
				TER	LOC	DEP	MEA	PAR	Modern Terrorism	Effect of Risk on Location Decision	Depressor/Reflex	Counterterrorism Measures on Corporate Level	Participants (MNCs, Business Leaders etc.)	
Crnkovic, Michael R., Knight, Gary A., Lusch, Peter W., Steen, John	2005	Positioning terrorism in management and marketing	Journal Article	•	•		•	•	•				•	Inclusion
Crnkovic, Michael R., Horkkanen, Mika A.	2005	A Forecast of globalization, international business and trade	Journal Article	•				•	•				•	Inclusion
Griegelmann, David W.	2005	Terrorism and business	Journal Article	•									•	Book Review
Sandler, Todd	2005	Collective versus unilateral responses to terrorism	Journal Article	•					•				•	Many significant practical implications
Suder, Genevieve, Carlotta, Michael R.	2005	Towards An Understanding of Terrorism Risk in the MNE	Journal Article	•	•	•			•				•	
Farmer, Thomas E.	2005	Corporate Security Measures and Practice	Report of Gray Literature	•					•					
Gold, David	2005	The Costs of Terrorism and the Costs of Countering Terrorism	Report of Gray Literature	•					•				•	Many significant practical implications
Mazzarelli, John J.	2005	Terrorism and Multinational Corporations	Report of Gray Literature	•					•				•	Many significant practical implications
Wells, Henry H., Moral, Susan R., Kelly, Terrence K., Massey, Jennifer J.	2005	Estimating Terrorism Risk	Report of Gray Literature	•					•					
Bonnamy, Andre, Deo Sharma, D., Saha, James	2006	Choice of foreign market entry mode in service firms	Journal Article	•									•	Differentiation between hard and soft services
Evans, Walter, Sachana, Aditya, Sandler, Todd	2006	The Impact of Transnational Terrorism on U.S. Foreign Direct Investment	Journal Article	•					•				•	
Lusch, Peter, Steen, John, Knight, Gary, Carlotta, Michael R.	2006	Problematising the internationalization decision	Journal Article	•					•				•	Many significant practical implications
Wells, Henry H.	2006	Guiding Resource Allocations Based on Terrorism Risk	Report of Gray Literature	•					•				•	Resource allocation in terms of funds
Jackson, Brian, Dixon, Lloyd, Greenfield, Victoria	2007	Economically Targeted Terrorism: A Review of the Literature and a Framework for Considering Economic Impacts	Book	•					•					
Bened, Claude	2007	Evidence about the Link Between Education, Poverty and Terrorism among Palestinians	Journal Article	•					•				•	
OECD	2008	OECD benchmark definition of foreign direct investment	Book	•									•	
OECD	2008	OECD guidelines for multinational enterprises	Book	•									•	
Kiedler, Philip, Loayza, Norman	2008	Terrorism, Economic Development, and Political Openness	Book, Edited	•									•	Focus on macroeconomic consequences
Sandler, Todd, Evans, Walter	2008	Economic Consequences of Terrorism in Developed and Developing Countries	Contribution in...	•					•				•	
Finckel, Alberto, Garbino, Javier	2008	Terrorism and the world economy	Journal Article	•					•				•	Book review
Baumert, Thomas	2008	Sean S. Coughlin and David Gold (Eds.)	Journal Article	•					•				•	
Knight, Gary A., Carlotta, Michael R.	2008	Terrorism and International Business	Report of Gray Literature	•					•				•	
Jan, Subhash C., Grosse, Robert	2009	Impact of Terrorism and Security Measures on Global Business Transactions	Journal Article	•					•				•	
Schneider, Friedrich, Brück, Timen, Moormann, Daniel	2009	The Economics of Terrorism and Counter-Terrorism: A Survey	Report of Gray Literature	•					•				•	
Marcuso, Anthony J., DiIorio, Cassandra E., Dal, Jayoti	2010	Assessing terrorist risk and FDI using relative information measures	Journal Article	•					•				•	
Crnkovic, Michael R., Knight, Gary, Lusch, Peter W., Steen, John	2010	Terrorism and international business	Journal Article	•					•				•	
Hemphill, Thomas A., Cullen, Francine	2010	Terror-free investment index scores	Journal Article	•					•				•	
Draais, Konstantinos	2011	Security Economics: A Guide for Data Availability and Needs	Journal Article	•					•				•	Many significant practical implications
PwC	2011	Transportation & Logistics 2020	Report of Gray Literature	•					•				•	

Appendix 2: Overview on Literature Selection Procedure (cont.)

