THE SIZE OF TERROR
Linking Inequality, Ideology and Corruption to the Membership of Terrorist Groups

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Abstract:

The aim of this thesis is to investigate the effect of economic inequality on the size of terrorist groups. While several scholars have examined the impact of inequality on the number of terrorist attacks, as well as on other types of political violence, its influence on the membership of terrorist organizations has not been explored yet. Furthermore, I also analyze how left-wing group ideology and political corruption moderate, or shape, that relationship, which also constitutes a novelty to the academic literature on inequality and terrorism. In order to investigate these connections, I conduct a quantitative large-N study using a multilevel cumulative logit model. With regard to my data sources, I mainly rely on the End-of-Terror data set by Jones and Libicki (2008), which holds information on 648 terrorist groups that were active between 1968 and 2008. In addition to that, I also draw further data from other sources, such as the Standardized World Income Inequality Database (SWIID). The empirical analysis does not yield any significant connection between economic inequality and the size of terrorist groups. The same holds true regarding the moderating effect of political corruption. In contrast to that, I find a significant positive interaction effect between inequality and left-wing ideology on the membership of terrorist organizations. This indicates that higher levels of inequality rather cause people to join leftist terrorist groups than groups with other ideologies. These results are consistent across different model specifications and robustness checks, which further verifies the findings.
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1. Introduction:

In 1996, the leftist revolutionary Communist Party of Nepal-Maoist (CPN-M) was launched by a few dozen fighters (Eck 2010: 33). Ten years later, the terrorist group had 30,000 members, inflicting violence and civil war on Nepal (ibid.; Marks/Palmer 2005). One of the main factors for the organization’s enormous growth was the country’s high level of economic inequality, which “provided the Maoists with ripe opportunity to recruit from the aggrieved population” (Eck 2010: 45-46). Breeding discontent and frustration among the deprived parts of the Nepalese society, the inequality fostered radicalization, a trend that the CPN-M took advantage of and further facilitated (ibid.).

This is not the only example of such inequalities encouraging a rapid growth of terrorist groups: Similar dynamics could be observed with regard to the Shining Path in Peru, the Khmer Rouge in Cambodia, the Revolutionary Armed Forces of Colombia, and many others (Newman 2006: 763).

Studies that investigate the size of terrorist groups and the factors that might foster or prevent terrorist organizations’ growth have in general remained scarce so far. This particularly holds true regarding the influence of economic inequality on a terrorist group’s number of members. The relationship between income inequality¹ and different types of political violence, such as the onset of civil war (Cederman et al. 2013), as well as the frequency and intensity of terrorist attacks (Krieger/Meierrieks 2016), has already been examined in the academic literature. However, such links could be caused by diverging mechanisms, with only one of them being an increase in the membership of existing groups. Thus, the focus of this paper is on the connection between income inequality and the size of terrorist groups.

Furthermore, that relationship might be influenced by other factors, such as certain group characteristics or conditions on the country level. This is also an issue that empirical research has neglected so far and that I examine, introducing group ideology and political corruption as two possible moderators² in the link between inequality and the membership of terrorist groups. Based on these research gaps in the existing literature, I therefore address the following research question: Does economic inequality influence the size of terrorist groups?

¹ Economic inequality is not entirely equivalent to income inequality, as the latter one does not consider all properties that a person possesses (Sen 1997). However, for instance, the Gini coefficient of income inequality is used as the standard proxy for economic inequality in the academic literature (e.g. Feldmann/Perällä 2004; Krieger/Meierrieks 2016). Therefore, in the following, both terms are used interchangeably.

² A moderator is a “variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable” (Baron/Kenny 1986: 1174).
The results of this study might lead to important implications for future counterterrorism policies, especially with regard to different types of terrorist organizations. The causal paths that I suggest and examine in this paper could further shed light on the role that the struggle against root causes, i.e. underlying factors that foster processes of radicalization (Newman 2006: 749), plays in efforts to curtail radicalization and terrorism.

Hence, in order to answer the research question, I begin with the presentation of my theoretical framework. This includes the definition of the terms terrorism and terrorist group, which illustrates that neither of these concepts are clear-cut and completely distinct from other forms of political violence. Therefore, in the overview of the relevant literature, which follows afterwards, I do not only review academic work on terrorism, but also on processes of radicalization in general. Particularly, I deal with theoretical ideas and empirical analyses that investigate causes of radicalization, which is closely connected and decisive to the onset of political violence. This includes factors such as certain characteristics of terrorist organizations that foster recruitment, but also determinants on the individual level. However, the largest amount of academic literature examines the role of root causes, such as the level of democracy, socio-economic development, and especially economic inequality.

Subsequently, mainly relying on the relative deprivation theory, I illustrate the assumed causal path of how income inequality affects the size of terrorist groups: I argue that inequality facilitates the emergence of grievances which in turn fosters radicalization and hence leads to more people joining terrorist organizations. Furthermore, I also introduce group ideology and political corruption as two factors that might influence that connection. Regarding the former one, I expect left-wing ideology to be a positive moderator, i.e. more inequality especially leads to a higher number of members in leftist groups, compared to other groups. I argue that this is primarily due to the fact that equalitarianism and the abolishment of inequalities are central aspects of leftist ideologies.

Regarding the second possible moderator, I argue that political corruption also facilitates the positive impact of inequality on the size of terrorist groups, working as a catalyst through several mechanisms: The combination of inequality and political corruption weakens the state, decreases vertical mobility, and fosters other inequalities, for example in the polity realm. These aspects presumably facilitate the growth of terrorist groups. In sum, my assumed causal paths and mechanisms lead to the formulation of three different hypotheses, concerning the total effect of inequality on terrorist group size, as well as the impact of ideology and corruption on that relationship.
Afterwards, in order to test these hypotheses, I introduce my methodological approach: This includes the presentation of the data sources I rely on, primarily the End-of-Terror data set established by Jones and Libicki (2008) that holds information on 648 terrorist groups that were active between 1968 and 2008. In addition to that, I also present the research method – a multilevel cumulative logit model. I further define the dependent variable, which is the peak size of terrorist groups, and the independent variables: the Gini coefficient and the level of political corruption in an organization’s country of recruitment, as well as the group’s ideology. Additionally, I also present the control variables that I utilize in my empirical analysis. These include the gross domestic product per capita, population size, level of democracy, onset of violent conflict, and the number of active terrorist groups.

