Economics, Politics and Young Males

Root Causes of Terrorism on the Aggregate Level in Europe

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Abstract

The research question posed in this thesis is: what are the root causes of terrorism on the aggregate level in Europe. There is little convergence on the root causes of terrorism in the field of terrorism research, and many findings are challenged on data and conceptual grounds.

The analysis is done with two dependent variables each representing an operationalization of terrorism, a count of the number of killed in terrorism events for each country-year observation and a count of the number of terrorism events for each country-year observation. The dual operationalization gives the thesis a higher conceptual clarity and ability to corroborate, reject and qualify previous findings in the field of terrorism research. The data is collected from the Global Terrorism Database and covers 26 countries in Europe from 1998-2007. The statistical analysis tool utilized, the Negative Binominal Regression, is designed specifically to analyze count data.

This thesis finds that demographic explanations, most of all the size of the young male population bracket, are the strongest predictors of terrorism. The thesis also finds support for economic factors, both income inequalities and levels of GDP per capita, but with different effects on the dependent variables. While previous theory suggests that the main background for a more deadly segment of young males are absence of work opportunities, my findings are that youth unemployment does not affect the effect of young males on levels of terrorism.

Preface

Looking back at the process of writing a Master's Thesis at the Department of Comparative Politics, I realize it has been both a challenging, interesting and oftentimes fun experience. The challenging aspect has been the work, often being of a one-step-forwards-two-back-nature. The interesting and fun parts has been being a part of a solid and engaging academic environment, from problem solving with both fellow students and my project counselor to engaging in fellow students work.

I am indebted to my project counsellor, Jan Oskar Engene, for his advice and open door policy, as well as expertise in the field. The process known as the Master's Thesis can at times be utterly heartless, demotivating and confusing. My conversations with Jan Oskar always left me with a clear course and refreshed perspective.

I would like to thank Michael Tatham for the correspondence on methodological issues, especially so since it managed to be swift, succinct and exhaustive at the same time.

A special thanks to my fellow students Olav Bjørnebekk, Roald Kalheim and John Abel. Their impact on both the thesis and the process can hardly be overstated.

I also thank Janne, my fiancé, for the patience.

Table of Contents

Tables and Figures

1. Introduction

"The United States of America is deeply involved in efforts in Africa and in other parts of the world – in Asia, South Central Asia – to address this poverty ... we have a huge common interest in dealing with this issue of poverty, which in many cases is the root cause of terrorism" (Kerry, 2014).

U.S. Secretary of State John Kerry

"When people – especially young people – feel entirely trapped in impoverished communities, where there is no order or path for advancement, where there are no educational opportunities, where there are no ways to support families, and no escape from injustice and the humiliations of corruption – that feeds instabilities and disorder and makes those communities ripe for extremist recruitment. So if we are serious about countering violent extremism, we have to get serious about confronting these economic grievances" (Obama, 2015).

U.S. President Barack Obama

Empirical knowledge about the root causes of terrorism is still largely in dispute. In the era of technological globalization it becomes ever easier to harm and terrify at smaller operational costs. Society scramble to understand what affects terrorism at home. For the longest time, poverty was assumed to be the root cause of terrorism and in the post 11th September era this explanation had the largest convergence (Schmid, 2011a: 13). The economic angle to understand terrorism has been tried with mixed results. As more and more scholarly attention now is devoted to income inequality in other areas of research, this economic angle is still less understood in the field of terrorism research. Are faulty assumptions of the operationalization of economic relationships the reason why economic explanations yield a mixed picture?

Huntington believed demographics to be the main source of political violence and unrest, and posed major challenges to the future (Urdal, 2006), while Gurr's classical view was that different sources of discontent are transformed into violence (Gurr, 1970). Yet other scholars believe that the causes of terrorism in advanced democracies are connected to foreign policy, and especially leading a polarizing foreign policy (Dreher and Gassebner, 2008).

International terrorism superseded domestic terrorism in what the public paid attention, so also with scholars. The international vs domestic divide has made inferring causality harder for theorists on terrorism. Is it really impossible to conduct research on a unified understanding of terrorism?

Another major flaw in the field of terrorism research is the lack of conceptual agreement, which hampers research (Schmid, 2011a: 5). Following Krieger and Meirrieks (2010), could a double dependent variable solve some of the most pressing questions, that is, qualifying the nature of terrorism?

I argue that one of the reasons why our knowledge of terrorism is somewhat limited is that, in striving for scientific generalizability, we include too many regions of the world into our studies assuming the concept of terrorism behaves the same all over the world. Do all of our observed trees yield comparable fruit?

Policy debates are bound to stagnate and generate few sound policies when the basic facts of the subject still elude us. This study aims to help push our knowledge about one of the great questions of our time: what are the root causes of terrorism?

The research question becomes:

What are the root causes of terrorism on the aggregate level in Europe?

1.1. The Societal Relevance and Contribution of the Thesis Question

Since 2001 terrorism has had a special place in the different north Atlantic and European societies. Whether or not the attacks of September 11th marked a new era of terrorism and new terrorism is not the subject of this thesis, but the fact remains that terrorism and concerns for terrorism has taken up much of the public attention in the last 14 years. Rather than dying down and fading from the current events of our part of the world, the presence of terrorism has in many ways expanded, if not empirically, then psychologically. The wars and conflicts that seemed regional in the past have become relevant also for societies far removed geographically, all the while concerns for home-grown terrorism is on the rise.

Coupled with the psychological presence of terrorism in north Atlantic and European societies is the lack of understanding of terrorism. Hard and empirical research should take the field in a more concerted way than before, mostly because of man's need to make sense of the violence. Media lead the way in the public understanding of terrorism, and especially the root causes of terrorism. The lack of empirical and methodological acumen often result in a cacophony in which one can only dream of gleaming disorganized pieces of the truth. Robust research into the matter at least does have the chance of transforming the dream into a possibility. It is the responsibility of science to try to inform political decisions, and with a better understanding we could rid ourselves with the bad policies and fears that often are the spawns of the terror threat.

One of King and colleagues criterion for good social science was that "a good research question should pose a question that is "important" in the real world (King, Keohane and Verba, 1994: 15). Studying the causes of terrorism fulfills that criterion, and doubly so in an age where real knowledge of such an important subject is so disorganized and scarce.

1.2. The Academic Relevance and Contribution of the Thesis Question

The field of terrorism research has been dominated by a number of evils, such as overly derivative work, little use of advanced statistical analysis, and limited datasets. Andrew Silke asserted that perhaps 80% of the field was not research based in any rigorous sense and that research on terrorism has been very little empirical (Silke, 2001: 4). The derivative approach to terrorism research is akin to Schrodt's criticism of quantitative research on the whole, being based on recycling datasets and just trying new variables, and later painting an eventual bull's eye around what stuck to the wall (Schrodt, 2014: 288).

The field has indeed suffered from a number of problems, both in the qualitative and the quantitative approaches, and at times it has been difficult to recognize the literature as a research field (Schmid, 2011a). We mentioned the first criterion of King et al. above, and in this section we should mention the second. "A research project should make a specific contribution to an identifiable scholarly literature by increasing our collective ability to construct verified scientific explanations of some aspect of the world." (King, Keohane and Verba, 1994: 15) This study attempts to draw from the established theoretical approaches in

the literature of the field, all the while attempting to do so within the confines of data sources not plagued by the same problems that have garnered criticism in the past.

This study, using a methodologically sounder aggregate version of a trusted dataset to create a robust new dataset will aim to add to our knowledge of the root causes of terrorism. The operationalization of our dependent variable of terrorism will give us the possibility of not only corroborating existing knowledge, but to qualify and sharpen it.

1.3. Structure of the Thesis

In this thesis I will study the causes of terrorism in Europe on the aggregate and systemic level. To do this, in chapter 2 on theory, I will summarize and discuss the central approaches to the root causes research on terrorism, as well as some alternate explanations that do not immediately fit Europe, and answer major questions in both conceptualization and research methodology.

We will review the most commonly suspected causes of terrorism in the world at large, but keep our focus on what could affect terrorism in Europe. Core explanations revolve around economic explanations, demographic explanations and political explanations. We will also shortly review relevant, but not applicable explanations to the causes of terrorism in Europe.

In chapter 3 I present my methodology. To study the research question I have chosen a quantitative approach. I will substantiate the reasons for this as they are closely connected to the theoretical chapter. Chapter 3 will also present the specific regression tools I will utilize, and their conceptual strength and goodness of fit on my data, while discussing some of the core assumptions that must be fulfilled in order to proceed.

Chapter 4 will deal with the data and operationalizations of both dependent and independent variables in the analysis. I will describe the aggregation process, the major strengths and weaknesses of the different data sources as well as a short discussion on their validity, reliability and the generalizability of the data.

Chapter 5 will present the findings. The first part of this chapter will be a walk-through of regression models, discussing the method used for selecting the most accurate models, as well as commenting on the methodological strength of the models. The rest of the chapter will

focus on reflecting on the findings and tying them to the theoretical assumptions and expectations laid out in chapter 2.

Chapter 6 will draw a condensed and clear picture of the major findings of this analysis and their implications for how we understand terrorism in Europe and my suggestions for both the way forward for our society in our ongoing confrontation with terrorism, as well as my suggestions for the way forward for the academic literature.

2. Theory

2.1. Defining the Concept of Terrorism

Terrorism as a concept has been notoriously difficult to define in the literature. In this work we're dependent on a concise and clear definition of terrorism if we want to have any hope of explaining parts of what causes it. We must be clear on what is included and what is excluded from our empirical understanding of terrorism, as what the concept contains can fundamentally shape any kind of outcome of an empirical study.

One of the reasons why terrorism is so hard to define is the number of invested stakeholders. The academic community arguably does not have the largest vested interest in the outcome of the definition of terrorism, at least not compared to the interest of states. The act of defining terrorism is not just a scholarly exercise, but an act of defining who has a legitimate voice (a freedom fighter or a legitimate insurgent fighting an oppressor) and who are terrorists and thus a non-legitimate part of society (Schmid, 2011b: 39). Furthermore, the elasticity of the borders of "terrorism" ensures its malleability, which is very useful to states, as what "should" be terrorism may change, and the need to recognize allied states' enemies as terrorists may be necessary to ensure their labeling of your domestic enemies as terrorists. This is one of the reasons that the U.S. state departments definition on terrorism has been shunned by scholars. Its wording has changed with circumstance (Schmid, 2011b: 49).

Let us start off the discussion with a reference to the academic consensus definition of 1988 (Schmid, 2011b: 61).

> *Terrorism is an anxiety-inspiring method of repeated violent action, employed by (semi-) clandestine individual, group or state actors, for idiosyncratic, criminal or political reasons, whereby – in contrast to assassination – the direct targets of violence are not the main targets. The immediate human victims of violence are generally chosen randomly (targets of opportunity) or selectively (representative or symbolic targets) from a target population, and serve as message generators. Threat- and violence-based communication processes between terrorist (organization), (imperiled) victims, and main targets are used to manipulate the main target (audience(s)), turning it into a target of terror, a target of demands, or a target of*

attention, depending on whether intimidation, coercion, or propaganda is primarily sought.

We will comment on some of these elements, but we start with one of the most complicating factors in terrorism research. Chenoweth (2011:356) approaches the most difficult elements of the most common definition this way: "terrorism is thought to be different from other forms of violence because of its attempt to convey a political message beyond the immediate targets themselves – a qualification that adds a clean conceptual dimension to terrorism that is rarely easy to observe in reality". What is observable is crucial to research, and the observability of terrorism has garnered a debate in the field on the possibility of under reporting and an observational bias towards democracies, for instance.

Furthermore, are assassinations terrorism events? Does some criminal activity cross the conceptual threshold and join terrorism? Again, as Chenoweth argued, the conceptional dimension we are interested in is often immune to examination. The discussion on assassinations in Schmid (2011b) arrives at a compromise. The assassination of John F. Kennedy might not be a terrorism event, but the assassination of Martin Luther King Jr might be, depending on whom you ask (Schmid, 2011b: 62). Likewise, the murder of Benazir Bhutto or other highly publicized killings in war zones might qualify. The same problem occurs in narcotics and Mafia related terrorism. Crimes occur that are too violent to be considered simply crimes, in countries like Columbia, which is high on the international charts concerning terrorism, but is it aimed to influence a third party? Some scholars claim that including these kinds of events water down the concept of terrorism. Krishan argued that "making terrorism inclusive of criminal activity, the bitterness and heinousness of this hideous and noxious form of political activity gets somewhat mitigated", while others argue that to exclude these acts of violence weakens our understanding of the terrorism phenomenon (Schmid, 2011b: 65).

Even though the general consensus definition calls upon scholars to consider state actors potential terrorists as well as non-state actors, this is difficult terrain in the field of terrorism. The greatest problem of not including state actors in the group of actors capable of perpetrating terrorism is that this generates a very U.S centric view on terrorism (Schmid, 2011b: 49).

There are many pitfalls in the conceptualization of terrorism, yet in quantitative analysis this problem is somewhat more rigorous than in qualitative analysis. In this study, we are

dependent on access to good and reliable datasets to run any kind of model capable of testing theories on terrorism. In this study we will employ the Global Terrorism Dataset (GTD), which is reviewed in chapter 4. After previewing the major conceptual discussions here, I will return to the conceptual discussion in section 4.1.2 where we discuss the definition of the GTD and settle on a definition and operationalization.

2.2. The Hierarchy of Causes of Terrorism

It is a common strategy in the social sciences to approach a subject on many levels, often dividing analysis into the micro, meso and macro levels. So too has been done in the study of the causes of terrorism. Crenshaw uses the distinctions the individual level, the group and its strategy, and the environmental/systemic conditions (Crenshaw, 2011:5). Table 1 below is an expression of Crenshaw's approaches to levels of analysis. On the individual level, the questions researchers often seek to answer are those of radicalization. What radicalizes people and make them accept morally questionable violence? Do people self-radicalize, or do they gradually accept the norms and values of peers and a new group? On the group levels the question gravitates around means and objectives. What motivates an organization to opt for violence, and what makes it opt for terroristic violence? Can we analyze the cost-benefits for different forms of violence? The third level, the aggregate level, concerns itself with the underlying conditions which fuel terrorism. At this level of analysis, researchers examine if conditions on the societal level shape the outcomes of terrorism, such as the levels of education, levels of poverty or repression (ibid).

Table 1. Levels of Analysis for Terrorism.

Micro	Individual level
Meso	Group level
Macro	Systemic/Environmental level

Source: Crenshaw, 2011: 5

As often happens in social sciences, when examining the literature, different proponents of these approaches to the research on terrorism find faults in each other's level of analysis. The individual level often neglects the larger context and the systemic level has a difficult time with aspects of agency.

I argued previously that the field of terrorism research does suffer from a lack of empirical and quantitative research. Still, the question remains, can we really expect to explain and predict terrorism on the aggregate level? Not all scholars believe there can be discovered root causes of terrorism.

2.2.1 The Root Causes Debate

The idea of "root causes" suggests that there are underlying conditions, social, political, demographic and economic conditions that explain how, where and why terrorism occurs (Newman, 2006: 749). The Root Causes-debate is really a debate about levels of analysis and morals. According to some scholars, the term makes them uncomfortable because of its "legitimizing" of terrorism. If terrorist acts spring from legitimate concerns, grievances or injustices, then the fight against terrorism loses some of its "moral clarity" (Newman, 2006: 751). Other, more scholarly interjections, concern themselves with the basic causality. Ehrlich and Liu ask if it's even possible to talk about the "basic conditions that generate terrorist acts", and even though few would argue that underlying societal conditions are without effect on the scope of terrorism, there is still great difficulty in identifying a convincing causal relationship that has general explanatory range (Ehrlich and Liu quoted in Newman, 2006:751).

Bjørgo comments on this difficult causal relationship, and claims that "one limitation of the "root cause" approach is the underlying idea that terrorists are just passive pawns of the social, economic and psychological forces around them; doing what these "causes" compel them to. It is much more useful to see terrorists as rational and intentional actors who develop deliberate strategies to achieve political objectives … terrorism is best understood as emerging from a process of interaction between different parties, than as a mechanical cause and effect relationship (Bjørgo, 2005b: 257).

Is the phenomenon of terrorism possible to understand, outside its unique experiences? The root causes debate is the heart of the theoretical discussion of terrorism (McAllister and Schmid, 2011: 261), and the scattering of ideas in the field highlights its importance.

What could hinder terrorism from being studied as a single concept and not "unique experiences"? A part of the theoretical assumptions behind my research question is the basic assumption that it, to some degree, cannot. I highly doubt that terrorism can be studied in the same manner in Europe and Sub-Saharan Africa, Latin America and South East Asia, the World at large, and the Middle East. To sharpen this idea, let's quickly think about the sources of terrorism in those diverse areas of the world. A great deal of the terrorism originating in Latin America is closely related to narcotics crime and insurgency. The Tamil Tigers dominate the South Asian picture and what is irregular warfare and terrorism is almost impossible to separate, depending on conceptualizations in the Middle East (LaFree, Dugan and Miller, 2015).

The study of terrorism might be a case of "different trees, different fruit", and that the dream of researchers placing their hopes in quantitative approaches might forever go unanswered. Still, I am more inclined to think that the "different trees, different fruit", problem is predominantly a problem of conceptual clarity and access of both data for the dependent variables of an analysis, and the data for our independent variables.

What does make sense to study? A core assumption of my research question is that the terrorism trees in Europe yield comparable fruit, and that the reason some trees are more or less barren and others churn out fruit at a factory efficacy level is possible to both observe and interpret in the data at hand, with the correct conceptual tools. Now, let us turn to how scholars see the different causes of terrorism work.

2.3. Triggering and Permissive, Direct and Underlying Conditions

Crenshaw conceptualized terrorism not only into different levels, but also stemming from different sources of causality. Her conceptualization was borrowed from Waltz's *Man, the State and War* and separated causality into two types of causal influences, the direct and the permissive (Crenshaw, 2011).