Author, Ed., or Org.	Year	Title	Reference Type	Journal Article			Book	Unpublished	Other	Explanation	Inclusion Criteria						Justification		
				TER	LOC	DEP					MEA	PAR	Participants (MNCs, Business Leaders etc.)						
Georgios, Patrick, Minelli, Marcel	2012	Toward a North American Security Perimeter? Assessing the trade, FDI, and welfare impacts of terrorism risk	Journal Article	•															
Enders, Walter, Oso, Eric	2012	Measuring the Economic Costs of Terrorism	Book			•													
Enders, Walter, Sander, Todd	2012	The political economy of terrorism	Book			•													
Wernick, David A., Glinow, Mary Ann von	2012	Reflections on the Evolving Terrorist Threat to Luxury Hotels	Journal Article				•												
Filer, Randall Keith, Sharfild, Dragana	2012	The effect of terrorist incidents on capital flows	Report or Gray Literature					•											
Meerniks, Daniel, Gies, Thomas	2013	Causality between terrorism and economic growth	Journal Article						•										
Sander, Todd	2013	The analytical study of terrorism	Journal Article							•									
Sudikar, Gabriel G. S., Czapka, Michael R.	2013	Terrorism Studies in International Business: Increasing Knowledge, Reducing Victimization	Journal Article																
Reu, Jaap W.B., Frijnmet, Michael, Lammes, Martien	2013	FDI, Terrorism and the Availability Heuristic for U.S. Investors before and after 9/11	Journal Article																
Sharfild, Dragana	2013	Terrorist Attacks and Foreign Direct Investment Flows Between Countries	Report or Gray Literature																
Cervino, R., Locatelli, Andrea	2014	Understanding terrorism	Book, Edited																
Gasconelli, Giampero	2014	Close to the Edge: Cyberterrorism Today	Contribution in ...																
Feng, Jin Mei, Wu, Zhao Chun, Ping, Zhan Gu	2014	The Security of Public Buildings with Central Air-Conditioning System for Terrorism Attacks	Journal Article																
Rose, Adam, Avelayev, Mike, Challoppe, Sumat	2014	A framework for analyzing the economic impacts between urban terrorism and security against terrorism	Journal Article																
Banopadhyay, Subhoy, Sander, Todd, Younas, Javed	2014	Foreign direct investment, aid, and terrorism	Journal Article																
Banopadhyay, Subhoy, Younas, Javed	2014	Terrorism	Journal Article																
Shah, Mumtaz Hussain, Faz, Mehreen	2015	Terrorism and Foreign Direct Investment	Journal Article																
Shahzad, Syed Jawad Hussain, Zakaria, Muhammad, Rehman, Mobeen Uz, Ahmed, Tanweer, Fida, Bashir, Ahmed	2015	Relationship Between FDI, Terrorism and Economic Growth in Pakistan	Journal Article																
OECD	2015	Action 13	Report or Gray Literature																
OECD	2015	Measuring International Investment by Multinational Enterprises	Report or Gray Literature																
Beck, Her, Gavril, Tomislav, Milevski, Peter	2016	The impact of terrorism on the FDI of the EU and EEA Countries	Journal Article																
Yahon, Eyal, Kar, Jochim, Tefi, Fedorova, Germa, Alvaro	2016	Do UNCTAD World Investment Report 2016: Die Entschlüsselung ausländischer Direktinvestitionen	Journal Article																
KPMG	2016	Political risk and crisis management insurance	Report or Gray Literature																
Kunil, Zinuf, Yata, A. Yasmin	2017	Relationship between institutional factors and FDI flows in Developing Countries: New Evidence from Dynamic Panel Estimation	Journal Article																
Institute of Economics & Peace	2017	Global Terrorism Index 2017	Report or Gray Literature																
Bertiz, Anysha	2017	What is the effect of foreign direct investment inflows on economic growth in Pakistan? An empirical analysis	Report or Gray Literature																
Financial Times	2018	Definition of global multinational enterprises	Internal Document																
Zenet, Vitoria, Ciniada, Michael R., Knight, Gary	2018	Terrorism, competitiveness, and international marketing	Journal Article																