The results of the analysis, which is composed of three different models, each of them including several different specifications, are then described in-depth: Neither the assumed connection between inequality and group size, nor the moderating effect of political corruption receive empirical support. In contrast to that, economic inequality indeed has a significantly more positive effect with regard to left-wing terrorist groups, compared to groups with other ideologies. These findings are strengthened by several additional robustness checks, which I also illustrate. The interpretation of the empirical results, as well as their implications regarding the three hypotheses, is discussed subsequently. In addition to that, I also examine the limitations of the empirical approach – for instance concerning the data structure –, in order to finally summarize the findings and answer the research question.

2. Theoretical Framework:

In this section, I expound my theoretical framework. First, I discuss definitions of the terms terrorism and terrorist group. This illustrates that it is not possible to completely discriminate between the concepts and other types of political violence. Second, I review the relevant literature to further highlight the research gap that I attempt to fill in this paper. Accordingly, I do not only examine previous research dealing with factors that influence the size of terrorist groups, but also studies that investigate causes of radicalization, political violence and terrorism in general. This includes variables on the individual, the group, and the country level. Finally, I present my presumed causal mechanisms regarding the overall impact of income inequality on the membership of terrorist groups, as well as the moderating effects of left-wing group
ideology and political corruption. Accordingly, I formulate three hypotheses, each of them with regard to one of the assumed causal effects.

2.1. Terrorism, Terrorist Groups, and Political Violence:

As indicated above, in order to examine the relationship between economic inequality and the size of terrorist groups, it is necessary to first clarify what terrorism is and what a terrorist group is. According to Hoffman (2006: 40), terrorism is

“the deliberate creation and exploitation of fear through violence or the threat of violence in the pursuit of political change. All terrorist acts involve violence or the threat of violence. Terrorism is specifically designed to have far-reaching psychological effects beyond the immediate victim(s) or object of the terrorist attack. It is meant to instill fear within, and thereby intimidate, a wider ‘target audience’ that might include rival ethnic or religious group, an entire country, a national government or political party, or public opinion in general”.

Although there are diverging definitions of the term in the academic literature, the aspects included by Hoffman (ibid.) are common to most approaches: Many scholars take into account the use or threat of violence, political motivation, the creation of fear, and the effects beyond the direct victims (Weinberg et al. 2004).

However, with regard to other types of political violence, such as guerrilla warfare or insurgency, it has been pointed out “that none of these are pure categories and considerable overlap exists” (Hoffman 2006: 35). This vagueness can be referred to as border and membership problems: That implies that the lines between the different concepts are blurred, especially as the distinction is partially based on the perpetrators’ assumed motivations (Weinberg et al. 2004: 778-779).

Other factors further impede the discrimination of different acts of violence. First, the term terrorism has a negative connotation. Hence, it is often seen as an accusation, rather than as a description (ibid.: 778). Second, the meaning has often changed over time (Hoffman 2006: 3-20). Third, with regard to the group level, terrorism might be only one of several different strategies employed by an organization (Gupta 2008: 10).

Accordingly, not only the definition of terrorism as an act, but also of terrorist groups is not entirely clear. In general, there are two competing ideas: Inclusive definitions include all groups that use terrorism, no matter to what extent (Phillips 2015: 230). In contrast to that, there are scholars who define terrorist groups more exclusively as those organizations that primarily use terrorism, in contrast to other types of political violence (ibid.: 231). However, the inclusive version holds several advantages: For instance, it is much more common in the academic
literature (ibid.: 237), and, as Gerring (1999) argues, familiarity and established usage are important indicators for a definition’s quality. In addition to that, Phillips (2015: 237) points out that, regarding groups’ characteristics, there is rather a division between groups that use terrorism and those that do not, than between groups that use some terrorism and those that use it a lot.

Hence, I use the inclusive definition in this paper, i.e. a terrorist group is defined as any group that uses terrorism.

Therefore, as the definition of terrorism is not clear-cut, and as terrorist organizations might also employ different tactics, academic research on political violence in general, and on terrorism in particular, cannot be viewed separately from each other (Weinberg et al. 2004: 787). Coggins (2015: 477) even puts forward the idea “to unite scholarly studies of civil war and terrorism”, pointing out that “[t]he dynamics of civil war and political terrorism have not been adequately explored” (ibid.). Thus, in the following sections, I analyze academic literature on causes for people to join terrorist groups, as well as studies on causes of radicalization and political violence in general.

2.2. The Causes of Radicalization:

2.2.1. The Size of Terrorist Groups in Academic Research:

While, as indicated above, my examination of literature on all types of political violence, and not only on terrorism, is theoretically founded, it is also due to the fact that academic research explicitly dealing with the size of terrorist or rebel groups is very scarce. Scholarly work that analyzes factors which influence the membership of terrorist organizations is essentially limited to characteristics of the groups themselves. For instance, according to Jones and Libicki (2008: 39), the group’s ideology plays an important role: Especially left-wing and nationalist groups tend to be very large in comparison to others. Furthermore, other scholars argue that a group’s resources (Collier/Sambanis 2002: 4) or a charismatic leadership (ibid.; Hofmann/Dawson 2014) increase its number of members. In contrast to that, connections to other terrorist groups does not seem to have a substantial impact on an organization’s size (Phillips 2014).