Bjørgo noted on the different possible causalities that "there are very diverse types of causality and levels of causation. The notion that there is one single 'prime mover' behind terrorism is therefore not tenable. What seems likely is that certain forms of terrorism are outcomes of certain combinations of factors: some of which may be more fundamental than others (Bjørgo, 2005a: 2-4)". Bjørgo distinguish between the following:

- *Structural causes* (such as demographic imbalances, globalization, rapid modernization)
- *Facilitator* (or accelerator causes, such as the evolution of modern mass media, transportation)
- *Motivational causes* (peoples actual grievances, motivating them to act)
- *Triggering causes* (political calamities, outrageous acts, events that call for vengeance)

In the metaphorical sense, the causality of terrorism should be considered as a study of combustion (McAllister and Schmid, 2011). In this study we ignore the flints and tinder, matches and diverse sources of igniting possibilities in our societies of study. Rather we concentrate on whether or not all this gasoline floating around, if ignited, would explode or burn with a pleasant fireplace crackle. Stated plainly, this study is a study of the structural factors.

Interpreting the literature, there seems to be little ground to stand on if one would argue that the sole cause of terrorism would be that of structural variables. Though we cannot hope to explain all of the variance with structural variables, it is the level of analysis that is most amendable to empirical analysis. Therefore, while alert to the role the agent and groups play, I would argue that the most important factors are the structural and facilitator variables. The difficulty is creating a theoretical framework that could combine such effects should they in fact be shown to be relevant.

2.4 Economic Theories on Terrorism

2.4.1. Deprivation

The stereotype of the causes of terrorism is that poverty breeds terrorism, though this notion is usually rejected in academic discourse. In the post 9/11 world, politicians and other public figures tried to explain the causes of terrorism as poverty. The U.N. General Assembly and the Bush Administration laid the foundation claiming that the war on terror was also the war on poverty (Maleckova, 2005: 33).

Because of this "consensus" in the non-scholarly environment, Kruger and Maleckova investigated the causal link between poverty, education and terrorism. Their research focused primarily on international terrorism, using the ITERATE dataset, and the occurrence of terrorism on the individual level in junction with their social and economic background. They found no significant results to reinforce this relationship. In fact, when they studied the social and economic backgrounds of deceased terrorist tied to Hezbollah, they found that the poverty rate of these terrorists was 28 per cent while the poverty rate of the Lebanese population was slightly higher, at 33 per cent. The likelihood that someone would become a Hezbollah fighter would actually increase significantly with his social standing and economic situation (Maleckova, 2005: 34). Berrebi's study of the biographies of deceased Palestinian suicide bombers came to the same result, where only 16 per cent of the sample would be found to be under the poverty line, while the number was 31 per cent for the Palestinean population at large. Similarly Berrebi found that unemployment and education was not a factor either, as 94 per cent of the studied terrorists had employment and 96 per cent of them had high school diplomas, as opposed to respectively 69 per cent and 51 per cent of the Palestinian population (McAllister and Schmid, 2011: 249).

Still, there is criticism to the empirical handling of the poverty analysis. Terrorists may "act out of a concern for their poor countrymen or other disadvantaged groups of population, not out of their own personal deprivation. For example, one scholarly report claims, 'Well-off young people, particularly in the United States, West Europe and Japan, have been attracted to political radicalism out of a profound sense of guilt over the plight of the world's largely poor population'. Yet little data exist to date to support or disprove such a view (Maleckova, 2005: 36)". Though Maleckova is quick to dismiss this possibility while blaming the data, we

might do the economic perspective a disservice, as the presence or absence of poverty in a society might well in this perspective be a valid variable on the systemic level, even when it is not on the individual level.

It seems obvious after reviewing the literature on terrorism and political violence that much of the criticism on poverty and deprivation has been misplaced. It is hard to ignore the facts of the presence of haves and have not's in the world, and it also seems logically sound that terrorism may draw at least some of its power from the injustices of the world that derives from this relationship. In fact, we would rather believe that terrorism has a root, and that it is not completely blind. The problem of the income variable is at least double. When using this variable on the systemic level, it does not pan out and explain much of the variance between nations and their levels of terrorism (Piazza, 2006), and as we saw above, when put to use at the individual level it produces the opposite of the expected result. In addition the testing of the economic variable has thus far mostly been done in a very simple manner, with the operationalization of deprivation commonly done as GDP per capita. Yet the justification for this operationalization is lackluster and is most likely used in place of something better. Still, in line with previous research, we will include this variable, if not for predicting qualities; it would be prudent to include as a control variable.

Following this discussion, we arrive at the first of two economic hypotheses on the causes of terrorism.

Hypothesis 1a: Higher GDP per Capita lowers levels of terrorism.

2.4.2. Relative Deprivation

The core of the problem with economic predictors of terrorism is that the causal relationship has been presented in a blurry fashion, and its consequences brushed off. Could terrorism in part be a reaction to the world's injustices, also economic injustices? In that case, how are we to measure these injustices?

We turn first to Gurr and his theoretical approach to political violence. Although we shall arrive at an economic hypothesis in this section, Gurr's Relative Deprivation approach is one of the seminal works within economic, political and cultural theories of terrorism, but as we

shall see shortly, several restrictions in data operationalization will prohibit us from exploring the political and cultural aspects of this approach.

Gurr's work on political violence was inspired by the lack of focus it was given in the social sciences. Up to the point of his writing, he complained, focus on political violence was squarely placed on the great revolutions and the peasant rebellions from the twelfth to nineteenth centuries. His project was one of understanding what the psychological and social sources of the potential of collective violence were, and what determines the extent to which that potential was directed at the political system (Gurr, 1970: 8).

The basic outline of the model was simple, as was the causal sequence: first, there is development of discontent, secondly the politicization of that discontent, and thirdly the actualization of violent action against political objects and actors. Discontent arising from the perception of relative deprivation, Gurr states, is the basic, instigating condition for participants in collective violence (1970: 13). Relative deprivation is defined as the perceived discrepancy between men's value expectations and their value capabilities. Value expectations are the goods and conditions of life to which people believe they are rightfully entitled. Value capabilities are the goods and conditions they think they are capable of attaining or maintaining, given the social means available to them. Furthermore, the intensity and the specificity of the violent impulse depends upon what people believe are the sources of deprivation.

Already at this point we gleam the reasons why Gurr's theory is difficult to analyze empirically. There is a great many references to what is 'perceived' and what peoples 'expectations' are. These concepts, like the concept of fear, discussed previously, offer a great deal of problems when we attempt to bring them to bear on the empirical world. Certainly, in a comparative analysis on the aggregate level, gathering sound data on what a group 'perceive' they are capable of and 'feel' they are entitled to, and quantifying their discontent with the world is an almost insurmountable task.

The preceding line of reasoning becomes ever more apparent based on which values Gurr is talking about. The values used by Gurr compose a composite typology of three categories, in which we find welfare values, power values and interpersonal values. Welfare values pertain to economic conditions and material well-being, while power values are concerned with the power of a select group within a society. Thirdly, interpersonal values pertain to the group's self-esteem, feeling of respect and status.

Gurr describes three ways relative deprivation could manifest, through decremental deprivation, aspirational deprivation and progressive deprivation (see Table 2). Decremental deprivation happens when value expectations are held constant over time, but perceived value capabilities diminish. A number of theorists have attributed political violence wholly or in part to decremental deprivation (Gurr, 1970: 47). A typical example of this kind of deprivation could be the elites in society suddenly being imposed progressive taxation, or a previously legal oppositional group now finding itself barred from political opportunities. Aspirational deprivation occurs when a group has increasing value expectations, but where the perceived value capabilities does not follow suit, and progressive deprivation, a variation upon the former, is where value expectations and capabilities rise together, but where perceived capabilities deflate after a certain level.

Together with the three types of values at play, we arrive at this matrix in Table 2, detailing the sources of conflict and violence in society. As we see from Table 2, there are nine possible dimensions to Gurr's generation of discontent.

Table 2. Societal Matrix for Sources of Violence

Societal matrix	Decremental Deprivation	Aspirational Deprivation	Progressive Deprivation
Welfare values	Present/not present	Present/not present	Present/not present
Power values	Present/not present	Present/not present	Present/not present
Interpersonal values	Present/not present	Present/not present	Present/not present

Source: Gurr, 1970:47.

Relative deprivation as a theoretical approach to terrorism has a great deal of elegance. Nearly every form of discontent can be sluiced into its framework and make causal sense. It demonstrates how discontent not only can be made, but how it could be translated into political violence. In order to convert the theory into one that purely focus on terrorism, we need to replace the mechanism that converts discontent into political voice with a

radicalization element that converts discontent into terrorist practices, but otherwise, since terrorism is a subset of political violence, it could stand relatively unmodified.

There are numerous problems with the utilization of relative deprivation in a quantitative analysis of terrorism, though.

First we are left with difficult questions, such as relativity to whom? The diverse numbers of groups experiencing the relative deprivation feel it in relation to a reference group, according to Gurr, but are the reference group always readily available? In a more homogenous society, like Norway, it would be simple to identify the reference group, one might argue, such as ethnic Norwegians in the middle class income bracket. Still, do we add religion to the possible identifiers? For some ethnic groups that could be salient. In other states, such as the very ethnic and culturally fractured Belgium and Switzerland, defining a reference group might prove harder.

Secondly, the model described by Gurr revolves as much around what groups perceive as facts about themselves as the actual facts about them. Perceptions about ones place in the world shape discontent. It also adds a layer of difficulty when one tries to study the subject empirically. Absent a number of large surveys and an abundance of methodological issues, the only thing a social scientist could do when faced with this model is approximations, and for every approximation, the model loses some of its elegance. Data availability rules our approach to relative deprivation and in the same way as many theorists have succumbed to only using the one dimension in nine possible, that is economic deprivation, we too will have to approximate. Lack of data will force us away from many of the dimensions covered by Gurr's theoretical approach. The only one dimension that is readily available to us to examine is that of economic inequality, and even in studying the effect of economic inequality, we are forced to shed some of the conceptual sharpness.

We continue on mindful that political and cultural inequalities may have a part to play in what causes terrorism, but because of difficulty in operationalization we cannot analyze it.

Krieger and Meirrieks (2010) write that the economic literature on terrorism has hardly analyzed the effect of inequality. They find that income inequality is robustly associated with higher levels of terrorism. The causal relationship between income inequality and terrorism must be based on much of the same proposed relationship that deprivation has been, in that terrorism is a reaction to injustices. Still, income inequality is still an approximation of just

one dimension of this proposed relationship, albeit arguably a more sound one than GDP per capita. Inequality and its effect on violence and instability have been documented by among others Alesina and Perotti (1993) and Auvinen and Nafziger (1999), and highly respected authors within the field of terrorism, such as Lia, has described income inequality as "likely to become a more serious source of domestic as well as transnational terrorism (2005: 97)".

The place for inequality in the study of terrorism is still under much debate. Burgoon (2006: 181) claims that the role of inequality in terrorism is less clear than that of poverty, yet poverty alone has been widely discarded in terrorism research according to researchers such as Schmid (2011a). Burgoon studied the effect on social spending and the strength of the welfare state on reduction of terrorism, i.e a form of indirect counter-terrorism. He found a slightly weak, yet robust relationship, able to stand up to different estimated models, giving some evidence to a strong welfare state being conducive to less terrorism. Laitlin and Fearon, studying political violence, find income inequality to be insignificant, but they are unable to assert this strongly for a number of reasons. They admit to the data being too poor, and the results they found are not statistically significant (Laitlin and Fearon, 2003: 85). In order to investigate the impact of income inequality on terrorism, we formulate the following hypothesis based on the discussion above.

Hypothesis 1b: The higher the income inequality in a state the higher levels of terrorism.

2.4.3. Demographic causes of terrorism

Some demographic variables have been suggested as key background conditions to higher levels of terrorism. Among these are higher degrees of urbanization, rapid population growth, especially in the young male population, and uneven population shifts across different ethnic groups (Newman, 2006: 752). Qvortrup and Lijphart (2013) found that the size of population had a significant effect on the presence or absence of terrorism. Population size should, even if it did not have any predicting qualities, be included as a control variable. We formulate the following hypothesis:

Hypothesis 2a: An increase in population size will lead to an increase in the levels of terrorism.

The theorizing behind some of these variables are more connected to extreme acts and crime than they are to terrorism, and portray young males as the "powder keg" of society. Ehrlich and Liu looked at the FBIs most wanted list, and the ages of Islamic suicide bombers and found them to predominantly hail from the young male age category of 22 to 34 years old. They saw this in conjunction with demographics of crime in both China and the US, where the age category in question were behind 70 per cent and 80 per cent of the crime in these countries respectively. In addition to these numbers, the gender breakdown of these numbers saw 80 per cent male perpetrators. What causes concern for these scholars is the future in which the percentage of young males will steadily increase in developing countries, and in time be double the percentage in developed countries. The young male population in addition to this is believed to be more at risk when there are fewer opportunities for work and to prosper (Ehrlich and Liu, 2002). Thirdly, the character of urbanization has changed fundamentally in the previous century, according to Massey (1996). Urbanization used to be a process of migration from rural areas to urban areas in search of jobs and prospects, a process in which success was a much more likely outcome in the first half of the 20th century. Towards the millennium, though, the chance of social mobility has decreased greatly, and now a higher degree of urbanization is associated with more violence and other social ills, and its effects are more vocal with more rapid urbanization (Massey, 1996).

As the units of analysis in this study are limited to countries within Europe, two of these potential hypotheses could be scrapped at once. The urbanization variable is most interesting in societies that still struggle with the transition to a "modern society", in place of a more neutral label. The breakdown of traditional values and the imposition of foreign values do not stay very salient when we only look at Western Europe. In the same vein, one could argue that uneven population shifts could stay relevant even when we limit ourselves to Western Europe, but the data collection alone should prove too time consuming for us to include it in this study. The most interesting of these variables, the "young-male-population"-variable is likely the strongest of the subset of demographic variables, given the numbers presented above.

In addition, the size of the young male population segment could easily be connected into the framework discussed above in this section, and be placed in the model presented by Gurr. The demographic segment most prone to crime and rash acts, as backed by the works above, could likely be the most vocal part of society as to voicing discontent, and also the one most likely to offer an extreme response. Countries with high levels of young males in their population could reasonably be expected to have higher levels of terrorism.

Urdal quotes Samuel P. Huntington from an interview with the Observer saying he "does not believe Islam to be a more violent religion than any others … But the key is the demographic factor … Generally speaking, the people who go out killing other people are males between 16-30" (Urdal, 2006: 607). Urdal found a link between youth bulges and different sorts of political violence, one among them, terrorism. Urdal cites a number of sources linking youth bulges to everything from "historically been associated with times of political crisis" and the "crumbling away of nation states will be attributed to demographic and environmental factors" (Urdal, 2006:608). Urdal references many causal connections theorized about the youth bulge effect on political violence, such as the providing of low opportunity cost rebel labor, grievance-motivated youths shunted by institutional bottlenecks and unemployment and that socioeconomic problems associated with "youth bulges" may provide fertile ground for recruitment to terrorist organizations (Urdal, 2006: 611). Because of the proposed causal relationships of what may cause youths to behave in this anti-social manner, such as few work opportunities (Urdal, 2006), we will include a control variable on youth unemployment. Based on the above discussion, we formulate two more hypotheses on the effects of demographics on terrorism.

Hypothesis 2b: Higher percentage of young males is associated with higher levels of terrorism.

Hypothesis 2c: The effect on terrorism by young males is reduced with lower youth unemployment.

2.5. Social and Political Theories on Terrorism

2.5.1. Social Cleavages Theory

Social Cleavage Theory was founded by Rokkan and Lipset in 1967 and was a way of understanding what forces drive the creation and structuring of mass political parties. It was one of the most important variables used to understand party choice and formation until the 1980s (Franklin, 2014). In order for a social cleavage to have political consequences Lipset and Rokkan postulated three things. First there had to be an objective distinction between the interests of the two sides of the social cleavage, second there had to be recognition of importance for those affected and thirdly, some means of political expression. Though this has been a theory of political organization, scholars have also used it on theories of political violence, even terrorism.

Piazza includes social cleavage theory as a potential variable to explain terrorism. Social cleavage theory, in his view, posits that the number of significant political parties that win votes, make up national legislatures, and form governments that is inversely related to the "strength" and stability of party systems. He continues to note that "countries marked by severe socioeconomic, ethnic, religious, or regional diversions will likely be "weak" party systems and will have a multitude of national political parties represented in legislatures and in governing coalitions. Weak party systems are accompanied by several features that can lead to political violence: an inability to moderate and integrate the participation of newly mobilized political forces into legal political behavior, and the empowerment and success of extremist, anti-system political forces in government in a centrifugal and immoderate configuration" (Piazza, 2006: 171).

Piazza's hypothesis on number of parties being conducive to terrorism has a number of weaknesses we should be aware of before continuing. First and foremost, the causal link between the number of parties and weak states and the number of terrorism attacks in a country is not very well stated. The main idea, that a weak party system determines the scope and intensity of terrorism, is not direct, but at best could be a passive permitter of increasing intensity of terrorism. There is little evidence to support it being a cause of terrorism. In any case, I would argue that this approach misses the target, especially in this study, as we look for what causes terrorism, not what factors diminish a state's efforts at combating it.

The paradox is, the causal link Piazza states could be turned upside down theoretically and still be viable. Weak party systems have also been theorized as one of the strongest ways of organizing a polity which is very much divided religiously, ethnically and politically. Arend Lijphart's theory on Consocialism postulates that divided states need a power sharing polity, which, admittedly, sacrifices strength for unity. Piazza's theorizing could therefore also be inverted and still be effective in our discourse on terrorism. It could easily be assumed that it is not the number of parties in itself that creates tension, violence and terrorism, but the diverse cleavages that gave rise to the power sharing polity in the first place that drive the intensity and scope of terrorism. If this was the case, the "weak party system"-hypothesis is a case of faulty logic, substituting effect for cause, and ignoring the underlying issue. If a state is structured to safely accommodate different political, ethnic and religious interests but still suffers from not being able to contain the conflicts arising in it, we could hardly point to the system's inability to contain it as a root cause.