Appendix 3: Economic Costs by Category

Attack Costs	<ul style="list-style-type: none"> • Damage to structures or other capital • Costs from individuals killed (including the loss of productive capacity) • Costs from injuries to individuals (including direct costs from injury, such as physiological and psychological treatment costs and losses in productivity or income resulting from disability) • Cascading effects within and among sectors from damages that affect other firms' operations.
Security and Preparedness Costs	<ul style="list-style-type: none"> • Expenditures for security, response, and recovery measures • Indirect costs of those measures (e.g., increased wait times from security searches, inefficiencies in transport or supply chains)
Behavioural Change Costs	<ul style="list-style-type: none"> • Reductions in demand because of fear or uncertainty • Changes in demand due to the behavior of financial markets or changes in the value of assets • Shifts in investment behaviors resulting from changed perceptions of risk that hurt the economy's productive capacity • Additional or second-order economic costs produced by the shift in activity resulting from terrorism

Jackson *et al.*, 2007, pp. 23–24

Appendix 4: Insurance and Compensation Mechanisms for Reallocating Costs

Instrument	Transfer of Costs		Mechanism
	From	To	
Insurance	Individuals	Firms	Medical, life, worker's compensation, and property Insurance
	Firms	Other firms	Terrorism coverage for property, business interruption, and similar disruptions and losses
	Firms	Government	Public insurance, reinsurance, or insurance subsidy
Compensation	Individuals	Other individuals	Charitable contributions and other compensation through nongovernmental means
	Individuals	Firms	Charitable contributions and other compensation through nongovernmental means
	Individuals	Government	Public compensation or direct subsidy
	Firms	Government	Public compensation, direct subsidy, loans or loan guarantees

Jackson *et al.*, 2007, p. 43; Bandyopadhyay *et al.*, 2014; Czinkota *et al.*, 2005

Appendix 5: Research Methodology Adopted by Enders and Sandler (1996)

Enders and Sandler (1996)

For this purpose, they performed an empirical analysis, which was designed as follows. Since Enders and Sandler assumed that larger economies are better able to shield themselves from the effect through a more diversified pool of investors, Enders and Sandler measured the effect of terrorist campaigns since the mid-1970s on the net FDI (NFDI) of two smaller EU nations – Spain and Greece. They adopted two tools of time-series analysis since they also account for attacks foreign-owned capital. In this respect, transfer function modelling and vector-autoregression (VAR) analysis enabled Enders and Sandler to quantify the influence on terrorism on NFDI. Initially, like Ryans and Shanklin, Enders and Sandler highlighted two issues. First, it necessitates a clear a definition of terrorism. In particular, they clearly distinguished between domestic and transnational terrorism. According to their definition, terrorism shows a transnational character when victims, targets, institutions or citizens of one country are involved in a terrorist event in another country. Second, a contemplated investment needs to undergo a risk and return assessment relative to other opportunities at home and abroad. In addition, Enders and Sandler included a definition of foreign investment indicating that a foreign investment must exceed 10% of the value of the investment enterprise in order to be considered part of NFDI. Regarding the sample countries, they used four distinct criteria for their sample countries. Spain and Greece met all these criteria and had similar economic and political systems. The data, which were obtained from the International Financial Statistics provided by the International Monetary Fund (IMF), was measured NFDI in US dollars and was available on a quarterly basis. In addition, the data was complemented by the ITERATE database – a project that collects and quantifies data on transnational terrorism. ITERATE, however, is based on count data, which means that the intensity of each terrorist event was not taken into account. Enders and Sandler, however, countered this possible drawback by arguing that they followed the standard time series procedures.

Notes:

NFDI: „NFDI measures annual net foreign purchases of all new and existing domestic productive capacity” (Enders and Sandler, 1996, p. 336).

Four distinct Criteria: First, the country had to face a threat of transnational terrorism throughout the sample period. Second, foreign commercial interests had to be targeted by many attacks. Third, country had to be relatively small. Finally, sufficiently long quarterly time series for NFDI had to be available (ibid. p. 333).