Apart from these studies, analyses that take group size into consideration usually do so by including it as a determinant, that might have an impact on other variables, such as their survival (Blomberg et al. 2011), popularity (Akcinaroglu/Tokdemir 2016), or hierarchical structure (Kilberg 2012).
Accordingly, in order to investigate motivations for becoming an insurgent, or becoming a terrorist and joining a terrorist group, most scholars pursue other approaches that can be broadly divided into two categories: First, there are studies dealing with factors on the individual level that lead to radicalization. Second, a broad variety on research in that field examines the root causes of terrorism and political violence, i.e. “underlying social, economic, political, and demographic conditions” (Newman 2006: 749). Thus, in the next sections, I examine these approaches in detail.

2.2.2. Individual Causes of Radicalization:

Early studies dealing with features on the individual level retraced the process of radicalization to certain psychological characteristics, reaching from egocentrism or low intelligence (e.g. Livingstone 1982) to psychopathological factors and illnesses, such as narcissistic personality disorders (Pearce 1977; Pearlstein 1991). Cooper (1977: 24) put forward the argument that there is “a psychopathic quality about the morality” of terrorists. However, empirical research has never confirmed such theories (della Porta 1988: 156). In addition to that, as Kruglanski and Fishman (2006: 210) point out, “these notions […] seem problematic on both conceptual and empirical grounds. The emerging consensus is that no systematic personality differences seem to demarcate terrorists as a category from non-terrorists”.

Following from this knowledge, a quite contrary idea has emerged: the tool view of terrorism, whose proponents state that, basically, everyone might become a terrorist or extremist to achieve a certain political goal (e.g. Kruglanski/Fishman 2006; Ross 1996). This perspective “implies that terrorism is likely to be utilized when perceived as effective for the attainment of important objectives and that it might be relinquished when its perceived efficacy is undermined, when alternative superior means to the same ends appear feasible, and/or when it is seen to undermine other significant goals” (Kruglanski/Fishman 2006: 211).

Therefore, this approach relies on rational choice theories, or more precisely on the concept of bounded rationality (Ross 1996). That means that every actor tries to maximize the utility of his actions and always pursues goals that are based on his consciously chosen and stable preferences (Nalbandov 2013: 93). Furthermore, that model takes into account the individual’s limitations of knowledge and capacity, i.e. the decisions taken are not necessarily the objectively best ones (Nalbandov 2013). According to this idea, the choice to join a terrorist group is the result of a cost-benefit analysis, estimating the path that will most likely lead to the fulfillment of certain goals (Ross 1996). As Berrebi (2009: 193) points out, in this case, the model “needs to be applied with an extended concept of utility that allows for valuing causes greater than the individual and for valuing developments that may or may not occur in the individual’s lifetime”.

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However, this view has not remained unchallenged: For instance, Hoffman (2008) argues that religious terrorism often is not a means to an end, but an end in itself, and that violence is incorporated in certain groups’ ideology. In addition to that, the approach has so far been restricted to theoretical assumptions that are based on anecdotal evidence and the rejection of other approaches (Kruglanski/Fishman 2006; Ross 1996): “Unfortunately, no comprehensive, publicly available database exists that can be used to test these hypotheses” (Ross 1996: 138).

2.2.3. Root Causes of Radicalization:

In contrast to these approaches on the individual level, there is a large variety of empirical research on the root causes of turning to terrorism or political violence (e.g. Newman 2006; Stewart 1998). While the term root causes has been criticized, as it implies that they are necessary or sufficient causes of terrorist behavior (Kruglanski/Fishman 2006), even proponents of the tool view of terrorism admit that such underlying factors can play a role in processes of radicalization (ibid.). This implies that “under certain conditions and in the right combination they may contribute to an individual’s support of or enrollment in a terrorist organization” (ibid.: 197).

This type of research is closely connected to research on the onset of terrorism or political violence which further explains the scarcity of research on the size of terrorist or rebel organizations: Many scholars argue that the more people radicalize, the more violence takes place (e.g. Krieger/Meierrieks 2016; Piazza 2011). Therefore, in root cause analyses on terrorism, most approaches either investigate the number of terrorist attacks (e.g. Burgoon 2006; Piazza 2011), or also consider the number of terrorist casualties (e.g. Abadie 2006; Conrad/Greene 2015; Krieger/Meierrieks 2016).

With regard to other types of political violence, similar measurements are taken, for instance the number of deaths from political violence (Muller 1985), or the onset of civil war (Fearon/Laitin 2003).

Prominent examples for this kind of academic research are studies that deal with the level of democracy as a possible root cause that affects different types of political violence. Two competing arguments are prevalent here. On the one hand, scholars have stated that uprisings, both nonviolent and violent, are only possible in democratic systems, as they are suppressed in autocracies (Eubank/Weinberg 2001: 156). On the other hand, in democracies, everyone has the possibility to express their grievances through peaceful means and is therefore less likely to turn to violence (ibid.). Empirical research has shown that “democracies register high levels of
turmoil, relatively unplanned mass protests with some attendant violence, while autocracies are more likely to experience more serious manifestations of violence, e.g. civil wars” (ibid.).

With regard to terrorism, Li (2005) has found evidence for both theoretical arguments: Different aspects of democracy encourage and reduce transnational terrorism – such as institutional constraints and democratic participation.

Similarly, studies on corruption – another supposed root cause – have also presented mixed findings: Several scholars have argued that high levels of corruption weaken the state, as well as counterinsurgency measures, and create grievances (Fearon/Laitin 2003; Fjelde 2009; Krieger/Meierrieks 2016). Consistent with that, they have found that corruption encourages civil war (Fearon/Laitin 2003; Fjelde 2009) and terrorism (Krieger/Meierrieks 2016). However, these findings have been challenged by Simpson (2014) who sees terrorism and corruption as parts of an extralegal opportunity structure to accomplish certain political goals. He argues that, if goal achievement through corruption is not possible, people turn to terrorism (ibid.). Accordingly, he finds a negative relationship between the corruption level and the number of terrorist attacks (ibid.).