Furthermore, the list Piazza supplies of "paradigmatic cases" is hard to take at face value. Theorizing that India, Israel and Colombia has endemic problems with terrorism because of their weak party systems seems to ignore a host of potential underlying causes, such as narco-terrorism in Colombia and the full scale of the Israel-Palestine conflict. It seems unlikely that these states suffer terrorism because their party systems have a hard time negotiating disputes. Could a more decisive system offer more clear cut solutions to the political woes of the state, surely, but could it also alienate the diverse voices and cause them to no longer be heard, thus driving desperate measures, such as terrorism? It seems just as likely.

The recent findings of Qvortrup and Lijphart (2013) offer a contrary position. They used a logistic regression model to study the effect of majoritarian democracy on terrorism, using a newly combined index based on the indexes from Lijphart's classic work, *Patterns of Democracy* (1999). Their hypothesis is that the more opportunity for political influence, the less deadly terrorism. They made a point, a point to which we shall return in chapter 4 on data and operationalization, that deadly terrorism is the more conceptually interesting phenomenon to study. They found that the more majoritarian a democracy is, the more likely it will have suffered a deadly terrorism event. In order to investigate this relationship in my thesis, I formulate the following hypothesis:

Hypothesis 3a: More majoritarian democracies experience higher levels of terrorism.

This discussion should nevertheless give us enough room to furnish another hypothesis, because the primordial cleavages that gave rise to the weak party system might still cause a higher level of terrorism. Ethnic cleavages have long been a proposed cause of political violence in different forms, but religious cleavages maybe even more. Still, they fall within the same category in our study, in that it has the potential to divide people into an "us-versus-them game". Religious cleavages and their added importance were described by Martha Reynal-Querol in this way: "a person can be half French and half Saudi Arabian and, at the same time, be a citizen of both countries. However, it is difficult to be half Catholic and half Muslim". (Reynal-Querol, 2002: 31)

Selway wanted to solve the puzzle of ethnic fractionalization and its effect on different policy arenas in different polities around the world presented in two states on the Indian subcontinent. "The Sri Lankan civil war, which began on 23 July 1983 when the Liberation Tigers of Tamil Eelam (LTTE) killed 13 members of the Sinhalese-dominated government forces, is one of the deadliest ongoing armed conflicts in the world … meanwhile, to Sri Lanka's north, India's mélange of ethnic groups have avoided serious armed conflict over the sixty-odd years since the country's independence. With over nineteen ethno-linguistic groups with populations over 10 million in India, the wealth of civil war literature on the danger that ethnic fractionalization poses for a country's stability would predict just the opposite for these two countries. How can we explain this puzzle?" (Selway, 2011: 2)

According to Selway the reason that most scholars' attempts to study the effect of ethnicity on civil wars were failed was the inability of their operationalization of ethnic conflict to separate between salient and non-salient ethno-religious constellations. Selway's answer was to create multiple indexes attempting to understand how the relationship between ethnicities in a state might work, and among those an index of ethnic fractionalization, an index of ethno-religious crosscutting and ethno-religious cross-fractionalization (Selway, 2011).

He found that ethnic fractionalization only was significant to civil war onsets when interacted with ethno-religious cross-cuttingness. We formulate hypothesis 3b to examine this proposed relationship.

Hypothesis 3b: Social and religious fractionalization increase the scope and intensity of terrorism, and interaction with higher levels of cross cuttingness is expected to decrease it.

2.5.2. The Democracy-Authoritarian axis

The democracy-authoritarian axis has been a theoretical framework used to explore and explain many concepts in comparative politics, also in terrorism research. The crux of this debate has been the two, at face value, equally valid theoretical expectations that authoritarian states foster more terrorism due to clampdowns of political expression and the like, while certain attributes of democracy, such as its openness, may encourage terrorism. McAllister and Schmid offered a counter-argument to Gurr's focus on deprivation as a source of discontent and terrorism. As we have seen above, Gurr theorized that lack of voice in political matters would lead to higher amounts of political violence. Democracy would be the ideal counter to these problems, inferred from his theory. McAllister and Schmid asserted that while democracy has some attributes that work against terrorism, such as free and fair elections, reducing the need for political violence, an elite that is open to criticism, or if they are not, independent judiciaries that can overrule elites in favor of aggrieved communities, these positive attributes are offset by democracy's weaknesses when meeting the terrorist threat. These weaknesses are the possibilities of freedom of movement in a democratic society, a freedom of association that is conducive to underground societies, the proliferation of targets available in open societies, the legal constraints on law enforcement, the freedom of movement offered by open markets in capitalist democracy, open borders that are ineffective barriers against smuggeling operations and lastly, profit-based media that are drawn to violence, as it increases circulation and audiences (McAllister and Schmid, 2011: 251).

These theoretical expectations were first tested by Eubank and Weinberg, and later by Li. Eubank and Weinberg used the presence or absence of terrorist organizations as their dependent variable and reached the conclusion that terrorist organizations were 3,5 times more likely to be found in democratic regimes than non-democratic regimes. They also found high civil liberties, the number of political parties, high levels of political protest, rapid economic growth, and high levels of wealth disparity to be highly correlated with the presence of terrorist organizations (ibid).

The work of McAllister and Schmid and Weinberg and Eubank proved seminal and sparked a long debate over both the operationalization and quantitative methods in the findings (a

summary of the debate can be found in Li, 2005: 279). Li offered a number of new hypotheses claimed to be a better match between theory and empirical findings, such as claiming greater democratic participation was a better indicator of democracy and that higher participation led to fewer transnational terrorist incidents in a country, secondly that it was not the democratic system itself that correlated positively with the number of incidents, but the institutional constraints of the country, and thirdly that the electoral system shaped incidents, believing that majoritarian systems suffer more at the hands of terrorism than proportional representation systems (Li, 2005). The potential hypothesis, that democratic countries have less terrorism than non-democratic ones, must still be excluded from this study, as a natural consequence of our selection as there are no "non-democracies" in our selection. It is an interesting theoretical approach, but one should remain skeptical on grounds that different researchers expect findings in opposite directions, offering opposite causal links.

Following the above discussion, we could also attempt to examine the relationship between civil liberties and political rights and terrorism. According to the assumptions of McAllister and Schmid and Weinberg and Eubank there is a theoretical foundation to expect civil liberties and political rights to cause terrorism, yet the findings of Li and the theoretical assumptions of Maleckova expect these attributes, when low, to increase terrorism (Maleckova, 2005: 41). Again, the difference between our units of analysis is so low that we simply lack the needed variance to explore the relationship. Therefore the potential hypothesis that higher civil liberties increase the level of terrorism in a state becomes less relevant to our study.

We find an interesting hypothesis if we follow Li's finding. As we noted above, he found that greater participation decreases events of transnational terrorism. At first sight, these findings are not as relevant to our study, because the findings do not suggest a root cause, but rather systemic attributes that counter terrorism. I would argue that if we look closer on the relationship, we could argue for a causal link that enables us to study the root causes of terrorism in advanced societies. Li writes that "since democracy lowers the cost of achieving political goals through legal means, groups find costly illegal terrorist activities less attractive … wide democratic participation also has beneficial consequences that remain largely unnoticed in the literature. To the extent that democratic participation increases political efficacy of citizens, terrorist groups will be less successful recruiting new members in democracy than in autocracy" (Li, 2002: 280-281). According to this argument, low efficacy of citizens on domestic policy leads to increased terrorism. It follows the same type of

theoretical assumptions as many of our hypotheses above, in that it assumes terrorism more likely not only where there are economic and political injustices, but also when these injustices have no good redress. We also follow Li's criticism on methodological grounds, using a less aggregated indicator on democracy, namely participation. Accordingly, the following hypothesis is formulated:

Hypothesis 4: Higher levels of participation lead to lower levels of terrorism.

2.5.3. Foreign Policy – Proximity to the U.S.

Many understand terrorism as responses to foreign policy choices. Its place, both in the minds of citizens and researchers is prominent, and places politics in the driver's seat. Brynjar Lia writes about international relations and politics that "the world system will remain basically unipolar… Anti-hegemonic transnational terrorism will continue and possibly increase (Lia, 2005: 39)". The foundation of the causality of this hypothesis can be found troughout human history. Evidence of human beings desire for self-determination and various concepts of "freedom" inform a great many decisions in history. Dreher and Gassebner quoted Zakaria in 2004 as saying that "what worries people around the world above all else is living in a world shaped and dominated by one country – the United States (Dreher and Gassebner, 2008: 28). They developed and tested the hypothesis that US dominance alienates people around the world and stimulates the growth of terrorism. They state simply that terror groups have emerged aiming at destroying U.S. culture and dominance, but it is not only the U.S. that becomes the target of terrorism, but its many allies. Sometimes, they argue, allies are exposed to more severe attacks. They claim that friends of the U.S. are more prone to terror, all else equal, using as an example the bombings of London in 2005 and Madrid in 2004, which were declared retaliations against participation in the U.S. led war (Dreher and Gassebner, 2008: 29). Savun and Phillips contend that "states that adopt more active foreign policies—as democracies often do—are likely to foment some sort of resentment among foreign groups and, hence, may be the target of terrorism by these aggrieved groups (Savun and Phillips, 2009)". It is tempting to include some kind of variable that attempts to pick up on the proposed relationships the authors above present. In recent years it has been obvious that symbolic acts of different kinds, including foreign policy aspects can stimulate terrorism.

For our selection, the proximity variable presented above is not very interesting, because European states could be assumed to have little variance in this regard. One aspect is the "foreign war"-aspect. Interventions in civil wars and foreign wars we expect spur the willingness to commit acts of terror, but the NATO states mostly engage in these foreign policy questions in concert, therefore limiting our efficacy in testing.

What would be interesting was if we could use some metric to determine which of the allies in NATO were dragging their feet, such as a number of NATO-soldiers per million or thousand inhabitants. If an ally is dragging their feet in contributions and the like, do they get a free pass from terrorism to a higher degree than the complying allies? Furthermore, not all of our European countries are members of NATO, so the effect, if it is present, should show itself in some kind of a threshold effect. Following this theoretical discussion, we arrive at two hypotheses on the foreign policy perspective on terrorism:

Hypothesis 5a: Non-NATO members suffer lower levels of terrorism.

Hypothesis 5b: Higher number of soldiers killed is indicative of aggressive foreign policy. We expect it to yield higher levels of terrorism.

2.5.4. State Failure

A number of studies argued that terrorisms causes is that of "pure politics", and among the hypotheses associated with those, few are as popular as the notion of state failure (Burgoon, 2006: 177). According to McAllister and Schmid, state failure has been tied to the field of terrorism following the attribution of the 11th September attacks on the United States to Al Qaeda, as the organization used sanctuaries in both the Sudan and Afghanistan as staging areas for a series of terrorist actions against US interests. He continues that "the basic idea behind the states failures concept is that the terrorist organizations take advantage of not only the geographic sanctuary provided by the near-collapse of effective governance, but also of the black markets that spring up to replace licit enterprises, giving terrorist organizations a convenient vehicle to both earn and transfer funds as needed (McAllister and Schmid, 2011: 252). Newman not only expands on the causal assumptions at work, but also suggests a range of limitations. A corollary, he points out, has been the assumptions that these organizations

are not only interested in working from these locations with impunity, but that there is as much state sponsored terrorism as absenteeism of government. These ideas have been especially popular in our era of terrorism, giving rise to expressions such as "terrorists are strongest where states are weakest" and security challenges "come not from rival global powers, but from weak states" (Newman, 2007: 463).

Preliminary findings within this field of enquiry have found that failed states and states with "failed states" episodes do have a higher likelihood of experiencing terrorism (Piazza 2007: 536), but there are severe problems with both data, operationalization and definitions, and that is also why the researcher has labeled them preliminary. Piazza's analysis furthermore is for 19 Middle Eastern countries, and many of them either have had failed states episodes or neighbor one such state. While it seems logical that failed states and states that have had significant failed states episodes contribute to the overall tension levels in the world, and lend homes to terrorists, it is hard to divine a way to operationalize this in a coherent and relevant way for our European democracies in this kind of analysis. The concept of state failure in itself is terribly problematic in the field of terrorism study (see an overview in McAllister and Schmid, 2011: 252). Even if methodological problems were soluble, we would still only be able to examine a dummy effect of the world with or without these failed states, or a worldwide increase or decrease of terrorism incidents based on the prevalence of failed states.

After reviewing the literature on state failure, I will not formulate a hypothesis based on this approach to the causes of terrorism. Data and concepts are fraught with difficulty. The approach does not fit with the experience of terrorism in Europe. Its inclusion into the study therefore becomes unfeasible.

The theoretical chapter has left us with 10 relationships that I will analyze in the coming sections. All the relationships revolve around what increases or diminishes terrorism levels on the aggregate level in Europe.

The next chapter, Chapter 3 on Methodology, will present and discuss the statistical techniques utilized in the thesis to investigate my hypotheses. I will present the reasons why my choice fell on my specific method and discuss the technical preconditions for running the regressions.

3. Methodology

The object of this study is to examine what the root causes of terrorism are. The field of terrorism research is not at all lacking in theoretical assumptions and previous findings, and since our ambition is not to create brand new theories, but rather expand on our knowledge in the field, the quantitative method is the most relevant.

It is central to scientific inquiry to be clear about the rules and methods one utilizes to study the research question (King, Keohane and Verba, 1994). This study is an attempt to evaluate existing theory in the field, King et al. believed that researchers who understood how to evaluate theories would also be better equipped to generate better theories (even though this is a lofty ambition (King, Keohane and Verba, 1995: 476).

We also follow Arend Lijphart in his assumption that if there is sufficient data availability, one should choose a quantitative approach (1971: 685). As we shall see in the chapter on data, chapter 4, data is both robust and highly available in the field of terrorism research. Futhermore, on the subject of causal inference, observations that vary in time are considered superior at detecting causal processes, and unless there are clear theoretical advice encouraging cross-sectional data, time-series cross sectional data should be employed (Midtbø, 2000: 59).

3.1. The Quantitative Method

One of the greatest strengths of the quantitative methodology is that the strength of the effect of our independent variables on the dependent variable is quantified. We are able to not only see which explanation is significant, but also how X1 might be stronger than X2. The classic strength of the qualitative approach is that it is more able to examine the actual causal process and discover the complexities of the causal processes, yet the trade-off is the lack of power in generalizability (George and Bennet, 2005). Research designs always involve painful trade-offs, but in our case we favor generalizability across the European states, and to some degree, advanced democracies (Brady and Collier, 2010: 26).

3.1.1. Regression Tools and Count Data

The two dependent variables in our study are count variables. This has immediate consequences for the available methods at our disposal.

The classic example of the use of a count variable was von Bortkiewicz' study of deaths by horse kicks in the Prussian army from 1875 to 1894. Bortkiewicz observed 14 corps of the army and counted the number of deaths from horse kicks. Counts are nonnegative, integer-valued responses taking on the values of 0, 1, 2, 3 etc. (Rabe-Hesketh and Skrondal, 2012: 687). Counts can be thought of as aggregated versions or summaries of more detailed data on the occurrences of some kind of event. The recommended methodological approaches to analyzing dependent variable count data are the Poisson regression, the Negative Binominal Regression, and Zero-inflated versions of both (Rabe-Hesketh and Skrondal, 2012).

Zero-inflated models were not applicable to our study because of the theoretical assumptions concerning "excess zeros". A zero-inflated model assumes that not all of the zero counts in the data are true zeroes, but incidental zeros (UCLA Statistical Consulting Group, 2015a). All our zero counts are true zeroes, in that there has been no terrorism in that country year. There are no obvious sources for excess zeros. In addition, the zero-inflated models have lost ground to the more frequently used Poisson regressions and Negative Binominal regressions (Ver Hoef and Boveng, 2007).

3.1.2. Over Dispersion, the Choice between Poisson and Negative Binominal

The assumption of the Poisson model is that the variance of the count is equal to the expectation (given the covariates). This assumption if often violated, and the problem is usually referred to as over dispersion (Rabe-Hesketh and Skrondal, 2012: 706). Our data show clear signs that we are dealing with over dispersed count data. Luckily there are tests for over dispersion (UCLA Statistical Consulting Group, 2015b). Running a Poisson model and a Negative Binominal regression model shows that the Negative Binominal regression is appropriate. This is double checked running a Lagrange Multiplier test (Coxe et al., 2009).

3.2. Control of model preconditions and assumptions

The negative binominal model is, as are most regression models, based on an underlying probability distribution function (PDF). The Poisson model is derived from the Poisson PDF, the logistic model is derived from the binominal PDF, and the normal linear regression model (i.e. ordinary least squares), is derived from the Gaussian, or normal, PDF. However, the traditional negative binominal model, which is now commonly symbolized as NB2, is derived from a Poisson-gamma mixture distribution (Hilbe, 2013: 1-5).

Even though the model has a distinct probability distribution function, the preconditions that should be met before running the NB2-models in this study does still follow the same preconditions as the GLS regression, even to some degree the OLS regression[1]. We will comment on linearity, homoscedasticity, but focus more on multi-collinearity and auto-correlation.

Fixed or Random Effects

The default setting of the negative binominal regression in Stata is to run a random effects model, but we should shy away from doing so untested.

A Hausman test confirms the anticipated need to use random effects models. The Hausman test is quite restrictive and often does not support the random effects model (Treiman, 2009: 371).

Outliers

We ran our models with and without the outliers in our data. As we shall see in the next chapter, on data, terrorism is a field of many outliers. We ran the models with and without Corsica, and dropped Northern Ireland from the United Kingdom. This did not alter the results of our model.

Linearity

One precondition for the regression analysis is that the effects of the independent variables on the dependent variable are linear (Skog, 2004: 237). If these preconditions are violated we run the risk of producing misleading coefficients. In this study, every model was post-estimated

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[1] I am indebted to Michael Tatham at the institute of Comparative Politics at the University of Bergen for pointing this out for me.

with a *linktest*, showing that the assumption of linearity was present for all, except voter turnout. Voter turnout was never able to overcome this obstacle, no matter the transformation it was put through, and thus summarily dropped.