IMF Data: “Over the sample period, real NFDI measured in 1990 US dollars annually averaged \$3536 million in Spain and \$804 million in Greece” (ibid. p. 336).

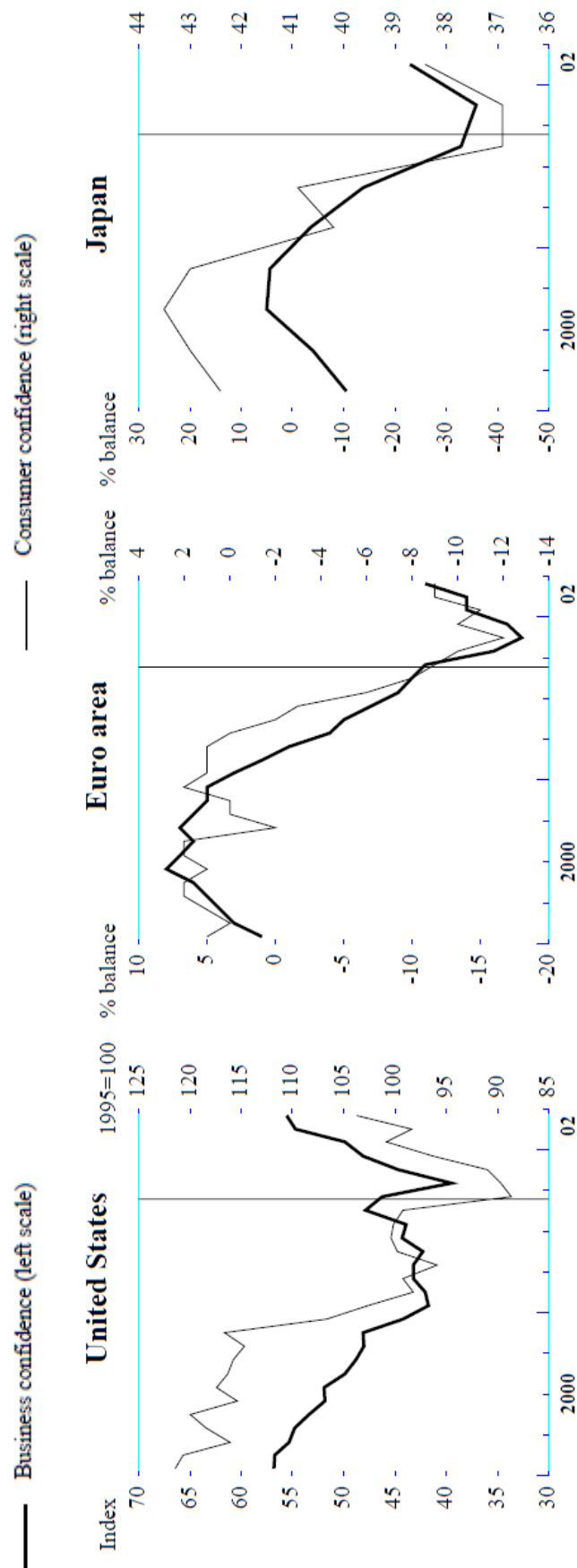
ITERATE: Mickolus (1982) developed a data set, International Terrorism: Attributes of Terrorist Events” (ibid.)

Appendix 6: Implications for Microeconomic Consequences

Sandler and Enders (2008)

Enders and Sandler (1996) already demonstrated the deteriorating effect of terrorism risk on FDI of MNEs. It was assumed that the larger an economy, the smaller the probability for MNEs to retreat from foreign positions. In a later article, Sandler and Enders (2008) still firmly believed that losses associated with terrorism costs may have a temporary influence on a diversified and well-developed economy since resources are either reallocated to other sectors or better security measures are deployed to allay concerns (Sandler and Enders, 2008, p. 2). It also appeared that democracies are more flexible in withstanding terrorist attacks compared to any other type of governments (*ibid.*, p. 15). In this regard, a business is reallocated due to increased costs of doing business, which are incurred by “higher insurance premiums, expensive security precautions, and larger salaries to at-risk employees” (*ibid.*, p. 2; 7).