Other root causes that have been found to have an impact on the level of terrorism or other types of political violence are, for instance, political instability (Fearon/Laitin 2003), and state capacity, both institutional and military (Hendrix/Young 2014): While political stability and institutional state capacity raise the efficiency of countermeasures, and thus decrease radicalization (ibid.; Fearon/Laitin 2003), a higher military capacity is connected to more repression, which rather influences the type of political violence that is most promising (Hendrix/Young 2014).

However, as mentioned above, root causes are not only of political, but also of demographic, social, or economic nature. Research on demographic and social factors has found that, for example, ethnic polarization – i.e. “a large ethnic minority faces an ethnic majority” (Montalvo/Reynal-Querol 2005: 797) – increases the risk of civil war (Montalvo/Reynal-Querol 2005). Furthermore, low educational levels increase the likelihood of participation in rebellion (Humphreys/Weinstein 2008).

With regard to economic causes, a large amount of academic literature deals with the connection between a country’s wealth and political violence, respectively terrorism (e.g. Collier/Hoeffler 1998; Li/Schaub 2004; Piazza 2006). A major argument concerning this relationship is that poor economic conditions create grievances and disaffection which are factors driving people to radicalize and turn to political violence (Li/Schaub 2004: 236). In addition to that, Fearon and Laitin (2003) argue that poverty weakens the state and favors rebel recruitment.
Accordingly, they have found that poverty increases the likelihood of insurgency (ibid.). Other studies draw similar conclusions: Humphreys and Weinstein (2008) state that poverty fosters radicalization in general, as it has a positive impact on participation in both rebellion and counter-rebellion. Furthermore, economic development reduces terrorist activity (Li/Schaub 2004) and the risk of civil war (Collier/Hoeffler 1998).

However, these findings have not remained unchallenged: Several scholars have not found a significant relationship between wealth and terrorism (Abadie 2006; Piazza 2006), or even a positive relationship (Piazza 2011). An explanation for these mixed findings might be that, on the one hand, economic growth might reduce incentives to radicalize or to join terrorist groups (ibid.). On the other hand, however, well-developed countries might be targeted more, as, for instance, they are “symbols of the political and economic status quo” (ibid.: 342), which might raise discontent among the less privileged (ibid.).

This idea points towards the possibility that not only the total standing, but also the comparison to other people, i.e. economic inequalities, might be of importance in the process of radicalization. Thus, in the following chapter, I scrutinize the underlying theories, as well as empirical evidence, that link this kind of inequalities to political violence.

2.2.4. Economic Inequality and Radicalization:

Many scholars have argued that economic inequality is a much better predictor of political violence than actual poverty (e.g. Gurr 1968; Muller 1985). The major theory regarding that idea is the relative deprivation theory which implies that “actors’ perception of discrepancy between their value expectations and their environment’s apparent value capabilities” (Gurr 1968: 252-253) is a breeding ground for discontent and anger (ibid.: 253). In other words, the relative standing – for example with regard to economic factors, but also concerning political or other spheres – is more important for the emergence of grievances than the absolute status (ibid.).

This idea is closely connected to the concept of frustration and the frustration-aggression theory, which claims that an actor can only be aware of certain values due to his social and physical environment (Gurr 1968). This awareness leads to specific expectations regarding the achievement of these values (ibid.). The disappointment of these expectations – which are described as legitimate standards, rather than hopes and wishes – leads to frustration, discontent and anger, and therefore fosters radicalization and political violence (ibid.).

An actor’s value expectations might be derived from two different components: First, the actor might compare what he or she has to what he or she had before (ibid.). Second, the actor might also compare what he or she has to what others have (ibid.). Here, the usual idea in the academic
literature examines the relative economic standing compared to others, i.e. economic inequality (e.g. Krieger/Meierrieks 2016; Muller 1985; Piazza 2011). Accordingly, this leads to the following theoretical claim:

“A large group of impoverished citizens, facing a small and very rich group of well-off individuals is likely to become dissatisfied with the existing socio-economic status quo and demand radical changes, so that mass violence and illegal seizure of power are more likely than when income distribution is more equitable” (Alesina/Perotti 1996: 1214).

On the individual level, this implies that, when the own economic situation is comparably low, a person might develop feelings of discontent and frustration, which in turn increases the chance to participate in collective violent action (Krieger/Meierrieks 2016: 3-4). Therefore, in sum, relative deprivation theory sees economic inequality as an important predictor of radicalization (Krieger/Meierrieks 2016).

However, while it may breed discontent, this does not necessarily lead to violence, and violence does not always stem from inequality (Muller 1985: 53). Furthermore, many scholars have questioned the theoretical claims: For instance, proponents of the resource mobilization theory (e.g. McCarthy/Zald 1977; Snyder/Tilly 1972) “challenge the standard argument which treats collective violence as an expression of the dissatisfactions felt by populations” (Snyder/Tilly 1972: 520) and instead argue that the central factor in explaining collective violent action is the acquirement of resources (Muller 1985: 48).

Empirical tests of relative deprivation theory deal with two different manifestations of inequality, taking either personal or collective frustrations into account (Gurr 1968: 253-254). The first kind is called vertical inequality and describes income inequality on the individual or household level (Cederman et al. 2013: 3). It is typically measured by the Gini coefficient\(^3\) (ibid.: 148), which, according to Krieger and Meierrieks (2016: 9), “can be interpreted as a quantification of relative deprivation theory”. The second type – horizontal inequality – refers to inequality between groups, for example of different ethnicity (Cederman et al. 2013: 3). Horizontal inequality is measured in different ways, depending for instance on the type of groups that are investigated (e.g. ibid.: 150; Piazza 2011).