Homoscedasticity

The regression analysis assumes that the variation on the regression line will be the same for both low and high values of the independent variables. If this assumption is violated the standard errors of the parameter estimates will be faulty. Presence of heteroskedasticity leads to errors in the significance testing. Running a *lrtest* showed that the data are homoscedastic.

Residuals correlated with the dependent variable(s)

The residuals cannot be correlated to the dependent variable (Skog, 2004: 253). If so, this is a clear violation of the preconditions of the analysis. Our residuals had very low correlation with the dependent variables, at .12 and .05, for *events* and *killed*, respectively.

Auto-correlation

The regression analysis assumes that there is no correlation internally in the residuals. If this precondition is violated, there is almost always a positive correlation. Values close to each other in time or space have more in common than those that are farther off. The consequence of ignoring this precondition is often low standard errors and too optimistic significance testing (Midtbø, 2012: 112). We performed a test for auto-correlation using *xtserial* and found that in neither of our dependent variables was there autocorrelation.

There was no intra-class correlation in the *killed* dependent variable (0.08) when running an *xtreg* with the group as independent variable, but there is presence of intra-class correlation in the *events* dependent variable (0.6). The intra-class correlation in events was high, but this is common in time-series data (Skog, 2004: 252). It does not necessarily affect the estimates, but it can underestimate the standard errors in the model, thus leading to higher significance in testing (ibid). A high intra-class correlation could be interpreted as a disturbing element (Midtbø, 2012: 113), and we must be mindful of its potential effect on significance testing on the *events* dependent variable.

Multi-collinearity

Only perfect, not high, multi-collinearity violates the assumptions of the analysis, but high multi-collinearity may produce skewed coefficients (Midtbø, 2012: 128). We performed a vif-test for multi-collinearity and found that when *voter turnout* was excluded, the highest VIF-value was 3, which is far lower than 10, which is the rule-of-thumb threshold (ibid).

Conclusion – strength of models.

Our models have passed every test for the vital assumptions for the regression analysis (Skog, 2004; Midtbø, 2012), and the only source of disturbance is some degree of intra-class correlations in the models with *events* as dependent variables. This means that we should only accept finding with very strong significance testing in the dependent variable *events*.

After describing the methods used, and investigating any problems that might impede my findings, we turn to the data. In the next section, Chapter 4 on Data and Operationalization, we will describe these count variables. We will also inspect the Global Terrorism Dataset and its strengths and weaknesses. I will connect our conceptual discussion in 2.1 about the concept of terrorism with the concept used in the dataset. I will detail the gathering of data done to construct our independent variables as well as details on their coding. Lastly in chapter 4, we will discuss the overall strength of the data.

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4. Data and Operationalization

In this chapter, we present and discuss the operationalization we use to represent our variables. Furthermore we present the data and datasets we utilize to compose our two dependent variables. I've chosen to use the Global Terrorism Dataset (GTD) in this study for various reasons to which we shall return below. In addition, we will discuss the complications that naturally occur when the definitions of our dataset and that of our theoretical chapter does not immediately match.

4.1. Terrorism data

Research into terrorism has increased in the last decades, but relatively few of them approach the subject quantitatively. The strength of available data on terrorism has come into question. The question of definition has been in the spotlight as a potential source of trouble, as the US Department of State has dominated a lot of the definitions and thus collections of data. They only focused on political terrorism, leaving out religious, economic and social motives (LaFree, Dugan and Fogg, 2006: 4-5). Furthermore, many datasets focus solely on international terrorism. This is despite the fact that domestic terrorism is the predominant form of terrorism (Torvund, 2013: 32).

As we have seen before, research into terrorism has suffered from limited datasets (Silke, 2001: 4). Today there are many datasets for different purposes, and Bowie and Schmid provides a catalog (Bowie and Schmid, 2011). Among other datasets not chosen for this thesis, we will overview shortly the ITERATE and WITS-datasets, to provide a clear contrast in use.

ITERATE (International Terrorism: Attributes of Terrorist Events) is one of the longest-established chronologies on international and transnational terrorism. It has been coded in a consistent manner since its inception and is updated on a daily basis. It records the nature of an incident, the number of victims and follows up on the "fate" of the terrorists in question. The main reason for not using the ITERATE dataset still is that it does not record internal terrorism, incidents where the perpetrators originate from within the state (Bowie and Schmid, 2011: 306). This detail has garnered those using this dataset some critizicm, and open them up

to a type of scrutiny that saps the strength of whatever conclusions found, if their hypotheses could be relevant also for homebred terrorism.

The WITS dataset (Worldwide Incidents Tracking System) is operated by the United States National Counterterrorism Center and records incidents from 2004 to March 2009. The main problems in the WITS dataset is inconsistent coding, as well as a limited range of years in which data is collected (Bowie and Schmid, 2011: 298). It has also been discontinued.

4.1.1. Global Terrorism Dataset

The Global Terrorism Dataset is managed by the University of Maryland's National Consortium for the Study of Terrorism and was launched for the public in 2007 for the Study of Terrorism and Responses to Terrorism (START). What sets the dataset apart from many other datasets is that it records domestic, transnational and international incidents of terrorism, without means of separating them. We will return to the domestic vs international divide below.

The original source data for the GTD came from the data collected by Pinkerton Global Intelligence Service between 1970 and 1997, and was originally destined to serve as a risk analysis device for the US private business sector. Our selection of data – value ranges for our 26 countries between 1998 and 2007 – is done with a single intention, to yield the highest possible coding coherence and reliability. The 98-07-period is consistent (GTD Codebook, 2015).

Our selection of reported years (1998-2007) was gathered by the Center for the Study of Terrorism and Intelligence Studies (CETIS) under the supervision of Gary Ackerman and Charles Blair. The team had more than 75 research assistants and the team was fluent in six language groups, including English, French, Spanish, Russian, Arabic and Mandarin. Ackerman and Blair created a GTD Criteria Committee that was composed of an international group of terrorism experts. This committee made improvements in the rigor of the data collection process and the quality of the data collected. The data collection process began by monitoring news aggregators such as LexisNexis and OpenSource.gov. Data collectors submitted all their identified cases to supervisors for review. Problematic cases were referred

back to the Criteria Committee for advice and final review (LaFree, Dugan and Miller, 2015: 19).

4.1.2. GTDs definition and operationalization of terrorism

The GTD definition of terrorism, and thus their foundation for coding, is as follows:

> *«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» (GTD Codebook, 2015: 6).*

Thus, for inclusion, three criterions need be present:

1. «The incident must be intentional – the result of conscious calculation on the part of a perpetrator.
2. The incident must entail some level of violence or threat of violence – including property violence, as well as violence against people.
3. The perpetrators of the incidents must be sub-national actors. This database does not include acts of state terrorism» (GTD Codebook, 2015: 6).

In addition, at least two of these three following criteria need fulfillment for the incident to be recorded in the GTD.

1. «Criterion 1: The act must be aimed at attaining a political, economic, religious, or social goal. In terms of economic goals, the exclusive profit does not satisfy this criterion. It must involve the pursuit of more profound, systemic economic change.
2. Criterion 2: There must be evidence of an intention to coerce, intimidate, or convey some other message to a larger audience (or audiences) than the immediate victims. It is the act taken as a totality that is considered, irrespective if every individual involved in carrying out the act was aware of this intention. As long as any of the planners or decision-makers behind the attack intended to coerce, intimidate or publicize, the intentionally criterion is met.
3. Criterion 3: The action must be outside the context of legitimate warfare activities. That is, the act must be outside the parameters permitted by international humanitarian

law (particularly the prohibition against deliberately targeting civilians or non-combatants)» (GTD Codebook, 2015: 6).

The Global Terrorism Database conceptualization of terrorism does indeed include the most important aspects of terrorism, such as the use of terror to attain a social, political, religious or economic goal, and the use of violence to communicate. The fit between the Academic Consensus (Schmid, 2011b: 61), and the definition and criterion use by the GTD is overall good, but some concerns must be raised.

The dataset does not account for state-actors, which some will deem unfortunate. Still, with the selection of countries we operate with, western and eastern European countries, this is not a theoretical debate that concerns us much. The concept of state actors perpetrating terrorism is more of a concern of states in the throes of civil war, like Iraq from 2005-2006, Syria after the Arab Spring or maybe the state of Israel's warfare against Palestinian peoples and groups.

Criminal activity is not considered terrorism in the dataset. We remember Krishan's argument that we fail to understand terrorism if we exclude heinous violence that criminals perpetrate for economic gain (Schmid, 2011b: 65). If the motivation behind violence or threats is purely economic gain, the GTD coders dismiss it as criminal activity. I would contend that the GTD criterions are conceptually correct in this, and that it is useful to distinguish criminal activity from terrorism.

Furthermore, the third criterion for inclusion in the second part is conform throughout Europe in the selection of years at our disposal, as there was no war internally in Europe or recognized parties in civil wars at the time. The difficult question of "one man's terrorist, another man's freedom fighter" does not apply, and the concept of terrorism is sharpened.

Overall, I argue that the GTD definition and criterions for inclusion are valid and conform well to our theoretical discussion of the fleeting definition of terrorism presented in chapter 2.

4.1.3. Strengths and Weaknesses of the Global Terrorism Dataset

LaFree, Dugan and Miller offer four points of criticism on the Global Terrorism Dataset. LaFree, Dugan and Miller are respectively the director of START and the principle and co-principle investigators of the GTD.

First, the GTD is subject to the vagaries of media reporting in general, and the availability of valid source materials. "If an event database includes few cases from closed regimes such as North Korea we can never say for sure whether it is because no cases occurred or no cases were reported. While the North Korean example may be somewhat extreme, the same principle applies worldwide (LaFree, Dugan and Miller, 2015: 22)". Recall in chapter two that there might be a bias towards democracies in terrorism event data because of the superior reporting skills of media. Since our study makes use of only advanced democracies and EU-applicants and advancing democracies in Eastern Europe, these valid concerns are less immediate in our country selection.

Second, LaFree and his colleagues claim it is difficult to distinguish terrorism from other forms of crime and violence. Especially insurgency, genocide, insurrection and massive civil unrest is difficult to separate from the concept of terrorism (2015: 22). Again, this is a problem for the studies electing to examine countries outside of Europe. Except for Spain and Northern Ireland, there is little to none insurgencies and the like for the European countries in our period. We will return to Spain and Northern Ireland below.

Third, the GTD, like other open source databases, often lack detailed information on important elements of terrorist attacks (2015:23). Again, as our study is reliant on the GTD for information about the number of attacks in a country-year, and its consequences in loss of human life and no more, this point of criticism is not relevant.

Fourth, given the ambition to develop time-series data, the challenges become more even more challenging. Funding may wax and wane, making the collection of data in a timely manner when the events are fresh more difficult (2015:23). Again, our time period is more insulated from this critique, as work with the 98-07 data was more continuous and well-funded (2015: 19).

Furthermore, de la Calle and Sánchez-Cuenca (2011) criticized the conceptualization of terrorism and its impact on data gathering in large datasets. They argued that the elusiveness of the definition of terrorism stemmed from the coexistence of two senses of the term, the action and actor sense and that those terms are not congruent. They studied the implications of this using the GTD1, which is the version of the GTD that covers 1970-97, making its implications at best semi-direct for our study. The argument of de la Calle and Sánchez-Cuenca was that the conflagration of terrorist actors and terrorist actions tends to aggregate civil wars into the study of terrorism. "How can civil wars be disaggregated into their terrorist

and non-terrorist parts? What is the relationship between civil war and terrorism?", was the question they asked (de la Calle and Sánchez-Cuenca, 2011: 457). The results they found are highly relevant for terrorism studies, but due to the nature of our selection, not to us. They found that territorial control was the most important factor separating terrorism from civil war, and only two of their 10 problematic cases of groups classified as terrorist group appear in our study, the ETA in Spain and IRA in the U.K. De la Calle and Sánchez-Cuenca regard both ETA and IRA as belonging to a terrorist nature, as opposed to the eight others[2] (2011: 456). Thus, even though their findings and arguments offer conceptual difficulties for some studies, given our selection of countries we are allowed to sidestep it altogether.

Overall, despite the numerous possible pitfalls we are dealing with concerning the collection of longitudinal data in a field as subject to conceptual disagreement as terrorism, the countries and time-period selected stands up to criticism quite handily. The conceptual flaws are controlled for, and there are no grave problems in sight concerning the gathering and collection of the dataset we intend to aggregate our two dependent variables.

4.2. Operationalizations and coding of the data

4.2.1. Dependent Variable – Levels of terrorism

To introduce our dependent variables on terrorism, we present figure 1 and figure 2 below. These figures show the number of victims of terrorism and the number of terrorism events, respectively. These figures should remind the reader that terrorism is a fundamentally different experience for some countries in Europe. The y axis on the figueres range from 0 to 200. The large value range is deceptive, because terrorism may still be an important aspect in public life, say in Finland in 2008 when nine people died in a terrorism attack, or in Bulgaria in 2000, where two terrorism attacks claimed four lives. Reading figure 1, it is hard to grasp the gravity of those events, because these the graph lines for Bulgaria and Finland only barely bump up from 0, when judging the figure by eye-measurement.

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[2] Those are the Shining Path in Peru, Farabundo Marti Liberation Front in El Salvador, FARC in Colombia, National Liberation Army in Colombia, the PKK in Turkey, New People's Army in the Philippines, the LTTE in Sri Lanka and the Contras in Nicaragua.

Still, most of Europe's terrorism is found in The United Kingdom, Spain and Switzerland in the period. The experience of terrorism is quite different in these countries, where Spain in 2004 lost 193 lives to terrorism. All the while these three countries are exposed to a lot of deadly terrorism, as many as ten countries lost no lives at all in the period[3].

Figure 2 represents another picture of terrorism. Figure 2 shows the number of terrorism events each year. Here there is a higher mean, and less countries with a total 0 count[4].

Which version of terrorism is "real"? Are we forced to rely on the concept of terrorism as expressed in figure 1 or figure 2? We will rely on some previous operationalizations of terrorism, yet we shall end up utilizing both expressions of terrorism in our analysis.

I argue that using both operationalizations of terrorism may make it possible to learn more about the concept of terrorism than if we jettison one. We will return to this discussion below, and see that choosing either in this analysis forces a sacrifice in knowledge.

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[3] The countries without registered casualties of terrorism are Austria, Belgium, Czech Republic, Denmark, Lithuania, Poland, Portugal, Romania, Slovenia and Sweden.
[4] Only Portugal, Lithuania and Romania experienced no terrorism events at all in the period.

Figure 1. Victims of Terrorism, 1998-2007

Graphs by Country
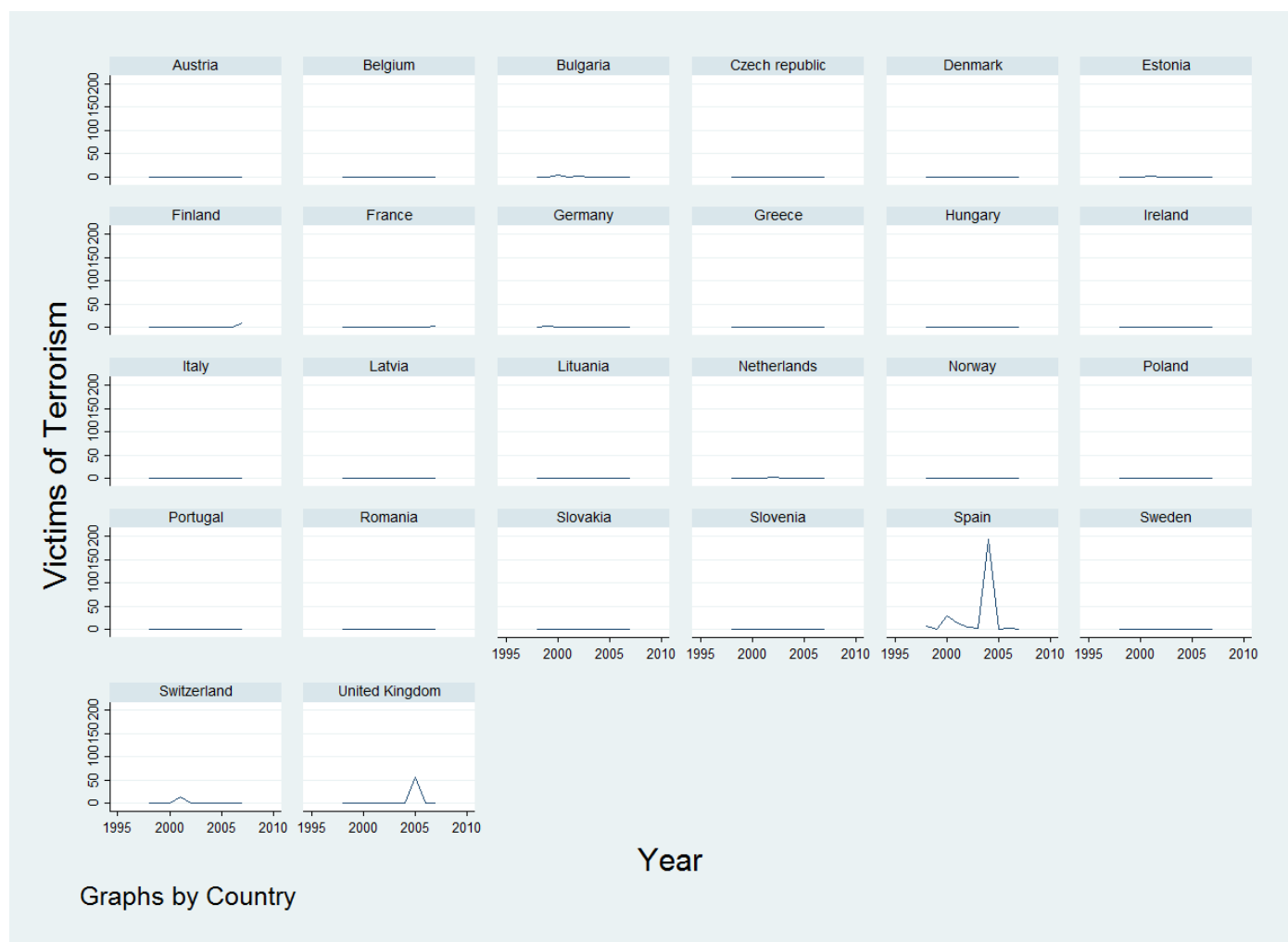
Figure 2. Number of Terrorism Events, 1998-2007