Appendix 7: Business and Consumer Confidence in Comparison



Source: OECD Main Economic Indicators.

Appendix 8: Insurance Market Losses

Line of Business	Range (in bn USD)
Property	10.0 – 12.0
Business Interruptions	3.5 – 7.0
Workers' Compensation	3.0 – 5.0
Aviation	3.0 – 6.0
Liability	5.0 – 20.0
Other Lines (Non-Life)	1.0 – 2.0
Life and Health	4.5 – 6.0
Total	30.0 – 58.0

a) Preliminary (as of 31 January 2002)

Source: Tillinghast-Towers Perrin

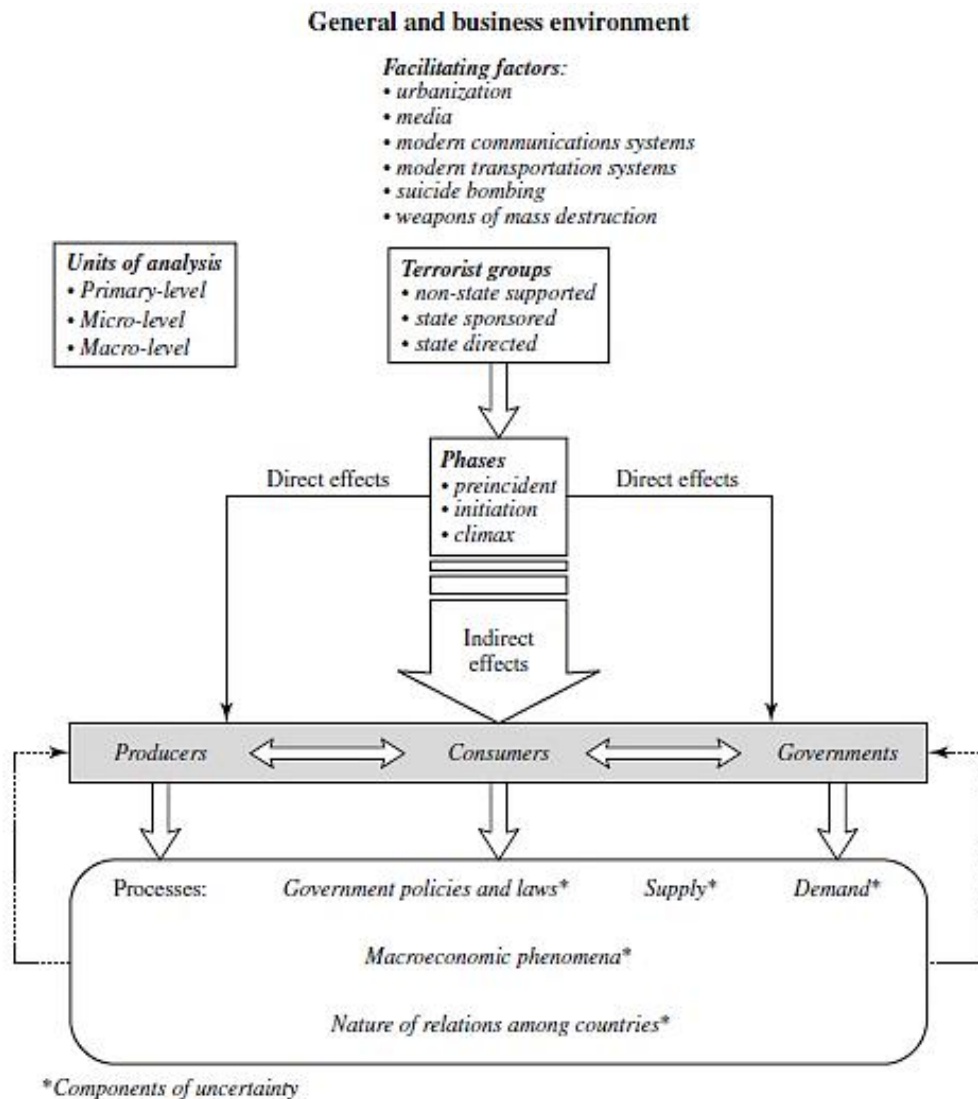
Koen *et al.*, 2002, p. 17

Appendix 9: FDI Flows to Europe

FDI Flows to Europe

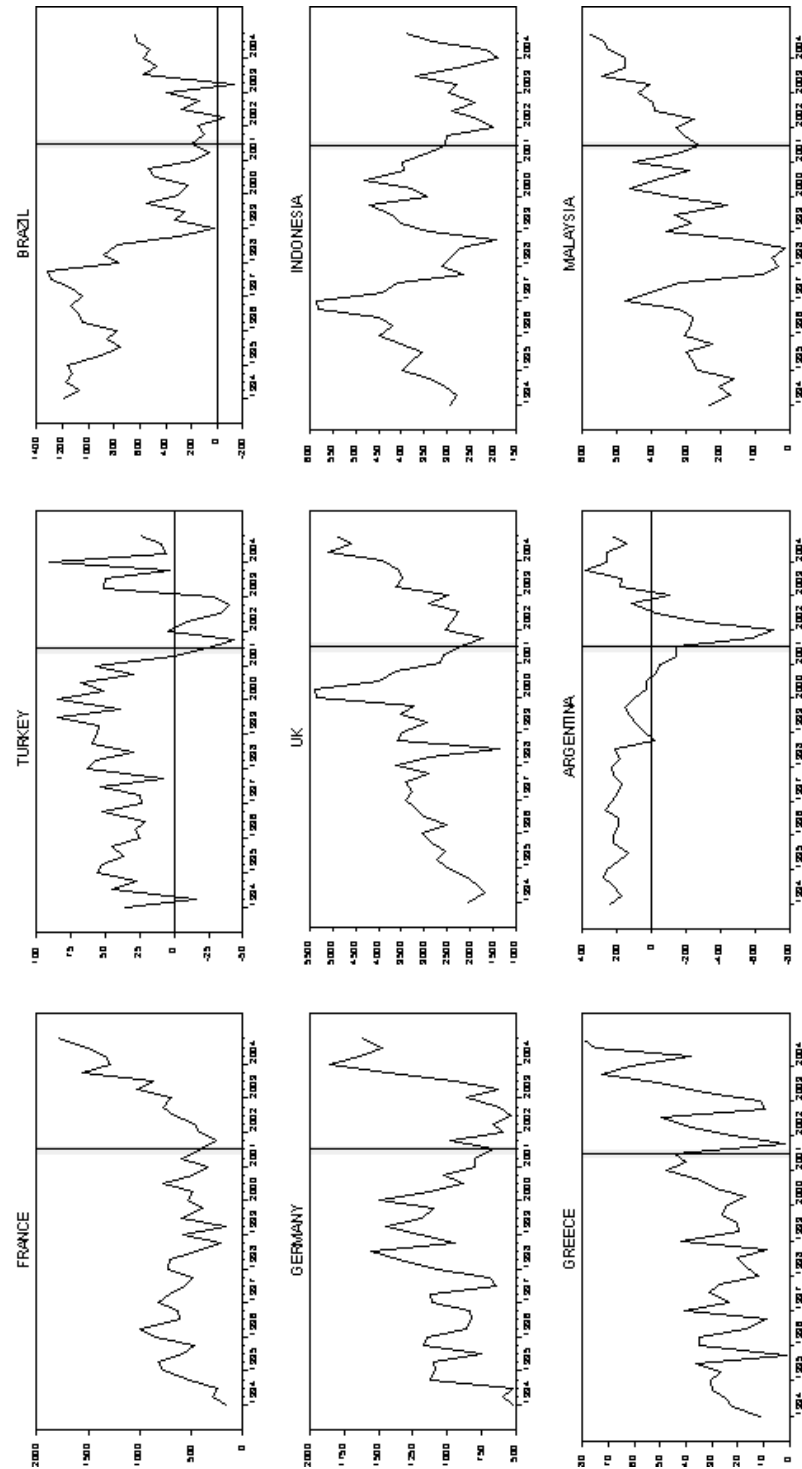
“FDI flows into Central and Eastern Europe were relatively stable in 2002 with overall inflows on par with 2001 levels. However, there is a mixed performance across different countries within the region. Foreign direct investment in the Czech Republic, Hungary and Russia was up strongly in 2002 while Poland and Romania reported declines. Restructuring and privatization have been a major driver of FDI into Central and Eastern Europe over the past few years. In addition, EU accession has attracted foreign investment as multinational companies see the region as a cost-effective location to serve West European markets. So far in 2003, FDI into Russia and Romania are showing solid gains” (Evans, 2003, p. 6).