Examinations of the relationship between the latter kind and different sorts of political violence have produced clear results: “[H]orizontal inequalities are indeed associated with increased risks of political violence” (Østby 2013: 218). In addition to that, horizontal inequality raises the likelihood of civil war (Cederman et al. 2013) and has been described as one of the main

\(^3\) The Gini coefficient measures the amount of income inequality on the country-level on a scale from 0 (perfect equality) to 100 (perfect inequality) (Krieger/Meierrieks 2016: 9).
sources of organized conflict (Stewart 1998). With regard to terrorism, Piazza (2011) has identified economic discrimination of minorities as an important predictor of terrorism. Furthermore, Ezcurra and Palacios (2016) have found that interregional inequality – i.e. economic inequality between subnational regions – significantly increases the likelihood to experience domestic terrorism.

Accordingly, scholars have identified horizontal inequality to be a significant positive predictor of any kind of political violence, fostering radicalization in many ways. Therefore, as of now, I lay the focus on vertical income inequality, which, due to simplicity reasons, I merely refer to as economic and income inequality in the following.

Regarding this type of inequality, the findings are more ambiguous: While Weede’s (1981) findings have not shown any connection to political violence, Sigelman and Simpson (1977: 105) see “a moderate linear relationship”. Muller (1985), who is “one of the main contributors in this area” (Thorbecke/Charumilind 2002: 1485), has identified a positive impact of income inequality on political violence, supporting relative deprivation theory. However, this has not remained unchallenged: For instance, Hartman and Hsiao (1988) particularly criticize Muller’s (1985) data and operationalization. They argue that his dependent variable – deaths due to political violence (ibid.) – is very unevenly distributed and strongly biased in non-Western countries, as it relies on media coverage (Hartman/Hsiao 1988). Furthermore, they identify an omitted variable bias, and conclude: “A slight change in the composition of the cases or a slight change in the years studied is enough to radically alter the results” (ibid.: 798). Nevertheless, Wang et al. (1993: 991) have supported Muller’s (1985) findings, stating “that high levels of income inequality promote high levels of political violence”.

In contrast to that, Cederman et al. (2013) have not identified any substantive effect of economic inequality on the likelihood of civil war. This is supported by Collier and Hoeffler (2004: 577) who state that the relationship between Gini coefficient and civil war onset “is consistently insignificant”.

With regard to the connection between economic inequality and terrorism, scholars have pursued two different approaches. While both of them are related to the question whether inequality has an impact on the size of terrorist groups, neither of them can undoubtedly answer it, which I further specify below. The first idea is to examine the impact of inequality on the number of terrorist attacks or, as indicated above, on the number of fatalities through terrorism (e.g.

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4 While most scholars, as indicated above, utilize the Gini index to quantify economic inequality, Muller (1985) has used upper-quintile income shares as his independent variable.
Krieger/Meierrieks 2016; Piazza 2011). Studies that have adopted the second approach investigate one or few terrorist groups and their membership structure in detail, and, based on the results, draw conclusions concerning the members’ motivations (e.g. Berrebi 2007; Krueger/Malečková 2003).

Regarding the first approach, Li and Schaub (2004) have identified the Gini coefficient as a positive predictor of transnational terrorism. Furthermore, a study by Burgoon (2006) has shown that an increase in welfare and redistribution – which is closely connected to a decline of economic inequality – reduces terrorism. In contrast to that, Abadie (2006) has not found any significant impact of income inequality on terrorist activity. The same holds true for Feldmann and Perälä (2004), who have dealt with terrorism in Latin America, although they admit that the limited data availability might have biased these results and that further research is necessary.

Indeed, more recent studies have found a positive link between income inequality and terrorism (Derin-Güre 2009; Piazza 2011). A study conducted by Krieger and Meierrieks (2016) confirms that view, as it identifies “robust evidence that higher levels of income inequality are associated with more terrorism”5 (ibid.: 22). The authors “argue that this effect is primarily a direct consequence of frustration over the distribution of income within a society, resulting in aggression (terrorism) to voice dissent and achieve a redistribution of wealth through terrorist action” (ibid.).

While these findings point towards a positive link between economic inequality and the size of terrorist groups, this does not necessarily hold true. Given that a higher number of terrorist attacks is caused by an increase in the number of terrorists6, this might indeed imply that more people join terrorist groups. However, it could also mean that more people found new terrorist groups.

This raises the question why that distinction is relevant. First, economic inequality might influence the two variables, i.e. group size and number of terrorist groups, in different ways. On the one hand, founding and maintaining a new organization, as well as conducting terrorist attacks, requires resources that economically disadvantaged people might not have (Freeman 2011). On the other hand, the selection criteria by terrorist organizations regarding their member base only

5 As their independent variables, Krieger and Meierrieks (2016) use the Gini index, but also pursue an instrumental variable approach to avoid endogeneity bias, increasing the robustness of their results.

6 However, this assumption is questionable: As proponents of the relative deprivation theory argue, more inequality might lead to more destructiveness of aggressive actions (Gurr 1968). This implies that, ceteris paribus, higher levels of income inequality lead to more attacks and more severe attacks by those who are radicalized anyway (ibid.). Nevertheless, as that degree of radicalization is rather irrelevant with regard to my research question, I focus on the idea that inequality causes more people to radicalize in the first place.
plays a role when joining an existing group: As is further described below, group leaders might be restrictive concerning the admission of underprivileged people (Krueger/Malečková 2003). Hence, there are different constraints to both causal paths, that presumably have diverging effects on the connection to income inequality.

Second, larger group sizes and more terrorist groups also do not necessarily influence the amount and lethality of terrorist attacks in the same way: Due to outbidding\(^7\), a higher number of competing terrorist groups increases both the quantity and the quality – i.e. the severity – of attacks dramatically (Conrad/Greene 2015). In contrast to that, the group size only has a positive impact on the number of attacks, not on their severity (Clauset/Gleditsch 2012). In addition to that, a group’s durability raises the frequency of terrorist acts it commits (ibid.). A group’s age and size reinforce each other, i.e. a large group lives longer, and longer living groups are larger (ibid.). In contrast to that, “as the number of groups who use terrorism in a country increase, the less likely those groups will survive” (Young/Dugan 2014: 17). That implies that, through this indirect path, new members increase a group’s quantity of attacks, while new organizations decrease that number.