Graphs by Country
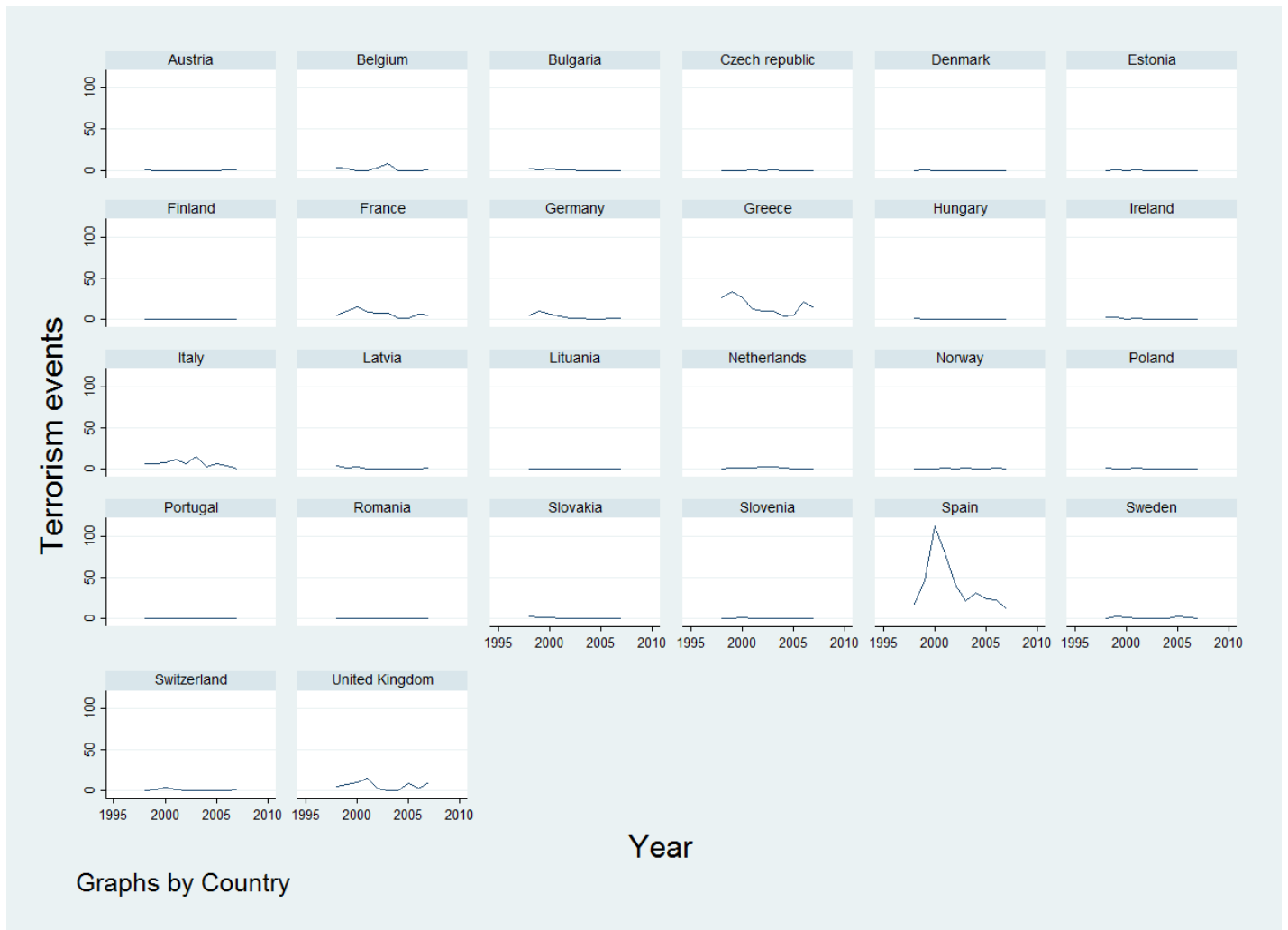
As we saw above, our dependent variable can be operationalized in a number of ways, with different conceptual strengths and weaknesses we should be aware of. We will follow Krieger and Meirrieks and count the number and attacks and the number of deaths. This would give us both the scope (number of events) and the intensity (number of killed) of terrorism (Krieger and Meirrieks, 2010: 3). Another way to think about this separation is in the form of noise terrorism and deadly terrorism. There are differences of opinion in the field as to the most valid operationalization of terrorism; these are often concerned with the nature of terrorism itself.

Another way to approach the subject is to separate between fatal and non-fatal terror attacks. This would follow Qvortrup and Lijphart and their operationalization of terrorism. They argue that "a simple count of all terrorist attacks equates massive headline-grabbing events like

suicide bombers in central London in July 2005 with trivial and non-fatal incidents like a harmless chemical agent sent to an airport in the Belgian town of Ostend in June 2004." (Qvortrup and Lijphart, 2014: 447)

While this argumentative direction does seem interesting and valid, it diminishes all terrorism that is not deadly, which in itself could be understood as a conceptional flaw. Qvortrup and Lijphart would like to separate the trivial from the essential, but in the European countries in our selection, the nature of terrorism is often much closer to the "trivial", while the dramatic, such as the London and Madrid bombings are the exception. Still, "trivial", or non-deadly terrorism is still terrorism, and unless we have insight into every non-deadly event, how can we know if it is not a dramatic event that was foiled or stopped in some way, making its threat of violence as valid as a successful attack yielding casualties? As we saw before, in the theoretical chapter, fear is one of the most important aspects of terrorism (Engene, 2004: 8), and our struggle to quantify fear does not, I argue, allow us to disregard the terrorism events that do not yield casualties. Still, making some distinction is favorable, such as deadly terrorism and noise/unrest terrorism.

In this study, as we have seen above in chapter 3 on methodology, we will utilize a count variable as our dependent variable. We aggregate information found in the Global Terrorism Database to count the number of terrorism events and the number of terrorism victims in a country-year. Neither variable is transformed or recoded in any way.

events (The number of terrorism events in the country-year)

killed (The number of victims of terrorism in the country year)

4.2.1.1. A note on International and Domestic Terrorism, and causality

The international-domestic question has been a confounder of results and is an easy target of causality criticism in the field of terrorism studies. Unless the international-domestic issue is resolved the question looms: "How can within-country variables explain the actions of outside-country actors?" LaFree and collegues have some answers based on their intimate knowledge of the Global Terrorism Dataset. "People care about whether an attack is international or domestic because they assume that each has drastically different causes and

effects … it is surprisingly complicated to distinguish between instances of these two types of terrorism" (LaFree, Dugan and Miller, 2015: 147).

Scholars have tried, and often failed, to conceptualize international terrorism before using some simple assumptions, and more complicated ones. A terrorism event may have three different nationalities associated with it: a) the nationality of the attackers, b) the nationality the attack occurred within, c) the nationality of the victims. One major problem is that information on two of these points is often lacking or absent (LaFree, Dugan and Miller, 2015: 146). One example of previous attempts of classifying will suffice: ITERATE uses a fairly inclusive definition, that "through the nationality or foreign ties of its perpetrators, its location, the nature of its institutional or human victims, or the mechanics of its resolution its ramifications transcend national boundaries". The Global Terrorism Dataset has never distinguished between the two types of terrorism.

LaFree, Dugan and Miller attempt to distinguish between international and domestic terrorism using three categories: logistically indernational/domestic, ideological international/domestic and ideterminate. Logistically, an attack is international if borders need to be crossed to carry it out, while an attack is ideologically international if the perpetrator/target nationality differs, it is also classified in this way if the perpetrators have multiple nationalities where one conforms to the target nationality. Descriptive statistics tell us that more than 45 per cent of incidents from 1970-2012 are of unknown category due to missing data, while 38 per cent are verifiably domestic and 17 per cent verifiable international (ibid: 165).

Most terrorist attacks are domestic, but there are a large element of unknown here. Still, delving deeper into LaFree's logistically international terrorism we find some of our outlier cases, Northern Ireland and Corsica (France). LaFree consideres a Corsican group in France to be logistically international, likewise are Northern Ireland groups in the U.K. Still, even though these groups are logistically international because those terrorist need to cross physical borders, they are ideologically domestic. Similarly, ETA are considered ideologically international, as they attack targets of a different nationality (attacking spaniards in Spain and french in France, but less basque-peoples). Still, this discussion is a far cry from the causal restraints imposed if we imagine most relevant attacks on a country A in Europe originate from country B in central Asia or the Middle East.

As a precaution we have run the models we discuss in chapter 5 both with and without Northern Ireland and Corsican terrorism, producing insignificant changes to the models. The

discussion on the international/domestic issue leads me to argue that an eventual impact on the proposed causality is neglible, as demonstrated in our models. Most attacks are domestic, but because of 11th of September 2001 people tend to view international terrorism as more deadly and grave. Further, international attacks have, despite public perception, declined steadily and markedly since the 1970 to today (LaFree, Dugan and Miller, 2015: 171).

Table 3. Hypotheses Overview.

Hypotheses	*Hypothesis description*
Hypothesis 1a – Poverty	*Higher GDP per Capita lowers levels of terrorism.*
Hypothesis 1b – Income inequality	*The higher the income inequality in a state the higher levels of terrorism.*
Hypothesis 2a – Population size	*An increase in population size will lead to an increase in the levels of terrorism.*
Hypothesis 2b – Young males	*Higher percentage of young males is associated with higher levels of terrorism.*
Hypothesis 2c – Youth unemployment	*The effect on terrorism by young males is reduced with lower youth unemployment.*
Hypothesis 3a – Majoritarianism	*More majoritarian democracies experience higher levels of terrorism*
Hypothesis 3b – Ethnic Fractionalization	*Social and religious fractionalization increases the scope and intensity of terrorism, and interaction with higher levels of cross cuttingness is expected to decrease it.*
Hypothesis 4 - Participation	*Higher levels of participation lead to lower levels of terrorism.*
Hypothesis 5a – NATO	*Non-NATO members suffer lower levels of terrorism.*
Hypothesis 5b – Foreign Policy	*Higher number of soldiers killed is indicative of aggressive foreign policy. We expect it to yield higher levels of terrorism.*

Before we enter into the operationalization of our independent variables, let us review our hypotheses shortly. Table 3 gives us an overview of our hypotheses. This analysis offers four approaches to understanding the causes of terrorism on the aggregate level, namely an economic approach (hypotheses 1a and b); a demographic approach (hypotheses 2a, b and c);

and a social and political approach (hypotheses 3a and b, 4, 5a and 5b). We shall start with the economic approach.

4.2.2. Economic Variables

4.2.2.1. Hypothesis 1a – Level of GDP per Capita

Both population and GDP per capita are collected from the World Bank. GDP per capita is a measure for the total production within a state for a given time-period, usually yearly. GDP consists of the private consumption, investments, public expenses and net export. Many organizations publish statistics on GDP per capita, but studies have shown that the source of this measure rarely affect the results, since data is consistent between data sets (Rydland, Arnesen and Østensen, 2008: 25-28).

A ladder test in Stata determined that GDP per capita was best transformed into a logarithmic variable.

GDP per capita (GPD per capita log transformed)

4.2.2.2. Inequality using GINI – Hypothesis 1b

As per our theoretical discourse, inequality has been one of the later suspects in the causes of terrorism-debate. We will operationalize inequality through a known and much used measuring tool, the GINI coefficient. The Gini Index was developed by Gini in 1912, and it is strictly linked to the representation of income inequality through the Lorenz Curve. In particular, it measures the ratio of the area between the Lorenz Curve and the equidistribution line to the area of maximum concentration (Liberati, 2006). Conceptually, Gini-coefficients are easy to understand as they range from a theoretical 0, symbolizing perfect equality and 100 (usually 100, but often simply as 1), symbolizing perfect inequality.

This data represents a compilation and adaptation of Gini coefficients retrieved from nine sources in order to create a single "standardized" Gini variable. The data is collected from the World Bank's ATG-dataset (Milanovic, 2014). As data on inequality is scarce in many countries, we are also forced to supplement this dataset with other data sources, but we begin with those drawn from in ATG.

As our data only concerns European countries, only seven of the nine data sources the ATG-dataset references are relevant to mention here: Luxembourg Income Study (LIS), Survey of Income and Living Condition (SILC), World Bank's Eastern Europe and Central Asia (ECA), World Income Distribution (WYD), POVCAL,World Bank-based dataset that covers the period 1978-2011 and includes 124 countries, World Institute for Development Research WIDER (WIID1), and Individual data sets (INDIE) as described in Milanovic (Milanovic, 2014: 2).

The codebook of the data sources stress the fact that the dataset consists only of the Gini coefficients that have been calculated from actual household surveys. It uses no Ginis estimates produced by regressions or short-cut methods (Milanovic, 2014: 1). Based upon more than 4 000 observations the datasets covers approximately 73% of our country-years using the standardized variable "Giniall".

The ATG dataset sources the observations to build the new, standardized variable in a preference tree.

"When there are conflicts such that two or more datasets provide Ginis for the same country/year (and these Ginis come from nationally representative household surveys), we use the approach described as "choice by precedence", which in our view reflects the reliability, degree of variable standardization, and consistency of geographical coverage of each dataset, to create a "standardized" Gini. The newly created variable is called Giniall (Milanovic, 2014: 4)."

The ATG-dataset does offer a troubling caveat in the utility of its standardized variable.

"First, the dummy variables indicate whether the welfare concept used to calculate Giniall is income or consumption (Dinc), whether it is on a net or gross bases (Dgross), and whether the recipient unit is household or individual (Dhh). Thus, in the empirical work, an adjustment for each of these characteristics is desirable. Giniall should not be displayed or run in regressions, except in special circumstances, alone, that is, without any adjustment or awareness of the

underlying concepts … Secondly even if the observable characteristics are coded the same, there could still be differences as, for example, in the way benefits from owner-occupied housing or home-consumption are imputed, for which we cannot adjust (Milanovic, 2014: 8)".

These caveats were indeed troublesome, and merited a vetting of the observations in the variable crafted based on the "Giniall"-variable in the ATG-dataset. An examination of the countries and years of analysis in our working dataset reveals uniformity in the dummy variables. Every country-year in our analysis is based on income and not consumption, and being based on net and household.

Still, covering 73% of our country years are not enough to proceed, so we have to supplement the data from ATG with other sources, and handle the methodological hurdles that entails.

The countries with the most incomplete value ranges were substituted with data from three other sources; Eurostat, The European Commission Househould Value Survey[5] and the Transmonee project[6]. These three data sources were compiled from the World Income Inequality Database, managed by the United Nations University (UNU-WIDER, 2014). For one specific country, Sweden, we use the GINI project (GINI, 2015).

The ambition when collecting these inequality data measures has been to keep the data as reliable as possible. Using only the ATG dataset creates to many missing values, while using also values from other sources does not necessarily let us of the hook. The data is collected in a similar, but not a uniform way. All sources only use income data, though whether it is before, or after tax varies. Adjustment to domestic type of taxation also varies. All sources use the person as the unit of analysis, adjusted by household, yet Eurostat and the EC Household Value Survey also adjust for the OECD standard household.

The Gini-data is rife with potential problems, we do have within-country coherence in the values, but lacking between-country coherence will make the Gini-variable useless. Luckily we have statistical tools that can warn us if we are headed down an unsafe road. A correlation analysis was performed to check if the new data sources were highly correlated or not very correlated with the main source, the ATG-dataset. The result was a Pearsons R of .908. This is

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[5] The methodology of Eurostat and the EC Household Value Survey was identical. The countries where data is drawn from here was Austria, Belgium, Denmark, Greece, Ireland, Netherlands, Norway, Portugal.
[6] Data on the Czech Republic is drawn from the Transmonee Project.

a very high correlation, and the values from the different datasets are considered reliable and valid.

As the Gini-coefficient in its essence is expressed as a percentage, it will not be transformed into a more fitting datatype.

Gini-score (Gini-scores for the country-year)

Table 4. Averages of Gini-coefficients, 1998-2007			
Austria	25.4	Latvia	35.4
Belgium	27.8	Lituania	33.7
Bulgaria	32.0	Netherlands	26.8
Cz. Rep.	23.5	Norway	26.9
Denmark	23.4	Poland	34.7
Estonia	35.2	Portugal	37.0
Finland	25.2	Romania	32.2
France	27.5	Slovakia	26.3
Germany	26.8	Slovenia	26.1
Greece	33.8	Spain	32.8
Hungary	30.4	Sweden	26.9
Ireland	31.3	Switzerland	32.2
Italy	31.1	U.K.	37.0

4.2.3. Demographic Variables

4.2.3.1. – Hypothesis 2a – Population levels

Population figures from each country-year were sourced from the World Bank.

A ladder test shows population would be best log-transformed.

Population (Population figures logarithmically transformed)

4.2.3.2. – The Young Male Population – Hypothesis 2b

Data on the percentage of Young Males in a population is compiled using population data from the Organization for Economic Co-operation and Development. They predict and record population figures for all our countries. The data is not drawn directly from the dataset, but constructed from raw data in the dataset, meaning that the OECD data does not have readymade data on our intended segment, but rather raw data for the age group of males 20-24, and 25-29 et cetera.