Appendix 10: Framework for the Analysis of Terrorism and IB

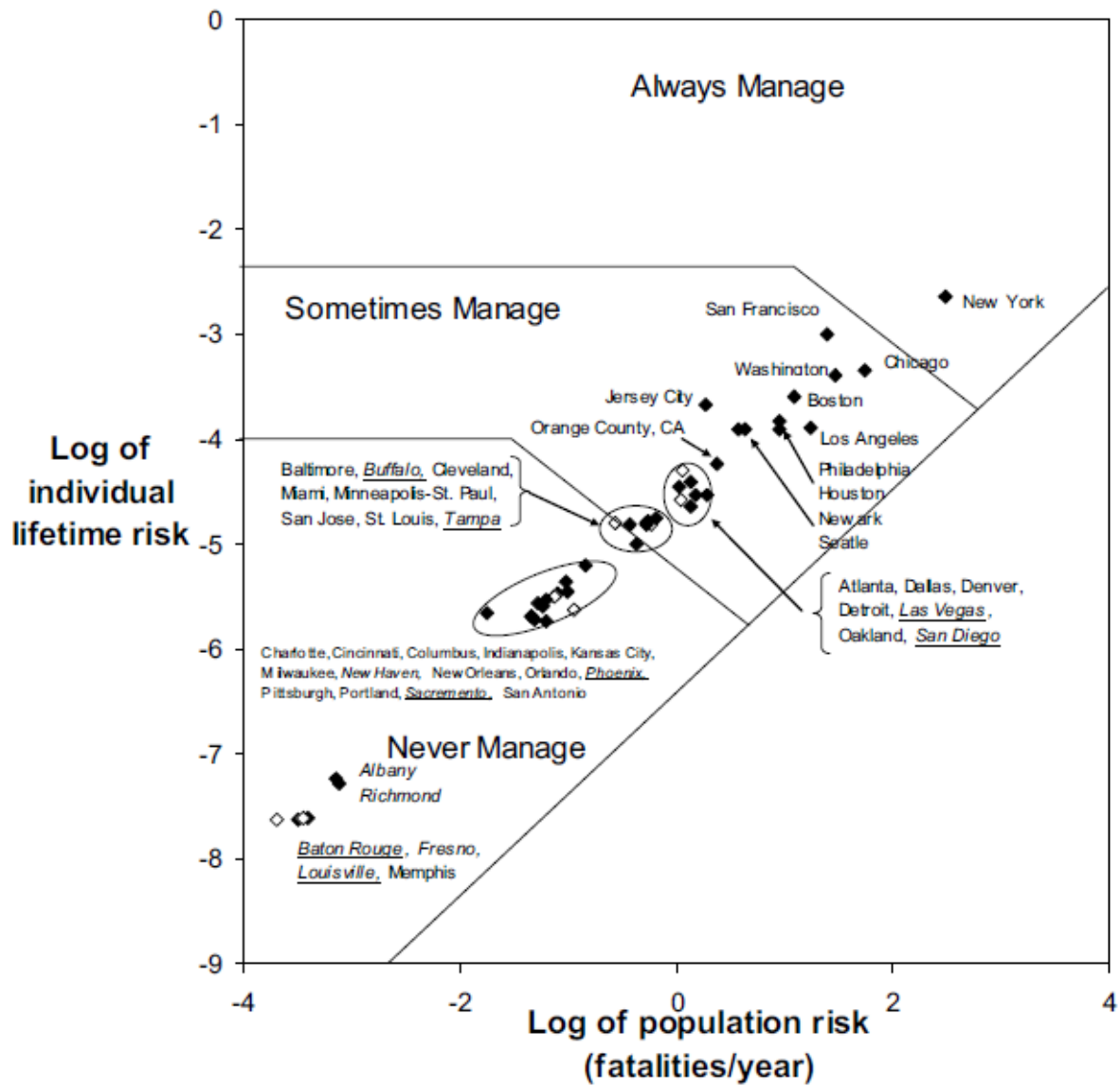


Czinkota et al., 2004, p. 52

Appendix 11: U.S. FDI in Selected Countries (in mn of 1994 USD)