All in all, there are enough reasons to differentiate between the number of terrorist groups, and their respective size. In this paper, I focus on the latter option.

Empirical research explicitly dealing with the motivations to join terrorist groups – and especially with the question whether economic inequality might be a contributing factor – remains scarce and is mostly restricted to anecdotal evidence: As indicated above, instead of conducting large-N studies using the group size as their dependent variable, scholars have turned back to the micro level and investigated the composition of terrorist groups in detail (e.g. Krueger/Malečková 2003; Sageman 2004).

Several of these studies rely on the same argument: Economic grievances, particularly inequality, do not play a major role in terrorist recruitment, as the members of terrorist organizations tend to be rather privileged compared to the rest of society. For instance, Krueger and Malečková (2003: 141) state that Palestinian suicide bombers, as well as members of Hezbollah and the Israeli Jewish Underground are “at least as likely to come from economically advantaged families and have a relatively high level of education as to come from the ranks of the

\[^7\] Outbidding is one of five strategic logics used by terrorists that Kydd and Walter (2006) have identified. “Groups engaged in outbidding use violence to convince the public that the terrorists have greater resolve to fight the enemy than rival groups, and therefore are worthy of support” (ibid.: 51). The other strategies are attrition, intimidation, provocation, and spoiling (Kydd/Walter 2006).
economically disadvantaged uneducated”. This leads to the conclusion that the entry into a terrorist group occurs “as a response to political conditions and long-standing feelings of indignity and frustration that have little to do with economics” (ibid.: 119). Consistent with that, Krueger (2007) and Berrebi (2007) who both examined organizations in the Middle East, describe people who join terrorist groups as relatively well-off and better-educated. Therefore, Krueger (2007: 49) subsumes that “economic circumstances are [not] irrelevant, but […] they are dominated by other forces”.

However, Krueger (2007) also admits that this does not hold true for all groups: For instance, the Irish Republican Army (IRA) mostly drew its members from economically deprived, working class segments of society. Handler (1990) reports similar findings with regard to right-wing terrorists in the United States. Accordingly, Gambetta and Herzog (2016) state that although many terrorists – especially Islamist – come from privileged backgrounds and relative deprivation is not the only factor of importance, it might still contribute to terrorist recruitment. This view is supported by Sageman (2004: 135) who argues that relative deprivation might play a role, but not the only one, in the decision to join a terrorist organization.

Furthermore, Lee (2011: 242), dealing with participants in the Bengali agitation against the British Raj, argues that “the highest-risk groups for terrorism […] seem to be those who are in the upper part of society but not at the top, that is, the poorest members of the politically aware class”. Similarly, Hegghammer (2006) finds that members of al Qaeda on the Arabian Peninsula are largely drawn from the Saudi Arabian middle class, or lower middle class.

However, as mentioned above, these studies are mostly restricted to single groups, or to small samples from one region. Thus, the conclusions drawn are not only very ambivalent, but also hardly generalizable. In addition to that, the fact that, in many groups, the average member is not poorer than the average of the population, does not rule out the possibility that economic inequality might still be a relevant root cause for some, or even many terrorists.

Therefore, in sum, despite the results of quantitative analyses on the impact of inequality on terrorism and the findings on the membership structure of terrorist groups, the question if and how economic inequality affects the size of terrorist groups remains open.

Furthermore, as Newman (2006) suggests, other factors might influence how economic grievances contribute to radicalization. This is supported by Kruglanski and Fishman (2006: 197) who state that root causes “may show correlations with a given variable of interest under specific circumstances”. This kind of research has so far been neglected. Hence, I do not only examine the total effect of income inequality on the size of terrorist groups, but also introduce
two possible moderating variables – group ideology and corruption. While, as described above, these factors’ main effects have been examined before, their interaction with economic inequality in the emergence of grievances, the process of radicalization, and the admission to terrorist groups, has not been investigated yet. Therefore, in the following sections – first theoretically, then empirically –, I expound the impact of income inequality on the size of terrorist groups, and how it is affected by the organizations’ ideology, and by corruption.

2.3. Economic Inequality and the Size of Terrorist Groups:

With regard to the effect of economic inequality on the size of terrorist groups, I argue that – in support of relative deprivation theory – the two variables are positively connected: Therefore, I first argue that economic inequality leads to the emergence of grievances among those people that are relatively deprived. This is due to the idea “that members of society evaluate their economic position relative to reference groups in society” (Krieger/Meierrieks 2016: 3). Accordingly, a relatively low economic status compared to other people leads to grievances, or, as the frustration-aggression theory puts it, to feelings of frustration and discontent (Gurr 1968). However, several scholars have challenged that argument, stating that people with lower income are often less educated, less politically aware, and thus less sensible towards situations of injustice and discrimination than those from more privileged backgrounds (Krueger/Malečková 2003: 142). This implies that those members who are affected by economic inequality are not aware of it, i.e. inequality does not lead to frustration and grievances among them (Berrebi 2007: 8).

Contrary to that, I argue that economic inequality might also affect well-educated people, and cause frustration among these segments of society. Accordingly, as Lee (2011) has pointed out, people might also feel deprived due to inequality, even if they are not in the lowest class. In addition to that, although studies have indeed found a positive connection between educational level and political awareness (Jackson 1995), others argue that this relationship should not be overestimated (Rich 1976; Zaller 1990). This implies that, while on average, the more educated segments of society are more politically aware, poorly educated people can still develop a high political awareness, and, accordingly, also discontent and frustration due to situations of relative deprivation.