The construction of the data involved gathering the total population of a given country in a given year, then calculating the percentage using the sum of the 20-24 and 25-29 segments of the population. The result was a percentage varying between a low six percent to a high eight percent in any given year. Urdal proposes that the operationalization of youth bulges should be done by calculating the share of youths against the total population minus the youths. He claims that calculating by total, as amongst others Fearon and Laitlin (2003) and Collier and Hoeffler (2004) have done may be the reason they did not find significant results (Urdal, 2006: 608). Urdal does not supply any argument as to why Fearon and Laitlin's operationalization is problematic.

The young male population variable is operationalized as meaning the segment of the male population between ages of 20 and 29. The demarcation is slightly more utility than theoretical precision. If the OECD data was organized in such a way that we could include males of the age of 18 and 19, that would be slightly more in line with our image of the

"tinderbox of society" we discussed in the theoretical outline. Still, the distance of abstraction is very low, and the operationalization of the variable is considered safe and valid.

A ladder test counsels us to transform the young-male-population variable into a log-variable.

Young Male Population (Males between 20-29 as a share of total population)

4.2.3.3. – Hypothesis 2c – Youth unemployment

We stated in the theoretical chapter that we wanted to investigate if economic predictors influenced the effect of young males on the levels of terrorism in a state. In order to do so, I gathered the percentage of youth unemployment for every country using the World Bank. This variable is clear cut economic, but it will be used to examine a demographic variable, as stated in the theoretical chapter.

Youth Unemployment (Percentage of youth unemployment in the country-year of analysis)

4.2.4. Social and Political Variables

4.2.4.1. – Majoritarianism – Hypothesis 3a

We create the variable on Majoritarianism using factor analysis as it was used by Qvortrup and Lijphart (2013).

Qvortrup and Lijphart argue that consensus and majoritarian democracies can be defined in many ways and that traditionally, scholars have distinguished between countries that have either first-past-the-post electoral systems or not. "However, this measure is often seen as being too crude as it does not take such issues as district magnitude into account. In order to avoid the methodological problems singled out in the literature, single figure, which combines all the aspects of consensus democracy, is desirable. Such a measure can be developed using factor analysis (Qvortrup and Lijphart, 2013: 478)".

This approach argues that the distinction between consensus and majoritarian democracies can be measured using five institutional differences, which are:

1. One-party majority cabinets versus broad multiparty coalitions.

2. Executive dominance versus executives–legislative balance of power.

3. Two-party versus multiparty systems.

4. Majoritarian electoral systems versus PR.

5. Pluralist and competitive versus corporatist and coordinated interest groups systems.

The range of this variable runs from -1.67 to 1.49, where a higher number indicates a more majoritarian system and a negative number a more consensus based system. The variable is time invariant.

Our greatest problem when using the Index of Majoritarian Democracy in this study is the limitation it would impose on our sample. The index does not include any of our countries from eastern Europe, limiting our selection from 26 to 16 countries. Results found using this variable would be harder to believe than other result coming from a different, more robust variable. Furthermore, there is less terrorism in the dataset originating in Eastern Europe, and thus we clear away a lot of the 0-observations that come natural to the selection, sending the analysis towards being open to criticism of selecting on the dependent variable.

Index of Majoritarian Democracy (Index of Majoritarian Democracy – time-invariant)

4.2.4.1. – Ethnic and religious fractionalization – Hypothesis 3b

Selway (2011) wanted to correct for the single-dimension problems experienced when studying ethnic diversity and its effect on civil war. He claimed that one reason for the inconsistency of findings relating single-cleavage characteristics to civil war is that a major piece of information is missing that relates them to the underlying mechanisms: how one characteristic is structured in relation to other salient cleavages (Selway, 2011: 117). He investigated how ethnic identity is structured in relation to religious identity (and vice versa).

"Whether one chooses to draw on the preferences, collective action or in-group altruism logic, fractionalization (or bipolarization) alone fails to capture the underlying mechanisms relating social structure to civil war. Consider two societies with identical levels of religious and ethnic fractionalization and bipolarization. For illustrative purposes, consider two societies with two ethnic groups and two religious groups of equal size. In the first society, ethnic group a belongs entirely to religion j, and ethnic group b belongs entirely to religion k. In contrast, in the second society, both ethnic groups are equally divided among the two religions. Looking solely at fractionalization or bipolarization measures, we would mistakenly conclude that both societies have equal potential for conflict. This is incorrect because the second society is more likely to have similar preferences between its two groups due to their belonging to the same religion. In contrast, in the first society, preferences become more polarized between ethnic groups due to the religious split". (Selway, 2011: 118)

The data Selway used to generate these indexes are all gathered from national public opinion surveys. The data is coded from 0 to 1 (e.g. 0.67). The variable is time-invariant, along with the above variable on Majoritarianism. In order to make the coefficients more understandable I recoded the data to go from 0 to 100. This should give us more readable results.

Ethnic Fractionalization

Ethno-Religious Cross-Cuttingness

4.2.4.2. – Voter Turnout – Hypothesis 4

Voter turnout was, as we saw in the theoretical chapter, a preferred way to operationalize efficacy in politics (Li, 2002: 280-281). We gathered the data for voter turnout from the IDEA database, created by the International Institute for Democracy and Electoral Assistance (International IDEA), and more specifically, their specialized Voter Turnout Database (IDEA 2015).

At the outset, the usage of this data contains some potentially problematic considerations. First and foremost, two of our 27 countries have mandatory voting, and if we're not careful about our methodologic choices, that could bias our results. Belgium and Greece have

mandatory voting, and thus a far higher participation percentage than the other countries in our data. Since our regression method analyses the effect of our independent variables on the dependent variable only from within, country-to-country differences do not have any effect. The increase or decrease of participation in these countries will only affect the dependent variable in these countries, not the rest of the countries. This will allow Belgium and Greece to be outliers without skewing the results.

Furthermore, the dataset originally included presidential elections, parliamentary elections and EU parliamentary elections. The EU elections was discarded immediately, as turnout in these elections are notoriously lower than in the national legislature. If kept, they would create unnaturally large variance within countries. The presidential elections were a tougher decision to cut, but the rigors of quantitative analysis made it all the easier. Many countries have both presidential and national parliamentary elections in the same year. This causes the data to include a great number of non-unique observations. The data kept in the dataset thus is purely those of turnout in national legislatures.

At this point it is also healthy to conduct a small discussion on levels of abstraction. Voter turnout is an abstraction of a larger assumption: voters who believe in the system will choose to vote, while those who do not believe in the system choose not to vote. Therefore turnout is an approximation of citizens' belief in the efficacy of the political system. Our further assumption, as stated in Hypothesis 4 is that less belief in the political system leads to terrorism. Levels of abstraction are a necessity in political science (Gerrig, 2012). If sound data were available one might choose to utilize value surveys asking questions of the belief in the political system, and we might end up with a more direct operationalization of our assumption. Turnout can also be imagined from another angle. High turnout does not only presumably say something about voter's belief in the system, but also it could be a more objective benchmark for the efficacy of the system in general.

Voter turnout is a percent variable, and will thus not be transformed.

Voter Turnout (Turnout in national legislative elections expressed in percentages)

4.2.4.3. – Real Politik – Hypotheses 5a and b

Operationalization of hypotheses 5a and 5b is challenging. First we had to create a dummy variable pertaining to NATO-membership for the 27 countries. Here information is readily available and sound, using the organization's own website (NATO, 2015). Many of our countries, like Sweden and Switzerland, were never members and others, like the U.K. and Norway are part of the founding member groups. This leaves the rest of the states in two induction groups, the 1999 group including Poland, Hungary and Czech Republic, and the 2004 group including Estonia, Latvia, Lithuania, Romania, Slovakia and Slovenia. Both the 1999 and the 2004 group had admissions into NATO formalized by March, counting 1999 and 2004 respectively as the first year of membership in our dataset. Now, hypothesis 5a was not very challenging, but our assumptions about hypothesis 5b from our theoretical chapter were.

Briefly stated, we posited in chapter 2 that the real military contributions of a NATO-member could foment discontent and anger with that state abroad. While a good idea on paper, it becomes clear when examining the numbers that it will not garner sensible and intelligible results. The nature of the armed forces has changed within our timeframe of analysis. The general trend of annual average capability, that is active duty military personnel in our member countries, has halved (NATO, 2005). This trend is an absolute denominator for the member countries, and is reflected on another measure found in the same data material, the number of military personnel expressed as a percentage of the active workforce in the given state. If there really is an effect to be found within the dynamic of the alliance of NATO, it seems fruitless to search within military contributions in general, as once suspected.

The theoretical justification for the NATO-operationalization was connected to real politik and the idea that terrorism targets states that are more outspoken and active in foreign politics. Another way to examine this could be a dummy variable expressing the different levels of participation in the worlds more controversial interventions. Among these are the different parts of "Operation Enduring Freedom" and the Iraq War of 2003-present.

We have a number of choices when it comes to this operationalization. What we want to capture is the real commitment to interventions shown by a state in our sample. Economic contributions to "Enduring Freedom" and the like do not cut it, when we consider what may provoke reactions from an international public. Neither does the contribution of "office

soldiers". Deployment figures does give us some kind of metric of actual support, but the forces that actually does the fighting are the forces that would most likely stick in the minds of terrorists.

I have chosen to operationalize the second part of this variable in the form of allied casualties in "Operation Enduring Freedom" and "Operation Iraqi Freedom" from 2001 to 2007. Soldiers killed in battle with insurgents and terrorists does provide a metric as to commitment. This metric gives us the possibility to avoid determining whether to classify a contribution as "office soldiers" or "real soldiers", as some of the deployments in Afghanistan may have started out without a mandate for combat operations, but became dragged into it by circumstance. The data is collected using icasualties.org (Icasualties, 2015). First the data was punched manually, but after checking the individual events behind the numbers it became obvious that every event had to be cross-checked. The data includes accidents and suicides as part of casualties in the two war theatres, also so-called "Blue on Green"-fire. Another item making tabulating the data difficult are the events that have not been fully released yet. Events where all information but name of the killed soldier is "unknown" or "not reported" stays in the dataset. Most states contributed Special Forces, and information releases on these events are scant. This may reduce the reliability of the data, yet with the information available they will be counted among casualties from hostile situations.

The Casualties variable is run as a simple count variable, while NATO-membership is a dummy variable.

casualties (Number of killed servicemen and women in Iraq or Afghanistan each year)

NATO-membership (Is the country a member of NATO in the country-year?)

4.3. Overall Strength of the Data

The overall strength of our data should be considered strong. Except a few variables, which I will comment below, the data and operationalizations are all sourced from highly credible sources, clearly documenting their methods and being honest with possible shortcomings.

Two variables do not come from a background of peer review, and that is the operationalization of the foreign policy hypothesis, hypothesis 5a and b. While I consider the

operationalization of 5a to be simple and strong, 5b does not have 5a's simplicity. Some may argue that the number of deaths in international conflicts does not necessarily reflect a country's commitment to an aggressive foreign policy. I argue above that it is, though the causal link implied is far from direct, I argue that it is a valid approximation.

The operationalization of voter turnout as a theoretical approximation of efficacy in politics is one operationalization that I have more limited faith in. It is judged to be valid by other scholars, but a better approximation would perhaps be an aggregate of the "trust in parliament"-question posed in the European Value Survey. It has been aggregated by the Quality of Governance Dataset, but it contains data for less than half of our country-years, and we are forced to accept the turnout-operationalization.

The rest of our operationalizations we derive from respected authors acclaimed in their respective field, and their corresponding data I judge to be trustworthy.

In the next chapter, Chapter 5, we finally begin our analysis. We start the chapter with some descriptive statistics to get an overview of the data, and shortly thereafter introduce some criteria utilized by quantitative researchers for objectively judging statistical models. I will present three models based on the two dependent variables *events* and *killed*, and the third model is an outlier controller

5. Analysis

We present three models in order to evaluate our hypotheses in this chapter. After briefly presenting an overview of how the models are organized we will turn to some descriptive statistics in order to familiarize the reader with the data.

Model 1 *events* is the model with the number of terrorism events as the dependent variable. The model will appear in four variations, Model 1 A-D.

Model 2 *killed* is the second model, and has the number of victims of terrorism as its dependent variable. Model 2 is also specified in four variations Model 2 A-D.

The third and final model is Model 3 *Outliers* which only analyzes Western Europe.

I will summarize and discuss these models in turn. To round out the chapter I will turn my attention to the impact these models have on my individual hypotheses. The 10 relationships discussed in chapter 2 on theory will be evaluated based on the evidence found in the data.

5.1. Descriptive statistics

I supply here an overview of the descriptive statistics for our dependent variables and the independent variables.

The first thing to draw attention to is the number of observations in Table 5. The variable *Index of Majoritarian Democracy* on majoritarianism only has 160 observations as opposed to the 260-standard. This precludes us from using this variable in Models 1 and 2, because it is in reality almost an outlier control. The 100 observations missing are the 10 Eastern European Countries. The hypothesis on majoritarianism may only be tested in the outlier-controlling model, Model 3.

The second aspect worthy of our attention in Table 5 is the number of observations in Gini. It has 235 as opposed to 260. The fact that Gini only has 235 observations means that we must always include Gini the different model specifications. We rely on AIC/BIC tests, as we explain below, as a measure of model goodness-of-fit. If we used models with different

numbers of observations the AIC and BIC tests would mean nothing. This is a major part of the reason why every model is specified with Gini as an independent variable.

Table 5. Descriptive Statistics of Variables (indicates dependent variables)*

Variable	Obs	Mean	Std.Dev	Min	Max	Variance
events* **Number of terr.events**	260	3.5	10.48	0	112	109.84
killed* **Number killed in terr.events**	260	1.40	12.63	0	193	159.55
Young Male Population **Logarithm of young male population**	260	1.96	.11	1.74	2.18	.013
Gini-score **Gini-coefficients**	235	30.12	4.49	19.7	39.5	20.19
Voter Turnout **Turnout % in parl.election**	260	69	12.12	40.57	91.6	147.09
GDP per capita **Logarithm of GDP per capita**	260	9.69	.93	7.36	11.33	.87
Population **Logarithm of Population in 1000s**	260	9.25	1.09	7.20	11.32	1.20
NATO-membership **Member of NATO?**	260	.63	.48	0	1	.23
Casualties **Number of Casualties in Iraq and Afghanistan**	260	1.28	6.27	0	74	39.39
Ethno-Religious Cross-Cuttingness **Ethno-Religious Cross-Cuttingness**	260	70.45	15.14	34.58	100	229.49
Ethnic Fractionalization **Ethnic Fractionalization**	260	16.44	16.33	1.12	54.07	266.93
Youth Unemployment **Youth unemployment 20-29**	260	17.50	8.52	4.3	43.1	72.61
Majoritarian Democracy **Index of Majoritarian Democracy**	160	-.49	.91	-1.67	1.49	.83

5.2. Judging the Models

When specifying models in quantitative methods there are few objective criteria on whether a model should be as parsimonious as possible or include as many possible variables as is defendable. Simply put, some scholars support the view that models should be parsimonious and others that it should contain all potentially relevant variables. It is tempting to follow Midtbø in that an over specified model is superior to an underspecified model (Midtbø, 2012: 123).

How one displays a model in the literature is to some degree a matter of taste. Some scholars set up a wide ranging model, then pluck away non-significant results, others do it the other way around, setting up parsimonious models and adding to them. The models used in this study have been run in every possible combination to ascertain if the significance and strength of the coefficients are the result of a spurious relationship or not. This analysis chapter will only display the ten most relevant models, and each table will lead with the independent variables that have shown consistency throughout every model. The judging of which model has most merit can luckily be assisted by post-estimation tests. Post estimation of a time-series negative binominal regression is more difficult than other regression tools in that very few post-estimation tests are available, but some are present that we may lean on.

The log likelihood function is one goodness of fit-test that is available to us. The -2 log likelihood corresponds to the "sum of squared errors" and contrary to AIC/BIC it can be used as a stand-alone goodness of fit test (Skog, 2004: 268). A -2 log likelihood closer to zero means a better model. Our log-likelihoods, which are in the ranges of -150 to -300, signify good models, as the values may range into the thousands depending on the size on N. The value of the log likelihood numbers is that it brings us an independent measure of how good the model is outside its own constraints (Skog, 2004: 368). In the absence of a Pearsons R or pseudo R, that is, an independent test of the model, the log-likelihood function gives us valuable and welcome information. To separate between our models and find the best specified ones, we turn to Akaike's Information Criterion (AIC), and to a smaller degree, the Bayesian Information Criterion (BIC).

The Aikaike Information Criterion is now likely the most used fit statistic displayed in statistical model output. The information tests are comparative. The AIC is based on the interaction between log likelihood and the intercept (Hilbe, 2013: 68).

Figure 3. Two Equations for AIC, upper is (a), lower is (b).

$$\text{AIC} = \frac{-2\mathcal{L} + 2k}{n} = -\frac{2(\mathcal{L} - k)}{n}$$

and

$$\text{AIC} = -2\mathcal{L} + 2k = -2(\mathcal{L}-k)$$

L is the log likelihood and k is the number of predictors including the intercept. n represents the number of model observations. In both parameterizations 2k is referred to as the penalty term which adjusts for the size and complexity of the model. Since more parameters make what is observed more likely, -2L becomes smaller as k increases. This bias is adjusted by adding the penalty term to -2L (Hilbe, 2013: 68-69). Stata does not correct for the size of n so in our case, the expression of AIC (b) is correct. Not accounting for N is not judged to present a problem, though, as we only use this post-estimation test to separate good-from-better models.

In the following regression results we are paying the closest attention to AIC, and less so to BIC because the latter's reputation to be overly critical towards larger models (Midtbø, 2012:103). Keep in mind that AIC and BIC are not relevant for comparing models with different dependent variables. Therefore these post-estimation tests will have no contribution for whether model 1 or 2 are the strongest, only which of models 1 A, B, C or D are the strongest. Guided by the above discussion of log-likelihoods though, model 2 is stronger than 1, yet this appears more as a compliment to model 2 *killed* than a criticism of model 1 *events*. Should the two have contradictory results that we cannot reconcile with theory, the tests favors model 2.