Enders *et al.*, 2006, p. 520

Appendix 12: Estimation of Terrorism Risk in Urban Areas



Willis, 2006, p. 19

Appendix 13: Effects of Terrorism on Conventional FDI (1980-2008)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	FDI	FDI	External Debt	External Debt	Portfolio Investment	Portfolio Investment
Log GDP per capita	3.907*** (0.6650)	3.914*** (0.6650)	2.383*** (0.6470)	2.365*** (0.6480)	3.454*** (0.5720)	3.481*** (0.5730)
Log Population	4.095** (1.7130)	4.234** (1.7180)	-9.663*** (1.8250)	-9.529*** (1.8380)	-2.990** (1.2590)	-3.016** (1.2630)
Financial Openness Index	-0.0036 (0.1340)	-0.00556 (0.1340)	0.0384 (0.1270)	0.0345 (0.1270)	0.243*** (0.0943)	0.242** (0.0943)
<i>Terrorism Variables</i>						
Incidents	-0.0534* (0.0309)	-0.0762** (0.0387)	-0.0221 (0.0307)	-0.0257 (0.0419)	0.00467 (0.0209)	0.00242 (0.0254)
Incidents 5 y.a.	-0.00986 (0.0315)	-0.0326 (0.0499)	-0.0345 (0.0289)	-0.0691 (0.0489)	0.0257 (0.0205)	0.0434 (0.0321)
Fatalities		0.0053 (0.0066)		-0.00106 (0.0063)		0.0017 (0.0043)
Fatalities 5 y.a.		0.00388 (0.0074)		0.00615 (0.0070)		-0.0036 (0.0049)
Constant	-34.11*** (6.1550)	-34.39*** (6.1620)	3.468 (5.7920)	3.393 (5.8040)	-19.89*** (5.7540)	-20.06*** (5.7620)
Observations	2,832	2,832	2,066	2,066	2,345	2,345
R-squared	0.075	0.076	0.081	0.082	0.052	0.052
Number of countries	169	169	120	120	162	162

Note: Terrorism variables (Incidents; Incidents 5 y.a.; Fatalities; Fatalities 5 y.a.) are normalized by the country's population in millions. Country and year fixed effects are included in all specifications, and standard errors are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Filer and Stanišić, 2012, p. 23

Appendix 14: Activities Included in Corporate Training Programs

Training Element	Executive	Family Members	Foreign Employees
Defensive driving	55%*	12%	17%
Self-defense	42	17	11
Preparation of information, i.e., pertinent data/files	51	42	15
Avoidance of kidnapping	62	35	21
Negotiations on the part of others, i.e., negotiating skills	12	—	—
Handling weapons	18	5	21
Collecting information from local sources on terrorists	12	7	3
Protection of assets	27	—	10
Behavior after/during kidnapping	42	31	8
Other	22**	17	3

*55% of respondents that had existing programs (42% of total sample) to deal with terrorist acts indicated that they included this activity in their antiterrorist training for executives.
 **No other response received more than 2% of total responses.

Harvey, 1993, p. 473

Appendix 15: Major Concerns of MNCs in Regard of Terrorist Attacks

Major Concerns Regarding Terrorists						
Concern/Geographic Area	Very High 1	High 2	Average 3	Below Average 4	Low 5	No Opinion 6
Ability to negotiate successfully with terrorists	49%	27%	12%	9%		3%
Kidnapping executives	56	39	5			
Kidnapping family members	23	27	38	9	3	
Kidnapping foreign employees	9	22	17	31	21	
Sabotage of plant and equipment	19	33	29	10	9	
Holding foreign assets for ransom	27	35	15	19	4	
Random terrorist activities in foreign countries, i.e., bombing	32	41	23		4	
Mideast	72%	28%				
South America	70	18	12%			
Far East	17	11	35	37%		
Western Europe	32	27	24	17		
Eastern Europe	8	12	17	40	23%	
Africa	14	21	40		5	20%
North America	9	22	10	47	12	
Central America	28	34	32	6		

Harvey, 1993, p. 475

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