Second, I argue that these grievances – that can indeed be felt by relatively deprived people – can be a breeding ground for radicalization among these segments of society: One argument put forward by relative deprivation theory and frustration-aggression theory is that discontent
and frustration cause anger, which fosters aggressive and violent behavior (Gurr 1968: 250). Contrary to that, as already described, other scholars argue that, instead, the process of radicalization is rather a rational act, and part of a cost-benefit analysis in order to attain certain goals (e.g. Kruglanski/Fishman 2006).

However, proponents of relative deprivation theory also argue that radicalization might not be merely driven by the urge to satisfy one’s anger aggressively, but that “expectations of gains to be achieved through violence may be present” (Gurr 1968: 250). Accordingly, relative deprivation theory does not contradict, but rather support the rational choice argument: The decision to radicalize might be driven by the goal to abolish economic inequality, i.e. the cause of one’s frustration (Krieger/Meierrieks 2016: 4). Therefore, I expect grievances to positively affect the likelihood of radicalization.

Third, I argue that trends of radicalization increase the size of terrorist groups, as people who embrace political violence might also decide to join terrorist organizations. This implies that “[t]errorism is used by the frustrated ‘have-nots’ to violently voice discontent” (ibid.: 5). Relative deprivation theory supports that causal step, as it refers to participation in collective political violence, rather than its initiation, implying that inequality rather leads to people joining existing violent groups and movements than launching new ones (Gurr 1968: 250).

Contrary to that argument, scholars have argued that, when dealing with terrorist recruitment, it is necessary to not only take into account the supply side – i.e. consider who wants to join a group – but also the demand side (Krueger/Malečková 2003: 142): This means that terrorist organizations do not accept every applicant, but rather prefer those who are skilled, and those who can provide resources to the group (ibid.). Accordingly, although people who suffer from inequality might want to join terrorist groups, they are not accepted by these groups (ibid.). This line of argumentation is consistent with the resource mobilization theory which identifies the acquirement of resources as the central factor in terrorist recruitment (Muller 1985: 48).

Although I agree that one has to take the demand side into consideration, I argue that, as described above, educated, skilled people might also be affected by income inequality, making it more likely for them to be admitted to terrorist groups. In addition to that, while groups might tend to rather accept more privileged applicants, they will probably not reject every applicant who is relatively deprived. This especially holds true, as, for many terrorist organizations, it is in fact very difficult to attract members (Silke 2003: 38).

Furthermore, I argue that most terrorist groups do not have to rely on the investment of their members’ personal capital, as they “have multiple sources of funding, both licit and illicit” (Lowe 2006: 255). For instance, many terrorist organizations rely on state sponsorship (Carter
2012), counterfeiting (Lowe 2006), or drug trafficking (Hardouin 2009) in order to finance their operations.

Thus, I argue that not all groups are equally willing, or able, to exclude deprived people from their organization, significantly weakening the argument regarding the demand side of terrorist recruitment. Therefore, I expect that processes of radicalization among those members of society affected by inequality can indeed increase the size of terrorist groups.

A prominent example supporting my assumed causal process is the previously mentioned IRA: Economic inequality was one of its main drivers of recruitment (Cairns/Darby 1998). Not only did the organization draw its members from Northern Ireland, which is relatively deprived compared to the rest of the United Kingdom, but also from those districts of Northern Ireland that were poorer than others (ibid.: 755; Krueger 2007: 45). As the IRA was not very restrictive regarding the acceptance of new members, the group was primarily composed of uneducated and economically depressed working-class people (Krueger 2007: 45). This shows that, in this case, neither did a lack of political awareness prevent frustration and radicalization in the Northern Irish community, nor did the IRA accept only relatively well-off and high-class members.

In sum, I argue that, while some of the constraining factors described above might slightly weaken the positive impact of inequality on the size of terrorist groups, they do not block the connection between the two variables. Therefore, an increased level of economic inequality leads to more grievances and discontent among the population, which leads to a higher rate of radicalization. This implies that more people want to join terrorist groups. Although not all of them might be admitted to a group, some or even many of them are. Accordingly, the size of terrorist groups increases with higher levels of economic inequality (see Figure 1), leading to the following hypothesis:

**H1: More economic inequality in a terrorist group’s country of recruitment leads to a larger terrorist group.**

![Figure 1. The Impact of Economic Inequality on Terrorist Group Size](image-url)
2.4. Left-Wing Ideology as a Moderator:
While I expect the overall effect of income inequality on the size of terrorist groups to be positive, Newman (2006) points out that it might vary with regard to different types of groups. As indicated above, several scholars (e.g. Kruglanski/Fishman 2006; Ross 1996) state that the process of radicalization is not only driven by irrational feelings of anger and aggression. Instead, the decision to join a terrorist group might be part of a cost-benefit analysis, and terrorism can be a tool, a means to a certain goal (Kruglanski/Fishman 2006; Ross 1996).

First, as described in the last section, I argue that this goal, in the case of grievances caused by economic inequality, might be the abolishment of this inequality. In addition to that, economic equality is a basic element of left-wing ideologies (McClosky/Chong 1985). Hence, I argue that relative economic deprivation rather drives people to join left-wing terrorist groups than others and, accordingly, income inequality has a greater positive impact on the size of left-wing groups, compared to other terrorist organizations.

Several cases support that argument: In addition to the Nepalese Maoists described initially, economic inequality has been identified as one of the main contributors of the growth of the Shining Path in Peru, and the Khmer Rouge in Cambodia into the thousands (Jones/Libicki 2008: 164, 179; Podobnik 1996). All of these organizations were, respectively still are of communist revolutionary nature, i.e. left-wing (Eck 2010; Podobnik 1996: 169). Especially the Shining Path illustrates the formulated mechanism: The organization recruited many members from comparably lower classes, mainly deprived people from rural areas (Podobnik 1996: 175).