In closing, a note on judging the coefficients let alone the models. Sometimes the judging of the strength of coefficients may be hard to visualize. This is helped greatly using logarithmically transformed variables. The coefficients of a log-transformed variable signify the effect on *y* given a one percent increase in *x*. Thus we are able to understand the variable as a percentage, making the results of a regression that much more readable (Midtbø, 2007: 123).

We now turn to our first model, Model 1, which has the number of terrorism events as its dependent variable. Results are displayed in Table 6 below.

5.3. Results of regression models – Model 1 *events*

Table 6. Comparison Model 1 – *events*

events	Model 1-A Coeff	St.err	Model 1-B Coeff	St.err	Model 1-C Coeff	St.err	**Model 1-D Coeff**	**St.err**
Young Male Population	.96	1.39	3.76*	1.77	6.79***	2.61	**7.49****	**2.60**
Gini-score	.00	.04	.04	.05	.04	.04	**.04**	**.04**
Population	.73**	.22	1.13***	.25	.99***	.29	**1.06*****	**.26**
GDP per capita	-1.28***	.31	-1.23***	.34	-1.45***	.34	**-1.38*****	**.35**
NATO-membership			-1.11**	.43	-1.14**	.45	**-1.05***	**.43**
Casualties			-.01	.01	-.01	.01	**-.01**	**.008**
Youth-Unemployment			-.04	.02	-.45	.26	**.47**	**.26**
Ethno-Religious Cross-Cuttingness					.03	.03		
Ethnic Fractionalization					-.01	.00		
c.Ethno-Religious Cross-Cuttingness# c.Ethnic Fractionalization					-.0006	.0001		
c.Young Male Population# c.Youth Unemployment					-.24	.13	**-.24**	**.13**
_cons	4.61	5.81	-4.79	6.11	-9.98	7.85	**-10.50**	**6.81**
ln_r _cons	-.13	.32	-.13	.32	-.17	.32	**-.18**	**.33**
ln_s _cons	-.82**	.32	-.89**	.32	-.99***	.29	**-.98*****	**.31**
N	235		235		235		**235**	
AIC	771		764		763		**762**	
BIC	795		798		811		**800**	

Standard errors in second column

$^{(*)}p < 0.1$, $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

5.3.1. Summary of Model 1 *events*

Distinguishing between the strength of models A-D is very difficult, and requires a very open discussion on what criteria we judge them by. Model 1-A is the most parsimonious model in the set, and shows strong coefficients for both population and GDP per capita. Both variables are strongly significant.

The more specified model 1-B seems clearly favorable to A, though, as the drop in AIC is significant. A drop in 7 in the respective AIC score is significant and provides strong support for the argument that Model 1-B is the stronger model. BIC predictably increases with every new variable. The inclusion of the dummy for NATO membership, the number of casualties in Iraq and Afghanistan and the rate of youth unemployment clearly impacts the model. When these variables are controlled for, young male population becomes significant and the significance and strength of population increases. In addition, NATO membership becomes significant with a moderate coefficient.

Model 1-C further decreases the AIC with one single point, but it is unclear whether or not this should be taken to mean that 1-C is a better model than B. Model 1-C has the strongest significance tests and coefficients, and the same AIC as C. This model includes two suspected relationships in that we assumed, as per chapter 2.5.1, that ethnic fractionalization would have significance if it interacted with ethno-religious cross cuttingness. Model 1-D shows that it does not. Both the individual variables and the interaction effect are highly insignificant.

At the same time, as we described in the theoretical chapter, we assumed there might be an interaction effect between the rate of youth unemployment and the young male population. Model 1-D shows that not only is there such a relationship, but it goes in the opposite direction of our theoretical expectations. When young male population is restricted to 0, which is impossible, youth unemployment almost becomes significant, which obviously does not mean anything, as there are no males to register as unemployed. At the same time, when youth unemployment is restricted to zero, young male population has a very strong effect on terrorism events.

Figure 4. Depicting the Effect of Youth Unemployment on Young Male Population
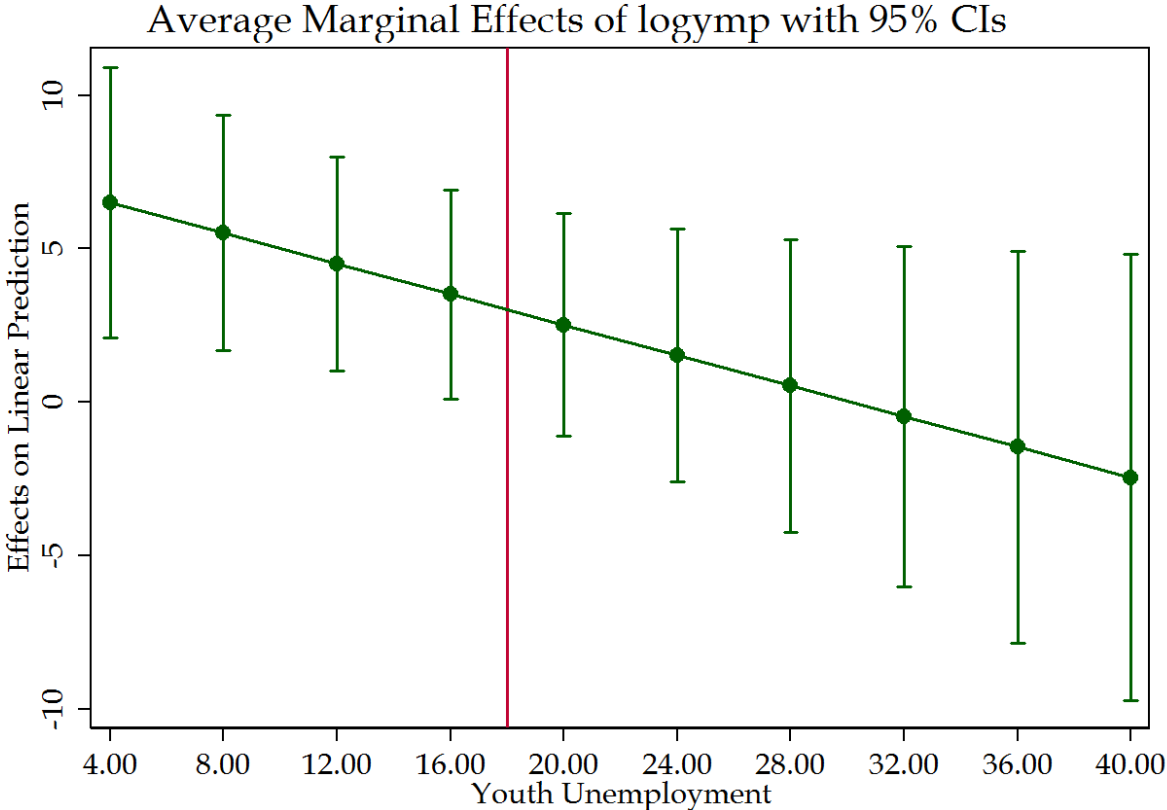
Figure 4 shows how the increase of Youth Unemployment decreases the strength of young male population's coefficients on terrorism events. The vertical line at 18 per cent youth unemployment indicates significance levels. The left side of the vertical line on figure 4, from 4 per cent to 16 per cent, is the statistically significant instances of young male population's effect on terrorism events, given the value of young male population. The right side of the graph are the levels at which young male population is statistically insignificant. The significance tests of young male population from 4 per cent to 16 per cent are all significant at a below fem per cent level. At 20% the coefficients are no longer significant, jumping to 0.17.

The 1-D model shows many kinds of strengths, but it also pleases both the AIC and BIC criterion. It has the lowest AIC of all the models, and even though it is a rather large model the Bayesian Information Criterion does not punish it, especially compared to model 1-C.

We now turn to Model 2, which has the number of killed in terrorism events as its dependent variable, presented in Table 7 below.

5.4. Result of regression models – Model 2 *killed*

Table 7. Comparison Model 2 – *killed*

killed	Model 2-A Coeff	St.err	Model 2-B Coeff	St.err	Model 2-C Coeff	St.err	**Model 2-D Coeff**	**St.err**
Gini-score	.12*	.05	.16**	.06	.16**	.06	**.13***	**.05**
Population	.42*	.21	.80*	.31	1.01**	.41	**.47$^{(*)}$**	**.25**
Young Male Population			1.8	2.17	10.07$^{(*)}$	6.05	**8.63$^{(*)}$**	**5.30**
GDP per capita			.23	.40	-.26	.46		
NATO-membership			-1.25	.77	-1.29	.83		
casualties			-.02	.02	-.02	.01		
Youth-Unemployment			.01	.03	.66	.56	**.79**	**.53**
Ethno-Religious Cross-Cuttingness					-.005	.03		
Ethnic Fractionalization					-.05	.09	**-.011**	**.02**
c.Young Male Population# c.Youth Unemployment					-.32	.27	**-.38**	**.26**
c.Ethno-Religious Cross-Cuttingness# c.Ethnic Fractionalization					-.0009	.001		
_cons	-14.39**	4.74	-19.92**	5.63	-36.76**	13.24	**-28.17****	**11.42**
ln_r								
_cons	-.19	.38	-.20	.39	-.28	.40	**-.26**	**.39**
ln_s								
_cons	.09	.64	.09	.66	-.12	.66	**-.09**	**.65**
N	235		235		235		**235**	**235**
AIC	346		349		354		**349**	
BIC	363		384		394.5		**380**	

Standard errors in second column

$^{(*)}$ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

5.4.1. Summary of Model 2 – *killed*

The comparison between models in Model 2 is simpler than that of Model 1. In Model 2-A we only ran our front runners, the Gini-scores and the logarithm of the population figure. Both Gini and population are significant.

If we expand the model we strengthen both the coefficients of population and Gini. The strength of population doubles. When we control for the effect of GDP, youth unemployment, young males, NATO and casualties of foreign wars, the AIC also takes a light hit. There is weak support in favor of the first model.

Model 2-C is the full theoretical model, and the inclusion of the interaction variable of ethnic fractionalization and ethno-religious cross cuttingness does inflate the coefficients of population. All the while it does so, the AIC and BIC of the model suggests that this is spurious as these tests show strong support of the two former models, 1-A and B. The same relationship was clear when model 2-C was run without the interaction variables for unemployment and male youths.

Model 2-D is more parsimonious version of the full theoretical model displayed as 2-C. The interaction of young males and youth unemployment is not significant, but young male population is significant at a ten-percent level. The same interaction as described in model 1 is evident, yet with slightly higher significance testing. Judging from the AIC/BIC-scores, this model does have a strong showing against the other models.

The AIC/BIC scores would suggest that the most parsimonious model is the best for interpreting what affects victims of terrorism, but as some variables have an enormous effect without diminishing AIC/BIC considerably it would be unwise to exclude them. It is better to overestimate than to underestimate, and given the results from model 1, the likelihood that young males play a part in terrorism suggests that we should place our trust in model 2-D. In addition, we performed outlier controls that back up this decision, to which we shall return in the next subsection.

In contrast to the Model 1 comparisons, the second most parsimonious model wins the race in the model comparisons for Model 2. We end up with Models 1-D and 2-D as displayed in Table 8 below.

Table 8. Final Two Models

	Model 1-D (events)		Model 2-D (killed)	
	Coeff	St.err	Coeff	St.err
Gini-score	.04	.05	.13*	.05
Population	1.06***	.26	.47$^{(*)}$	.25
GDP per capita	-1.38***	.35		
NATO-membership	-1.05*	.43		
Casualties	-.01	.008		
Young Male Population	7.49**	2.60	8.63$^{(*)}$	5.30
Youth Unemployment	.47$^{(*)}$	.26	.79	.53
Ethnic Fractionalization			-.011	.02
c.Young Male Population#				
c.Youth Unemployment	-.24	.13	-.38	.26
_cons	-4.79	6.11	-14.39**	4.74
ln_r				
_cons	-.13	.32	-.19	.38
ln_s				
_cons	-.89**	.32	.09	.64
N	235		235	
AIC	764		349	
BIC	798		380	

$^{(*)}$p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001

5.5. – Results of regression Models – Model 3 – outlier controlled

Two forms of outlier controlling were done for this study. As made clear in the section on preconditions of the models in 3.2, we ran the models above both with and without North Ireland and Corsica without producing results. The second kind of outlier controlling that was done was separating out Eastern Europe, with results displayed in Table 9 below.

We are not able to control for the *events* dependent variable, as the model failed a large number of precondition testing, as opposed to the models connected to the dependent variable *killed*, which is as strong as the larger-N models.

The outlier controlled models (Model 4) for *events* was rejected because of too many breeches of the preconditions of the regression analysis.

Table 9. Model 3 – Comparison Outliers – Only Western Europe[7]

	Model 3-A *Killed*		Model 3-B *killed*	
Population	.68*	.28	.68$^{(*)}$	.28
Young Male Population	6.50**	2.06	11.03*	5.67
Gini-score	.01	.07	.001	.08
Ethnic Fractionalization			-.01	.02
Index of Majoritarian Democracy			.01	.42
Youth Unemployment			.48	.56
c.Youth Unemployment#c.Young Male Population			-.23	.28
_cons	-22.36***	5.51	-30.95***	12.62
ln_r				
_cons	.16	.66	.07	.58
ln_s				
_cons	2.11	1.35	1.43	1.24
N	136		136	
AIC	241		248	
BIC	259		277	

Standard errors in second column

$^{(*)}$p < 0.1, $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

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[7] 16 European Countries – Advanced Democracies. Austria, Belgium, Denmark, Finland, France, Greece, Germany, Ireland, Italy, Netherlands, Portugal, Norway, Spain, Sweden, Switzerland, United Kingdom

5.5.1. Summary of Model 3

Table 9 displays Model 3. The choice to run and present this model in this thesis is done for the simple reason of supporting my decision to rely upon model 2-D instead of 2-A. Recall from the model comparisons of Model 2 that significance testing for the variable of *young male population* was showing some non-significant results. This was strange when seen in comparison with models 1-A-D, where the same variable was significant through nearly all specifications of the model. The question was whether we risk making a type I or II error when choosing between models 2A and 2D (Skog, 2004: 208).

Significance testing indicates the likelihood that the observed effect is true. A coefficient with a significance level of 0.05 tells us that there is a 95% chance that the relationship we observe is true. Choosing a significance level has major implications for results. In model 2, the significance of *young male population* is not very strong, but still, I argue, admissible. I suspected that outliers might cause the low significance levels within the models. When I ran the variable *index of majoritarian democracy,* every observation from Eastern Europe disappeared, and suddenly *young male population* became the most significant variable.

To test whether or not it was controlling for *index of majoritarian democracy* that had that effect on *young male population*, I cleared the eastern European observations from the dataset, controlled for preconditions and assumptions of the regression analysis (as reviewed in section 3.2), and ran the models without the outliers.

Model 3 is the same model specification as Model 2, but without Eastern Europe. Every specification of the model returns *young male population* as the strongest and most significant variable. When run in the most parsimonious model, the coefficients are as strong on the *killed* dependent variable as the broad model for *events* 1-D. When run in an as broad model, the coefficient is as high as almost 50% stronger.

The high significance testing and strength of the coefficients of Models 3A and 3B clearly indicate that we should regard model 2D as the likeliest approximation of the real world, compared to model 2A, which does not register strength nor significance of *young male population*.

Given the results of Models 3A and B, detecting significance on less than the percent level and strong coefficients we are likely correct in this assessment.

From the testing we have done, there also seems to be implied that terrorism in western Europe is quite distinctly different from terrorism in eastern Europe.

5.7. Model impacts on hypotheses and theory

One major assumption we had doing this study was that Europe was the same tree, yielding comparable fruit (see 2.2.1 on the "root causes debate"). After reviewing the models we see that there could be made a strong case for analyzing the causes of terrorism in different ways in Eastern and Western Europe.

5.7.1. – Hypotheses 1a and b – The Poverty Angle

Economic approaches to terrorism were one of the focuses of this study. The economic angle has been studied profusely in the terrorism field, but perhaps not always with great acumen. The one relationship that was expected to actually exist was that of income inequality, and there was good reason to examine this proposed relationship, as inequality thus far has been under-studied in the field.

A mixed image appears when we look at our variables effects on the two dependent variables. Inequality, measured in Gini, does have a mild impact on the number of victims of terrorism, but not on the number of events. Conversely, the level of wealth in a society, GDP per Capita, does not have an effect on the victims of terrorism, but a large and strong effect on the number of events.

We expected from theory that there might be some relationship between economic indicators and levels of terrorism, but how are we to understand these seemingly, if not contradictory, then non-parallel effects?

As we have seen before, the number of events might be categorized and described as noise, not in a technical and statistical term, but as a metaphor. A high number of events yielding few casualties are a far less serious form of terrorism. We might even call it unrest. When affluence abound, there are less *events*. With increasing poverty, the "noise" of society is

turned up. Still, some alarm bell should be ringing faintly in the distance. What does it mean that the societal level of affluence, when high, lowers the number of terrorism events, but not the number killed? It does point to the fact that "real" terrorism cannot be stopped by more stuffed wallets. Those determined to do others harm are not deterred by financial incentives. Some more ardent theorists in the field would even stop short of calling this "bloodless terrorism" terrorism, as Qvortrup and Lijphart did, when they protested the equation of bloodless terrorism and deadly terrorism (2013).

The difference of Gini and GDP per Capita is that one is stating difference between people. It is not hard to conceive of a world in which jealousy and a feeling of unfair distribution may create a gap between people. GDP per Capita may sink without there being an explicit distance generated between people. An increase in Gini-coefficients on the other hand, directly implies that. The theoretical assumptions concerning Gini are supplied in the seminal work of Ted Gurr (1970). One aspect of relative deprivation (i.e. income inequality) is that it will fuel discontent in society. The mild effect of Gini on the number of victims of terrorism is even a little low compared to theoretical expectations. According to our coefficients, in order to produce one more terrorism-related death in a country year, Gini must increase by 7.5 per cent, which is no small increase. Still the effect is quite statistically significant and present during most of the models containing the entire selection of Europe. It does lose its significance when we restrict the selection to Western Europe, though. This is cause for restraint in overindulging our estimation of its significance.

The suggestion we must infer, given the weakness of the coefficients, is that inequality is not the strong predictor of terrorism its theoretical assumptions do imply. Yet we cannot be ignorant of the observation in the data that societies with large economic differences between people do consistently experience more terrorism.

5.7.2. – Hypothesis 2a, b and c – Demographic explanations to terrorism

Population size was a strongly significant predictor of both events and the number of victims of terrorism. This relationship has previously been observed by Qvortrup and Lijphart (2013). The coefficients effect is stronger on events than on the number killed, and to some degree points to the relationship between political violence and size of population. The coefficients

are expressed in logarithm form, giving us, as previously stated, an advantage in interpreting the coefficient. In our case, there is expected to be 1.06 more terrorism events in a state for every one per cent increase in population. Larger states are more prone to terrorism.

At the same time, the coefficient for the number of killed is slightly less than half of that of events. A one per cent increase in the size of the population only generates a .47 increment on the number of killed citizens. Larger populations are more likely to generate noise-terrorism, not deadly terrorism.

The most interesting finding within hypothesis 2 is 2b on the young male population. The significance, strength and uneven effect on the two dependent variables by young male population is a key finding.

Taking into account the eastern European outliers, young male population is the most significant effect, not unequivocally in significance testing, but in the strength of the coefficients.

The observations in the data suggest that a large population of young males both contribute to noise- or unrest-terrorism, but to an even higher degree to deadly terrorism. We proposed several possible causal mechanisms that could support this, but the interaction with other variables should separate the good from the bad.

Several authors quoted in Urdal (2006) maintained it was possible that youths reacted to constraints in society, such as institutional bottlenecks and unemployment. Summary of the interactions between young males and youth unemployment shows that this is not the case. Young males increase the risk of terrorism regardless of the level of height of youth unemployment. In fact, higher youth unemployment diminishes the significance and strength of the relationship. What could drive such an interaction?

The effect loses its significance at levels of youth unemployment above 16-20 per cent, which are really high levels. We could imagine that it is not the unemployed males that go out causing the most deadly events, but maybe the employed ones. Recall the examination of Palestinians terrorists done by Berrebi (McAllister and Schmid, 2011: 249). This study found that the executors of terrorism were predominantly educated and employed Palestinians. The minute the economic situation in your country reaches the levels that make securing a living wage more important than fighting whatever "good fight (meaning an ideology attracting terrorists)" you adhere to, you might become precluded from pursuing those activities until

your situation improves. Whatever the causal mechanism, there is no support for economic factors driving young males to terrorism.

A more likely explanation of the observation in the data is that an abundance of young males is the perfect recruitment pool for ideologues and extremists, a causal mechanism proposed by Collier (quoted in Urdal, 2006). This segment of the population is less rooted, and may not yet have started families themselves. Add that to biological factors, young males remain more impulsive and reckless than the above population.

We have operated on a country level of analysis, and therefore we cannot by virtue of our findings comment on individual levels, yet as seen in the theoretical chapter, we saw how some of these relationships are proposed to work. Ehrlich and Liu's (2002) findings that Islamic suicide bombers predominantly hailed from the 22-34 age category, and that same age category was responsible for 70 per cent of crime in China and 80 per cent of crime in the U.S, and that of those 70 and 80 per cent, 8 in 10 were males. This research on the individual level lends support to our findings. Observations in our data show that young males not only are responsible for an increase in terror, they are the main predictor of deadly terrorism.

5.7.3. – Hypothesis 3a and b – Majoritarianism and participation

The coefficients on Majoritarianism was not included in any of our previous models, because its reduction in N. We only had data for 16 of 26 states. When we ran models with this limited N the index of majoritarian democracy never registered as anything close to significant, and had exceptionally weak coefficients. The data is not strong enough to present in this study because the models including the index of majoritarian democracy has a very weak N, and would only prove useful if we specified the models completely anew. We cannot formally accept the 0-hypothesis that majoritanianism has no effect on levels of terrorism and do urge further research in a model designed with the lack of data in mind. Nonetheless, we might call the findings here preliminary results, and they do not point towards a causal relationship between majoritarian systems and terrorism.

If we glance over a map of terrorism activity in Europe, it is not hard to see why researchers have theorized that majoritarianism plays a part, since three of the major contributors to our aggregate data are majoritarian systems, like Spain, France and the U.K. But looking back at

Qvortrup and Lijphart's (2013) findings, they reduced terrorism conceptually to presence/absence of deadly events in a year. In such a black and white world that causal relationship seems obvious, but it is definitely not a good model of the universe of terrorism.

Separately, that there are no observations in our model to support the claim of causality that majoritarianism causes more terrorism does not mean that the feeling of political powerlessness cannot cause terrorism on the individual level. The feeling of powerlessness, which an individual certainly could get from an exclusive and power-monopolizing majoritarian system, could drive his or her own justification for terrorism. This is true also for the hypothesis we were unable to explore, political inequality.

Still, valid theory or not, the majoritarian/consensual angle to terrorism may be better off explored qualitatively. Researchers could look for the causes of terrorism on the individual or group level using this approach as individual motivation.

We remember from chapter 2 that ethnic variables should have an effect on terrorism, but only when interacted with other ethnic predictors, here, the indexes of ethno-religious cross cuttingness. The proposed relationship was plain and straightforward. Ethnic fractionalization would cause terrorism, but if that same society had high scores of ethno-religious cross-cuttingness (effectively dulling ethnic fractionalization), the effect would subside and disappear. There was no such proposed relationship, and the variables for ethnicity were continuously non-relevant in significance testing.

This was somewhat strange, as some of the European conflicts that generate most terrorism, Northern Ireland, Corsica and the Basque territories are categorized as ethnically different from the states they are confined to.

Still, one may wonder if this approach to political violence and terrorism may be better suited when applied to regions of the world which are more ethnically and religiously diverse.

5.7.4. – Hypothesis 4 – Participation

We cannot evaluate the 0-hypothesis that levels of participation have an effect due to the complication with the data. Voter turnout had to be scrapped because of concerns of linearity and collinearity, and no proposed interaction or transformation could help this. We are unable

to evaluate this theoretical assumption, and I am critical of this conceptualization of theory. There are likely better ways of understanding the relationship between efficacy of government and terrorism, yet data are scarce.

5.7.5. – Hypotheses 5a and b – Foreign Policy theories

There were a number of proposed relationships in the foreign policy perspective, but only one was statistically significant through a range of models, but the effect travelled in the wrong direction as opposed to expectations.

How can NATO membership decrease the likelihood of terrorism?

The observations in the data suggest that terrorists do not punish countries from being members of NATO and contributing to an aggressive foreign policy. There was no relationship between casualties in foreign wars and levels of terrorism, so what could NATO membership include?

One potential explanation is that joining NATO would allow access to better intelligence on both terrorists and terrorist networks, better security solutions and data sharing.

At the same time, the countries that are leading the charge and carrying the greatest load in both NATO and the international operations are the ones with an already polarizing presence on the world stage, such as the U.K. and (though not included in this study) the United States.

Still, we should not over emphasize the strength and significance of NATO membership. Running the models for events (albeit in the in-admissible model) without Eastern Europe removed the strength and significance of NATO-membership.

Furthermore, we should be more careful in embracing the findings on NATO because of the findings of auto-correlation in the *events* dependent variable as stated in 3.2 on model preconditions. What is often overestimated is significance testing, and the NATO variable is by far the weakest variables in the model. The gap between NATO and the next level of significance testing in the model is considerable. NATO is insignificant in the *killed* model (Model 2). Thus we should not read too much into the findings, but reconsider it in future research.

Table 10 below summarizes my findings as shortly and succinctly as possible, before we turn to our conclusion in chapter 6.

Table 10. Summary of Results on Hypotheses.

Hypothesis	*Expected effect*	*Observed effect*	Evaluation
Hypothesis 1a – Poverty	*Greater levels of wealth in a society decreases the scope and intensity of terrorism.*	Significant and strong in events, but not on the killed dependent variable.	We reject the 0-hypothesis of no relationship. Poverty does generate more "noise"-terrorism, but not deadly terrorism.
Hypothesis 1b – Income inequality	*The higher the income inequality in a state the higher levels of terrorism.*	Significant through a range of models, mild coefficient **Only significant on the killed dependent var.**	We reject the 0-hypothesis of no observed relationship. Inequality is significant, but not a strong predictor of terrorism.
Hypothesis 2a – Population size	*An increase in population size will lead to an increase in the levels of terrorism.*	Significant and strong in both killed and events.	We reject the 0-hypothesis. A higher population does increase the levels of terrorism, albeit more in the form of "noise".
Hypothesis 2b – Young males	*Higher percentage of young males is associated with higher levels of terrorism.*	Significant through most iterations of the model. Strong in the final model. Only affects number of events	We reject the 0-hypothesis. More youths cause more terrorism, even slightly more deadly terrorism.
Hypothesis 2c – Youth unemployment	*The effect on terrorism by young males is reduced with lower youth unemployment.*	Not significant.	We accept the 0-hypothesis that youth unemployment does not interact with young males effect on terrorism.

Hypothesis 3a – Majoritarianism	More majoritarian democracies experience higher levels of terrorism	Not significant in any specification of the models	We tentatively accept the 0-hypothesis. Majoritarianism does not impact levels of terrorism.
Hypothesis 3b – Ethnic Fractionalization	Social and religious fractionalization increase the scope and intensity of terrorism, and interaction with higher levels of cross cuttingness is expected to decrease it.	Not significant in any specification of the model, neither as proposed in theory, or standing alone.	We accept the 0-hypothesis. Ethnic fractionalization in interaction with etno-religious cross-cuttingness is not a significant predictor of the levels of terrorism.
Hypothesis 4 - Participation	Higher levels of participation lead to lower levels of terrorism.	Data violates assumptions of regression. Not analyzed.	Not analyzed due to lack of data.
Hypothesis 5a – NATO	*Non-NATO members suffer lower levels of terrorism.*	Significant, but in theoretically wrong direction. Significance is doubted because of auto-correlation.	We tentatively reject the 0-hypothesis that NATO membership affects the level of terrorism. Still the effect runs counter to expected direction.
Hypothesis 5b – Foreign Policy	*Higher number of soldiers killed is indicative of aggressive foreign policy. We expect it to yield higher levels of terrorism.*	Never significant through a range of models	We accept the 0-hypothesis. Activity in foreign wars does not predict the levels of terrorism.

6. Conclusions

The research question this thesis sought to answer was:

What are the root causes of terrorism on the aggregate level in Europe?

This analysis found that the size of the young male population group has the strongest effect on levels of terrorism, and that this effect was not influenced by youth unemployment. Secondly, this study found that economic explanations of terrorism levels are significant, but their effect is not very strong. Thirdly the thesis finds that being a member of NATO lowers levels of terrorism, but that the effect is less trustworthy than aforementioned findings.

Stated in another way: the finding in this study is that both the foreign policy and the poverty approach are secondary entirely as explanations of terrorism to the demographic explanations to terrorism.

Researching the concept of terrorism through two dependent variables, each containing the concept of terrorism from two views has been interesting and fruitful. Doing so has made possible not only supporting different theories on the root causes of terrorism, but the qualification of existing knowledge and the qualifying of that knowledge has been far more interesting than assumed.

First, NATO membership ran in the contrary direction of theory. It seems that inclusion is better than exclusion when it comes to security policy. As discussed in chapter 3, section 3.2 on assumptions of the regression analysis, we have cause to be worried about too optimistic significance tests in the models with *events* as the dependent variable. The NATO variable was not present in the model with *killed* as the dependent variable. Still, we cannot overstate its significance.

Secondly, we deal with economic explanations of terrorism. Why is society so quick to promote economic perspectives when it scrambles to explain terrorism? Most likely it is a way for us to rationalize this extreme form of violence. If those perpetrating extreme violence against us are rational beings, and not fanatics of some kind it is a fixable problem, and what we understand, we are less likely to fear. Still, my findings corroborate some of the findings in previous literature, and there seems clear there is a real relationship between economic factors and terrorism. It may be too early for the field to dismiss this relationship.

Albeit present, the relationship is weak. Levels of affluence (GDP per capita) only predict the unrest terrorism, what we have called noise terrorism previously. GDP per capita has no effect on the scale of violence of the terrorism, as measured in the *killed* dependent variable. Inequality is key for deadly terrorism, this study finds. High inequality between people does generate more deadly terrorism, but again, this relationship is weak.

Do these findings on the relationship between economics and terrorism corroborate or reject previous research? To some degree it does both, because of the two dependent variables utilized in the analysis.

Since levels of affluence, or poverty, does not affect the deadly terrorism, but only the noise terrorism we discussed in 4.2.1 on the operationalization of terrorism, my findings both joins the segments of academic literature in dismissing the effect of poverty on terrorism and rejects it. Proponents of either view may draw strength from this thesis' findings. Some may say, as Qvortrup and Lijphart (2013) that if economics affects only noise terrorism, and has no effect on the deadly terrorism, it has no effect on terrorism proper.

What my findings do add that is harder to interpret to weaken the economic approach is the persistent, but weak effect of income inequality. Income inequality affects the levels of deadly terrorism, but only when there is great inequality. Income inequality is one type of relationship that Gurr proposed, from our section on relative deprivation in chapter 2, section 2.4.2. that would fuel societal discontent. We lend support to scholars like Krieger and Meirrieks (2010) who found income inequality to be robustly associated with terrorism.

We also add to these previous findings, due to our dual operationalizations of terrorism, that income inequality does not affect the levels of noise terrorism (i.e. *events*) but only the deadly terrorism (i.e. *killed*). Burgoon (2006: 181) claimed that the role of inequality is much less clear than that of poverty in terrorism research. My findings agree with this view.

Thirdly and finally, the demographic approaches yielded the most robust relationships in this analysis. Population size predicts terrorism. Population size acts in a similar way as the level of affluence/poverty. Its effect on the noise-terrorism is slightly more than double. But contrary to GDP per capita, its effect is still felt on the number of victims of terrorism. Again, this supports previous knowledge. Many scholars, such as Huntington (Urdal, 2006) and Qvortrup and Lijphart (2013), have pointed to the relationship between population size and terrorism. This study corroborates previous work, but finds that population size has less of an

effect on deadly terrorism. It is difficult to speculate as to the reason for this relationship, and it is difficult to determine to what degree the difference informs our previous knowledge.

The more interesting demographic relationship is that of young male population figures. Our findings corroborate previous findings that high rates rates of young men cause higher levels of terrorism (Urdal, 2006), but again our double operationalization of the dependent variable allows us to qualify this knowledge. This is done in two ways.

Young men generate more terrorism, but they generate more *deadly terrorism* than they generate *noise terrorism*. To what degree does this slight difference gain us knowledge? We know that young males create deadly terrorism, not just noise terrorism. Still, I must remind the reader of previous research done on the individual level commented on in section 5.7.2. and the research of Ehrlich and Liu (2002).

We mentioned before that in some way we did reject economic explanations to terrorism. We found that economic opportunities, the availability of work, did not affect the propensity of violence in young males. Terrorism actually declines and becomes insignificant when the levels of youth unemployment reach *critical levels*, above 20 percent.

We find support for previous findings in the field, that young male population size affect the levels of terrorism. We also found that they affected deadly terrorism more than noise terrorism, and most importantly, the presence of work did not inhibit this effect.

This suggests a lot of interesting inferences, some we are unable to assert at our level of analysis, but leaning on previous theorizing we can assert that economic variables do not seem to affect the young men's propensity for violence. The young males segment of the population has a weaker and non-significant effect on levels of terrorism when economic times are tough, according to observations in the data. What implications does these findings have for the future research in the field of terrorism, and can we draw policy implications from it?

6.1. Implications of findings and Further Research

As we have seen above, my findings corroborate previous research, while qualifying some of the knowledge and demonstrating new relationships.

This study offers some new implications for directing policy of counter-terrorism. Counter terrorism efforts should be directed towards young males, but as we have seen not necessarily economic programs. It is not the task of this thesis to evaluate how this causal mechanism works, except that typical aspects of economics, that is unemployment, seem to have little to do with it.

The implications of these findings are that motivation should be high for continuing research on the young male segment of the population. What kinds of interactions could influence the relationship between the size of the young male segment and levels of terrorism?

One could control for education levels amongst young males to see if there is a relationship that curves their effect on terrorism.

We have studied the "what"-question of terrorism. We arguably have a better knowledge of what causes terrorism, but how does the relationship work? One way forward could be to study the relationships proposed on the individual level, and formulate a question of "how" terrorism is caused.

The size of the share of young males can only be part of the picture. The missing part could be the radicalization factor, inspired by Gurr's thoughts that there is politization of discontent (1970). If that assumption is true, are young males propelled towards radical and extreme violence, and if that is the case, how?

Similarly, to what degree do these findings have generalizability into the rest of the world of terrorism? I made the point that different trees might grow different fruit, but to what degree does the fertilizer of high rates of young men spur the growth of terror-fruits on Middle Eastern trees? How about Latin American trees? Since a main focus of scientific inquiry is to generate generalizable knowledge, the relationship should be tested further in order to corroborate these findings, along with other scholar's similar findings. Does the demographic explanation to terrorism hold true for larger selections in time and space?

Also, we shall not fail to mention the theories this study has been unable to analyze. In the same way that economic relative deprivation (inequality) has proven to have an effect on terrorism, what about political inequalities? There might become more available data later on that might prove capable to examine the intricacies of this proposed relationship. If economic inequality has an effect, surely political inequality should have an effect? A further sharpening of this relationship could be to look into horizontal political, as well as economic,

inequalities. This could help us analyze the other hypothesis we rejected, namely ethnic fractionalization, which also could be analyzed in this way. Even though we accepted the 0-hypothesis that ethnic fractionalization did not have any effect on terrorism, not even within the interaction with ethno-religious cross-cuttingness, there could be a chance that the ethnic explanation becomes viable when looked at horizontally given horizontal political and economic inequality.

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