Second, as Berrebi (2007: 8) argues, “education may contribute to the development of a sense of social responsibility and civic engagement, so that highly educated individuals may feel the need to contribute to particular causes”. Thus, higher levels of economic inequality might not only lead to a radicalization of those who are directly affected by it, but also by left-wing intellectuals, even if they are not deprived themselves. Nevertheless, they might – consistent with the tool view – decide to radicalize to achieve economic equality and, presumably, rather join leftist groups. In addition to that, these members of the rather well-educated classes, following Krueger and Malečková (2003), are even more likely to be admitted by the terrorist groups. Therefore, I argue that more inequality also increases the number of those people joining leftist terrorist organizations who do not belong to the relatively deprived segments of society.

Consistent with that, “the Shining Path did not find bases of support solely among the poorest segments of the peasantry. Instead, the movement’s most consistent militants were provincial

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8 While the Khmer Rouge has dissolved in 1998, the Shining Path is still active today (Jones/Libicki 2008: 164; 179).
and urban youth with relatively high levels of education” (ibid.: 177). Hence, the recruitment was not restricted to deprived and uneducated Peruvians from rural areas, but people from higher classes and academics also joined the organization.

Third, many left-wing groups promote equalitarianism (Baker 1982: 324). Such organizations “often stress their disapproval of hierarchical, bureaucratic forms of structure” (ibid.), and try to establish “a group of consenting, decision-making individuals” (ibid.). I argue that this political agenda can have an impact on the recruitment procedures in these groups: As they tend to be less elitist and exclusive, they might admit more people that are affected by relative deprivation. That means, not only are there more applicants from these segments of society, but also more of them are integrated into the groups.

Again, the case of the Shining Path illustrates the functioning of that mechanism: The group’s leader Abimael Guzmán Reynoso framed the deprived classes’ mobilization as “the only correct strategy for true revolutionaries in Peru” (Podobnik 1996: 175). This shows that not only did many underprivileged people decide to follow the communist group, but also that this development was even fostered by the group’s leaders.

All in all, I expect that, first, compared to other groups, inequality leads to more deprived people trying to join left-wing groups. Second, I further expect economic inequality to cause more people from comparably educated classes attempting to participate in leftist terrorist groups. Third, as I argue, left-wing groups are more inclusive than other groups. Thus, the increased supply with relatively deprived people also leads to a larger number of members. Regarding the higher radicalization rates of higher-class intellectuals, their admission is always very likely, regardless of the group’s inclusiveness. These factors cause an overall increased positive effect of income inequality on the size of leftist terrorist organizations, compared to other groups (see Figure 2). Therefore, I formulate the following hypothesis:

**H2: More economic inequality in a left-wing terrorist group’s country of recruitment leads to a relatively larger terrorist group, compared to terrorist groups with other ideologies.**

![Figure 2. The Moderating Effect of Left-Wing Ideology](image-url)
2.5. Political Corruption as a Moderator:

In addition to the role of group ideology, I expect another variable to moderate the impact of income inequality on the size of terrorist organizations, namely the level of corruption. Due to the limited scope of this paper, although corruption can take different forms (Philp 2006: 46), I here focus on one specific type: political corruption, i.e. “the exercise of public, political office for private gain” (ibid.).

I argue that higher levels of political corruption lead to a bigger impact of economic inequality on the group size due to four reasons. First, as argued above, economic inequality radicalizes people, as it produces grievances and discontent. I argue that higher levels of corruption increase these grievances: Corruption can create further advantages for the relatively rich segments of society, that, for instance, can rather afford bribery (Schulze/Zakharov 2018: 2, 8). In turn, this might decrease opportunities for the deprived: For example, political decision-making could rather be shaped by economic incentives for representatives than by the will of the people (ibid.). This implies that, through corruption, income inequality could be transferred to other areas, facilitating discontent among the economically disadvantaged. As mentioned before, relative deprivation theory is not restricted to the economic sphere, i.e. grievances can also be fostered through other types of inequality (Gurr 1968: 253).

This idea is underlined by the case of the CPN-M, where the combination of economic inequality and corruption led to the emergence of political inequalities and marginalization, constituting a major driver for the movement’s growth (Eck 2010).

Second, “political corruption and the concomitant corruption of politics undermine institutionalized public affairs, including processes of political change” (Le Billon 2003: 419). Accordingly, corruption can decrease the vertical mobility, i.e. the relatively deprived have low chances to change their economic situation in institutionalized ways (Dimant et al. 2013; Schulze/Zakharov 2018: 8). Therefore, in an actor’s cost-benefit analysis, the costs for conventional ways to improve the own economic situation, or to combat inequality might increase if corruption is prevalent, making terrorism a more attractive option.

In the case of the CPN-M, people indeed lost faith in democratic governance due to the high levels of corruption (Eck 2010). Therefore, the Maoists provided a feasible alternative for the abolishment of their grievances, namely radicalization (ibid.). This further shows that political corruption fostered the positive impact of economic inequality on the group’s number of members.

Third, a strong state has more opportunities to suppress agitation and violent opposition (Stewart 1998: 27). Corruption impedes the state (ibid.), and thus its instruments to suppress the
processes of radicalization developed through economic inequality. Particularly, corruption decreases the capabilities of police and military, as well as the government’s reach into rural areas (Fearon/Laitin 2003: 80). This decreases their ability to monitor and confront the anger and violent tendencies developed by deprived members of society (ibid.). This, in turn, fosters the impact of grievances caused by inequality on the mobilization by terrorist organizations.

In Nepal, the state was significantly weakened due to the prevalence of political corruption, leading to the withdrawal of the state from the countryside (Eck 2010: 38). Taking advantage of the society’s grievances caused by inequality, this fostered the CPN-M’s ability to fuel the local people’s radicalization, and “to recruit unhindered” (ibid.). Hence, this case supports the adequacy of the third mechanism.

Fourth, several authors have linked the financing of terrorist organizations to corruption, either directly (e.g. Amoore/de Goede 2005; Jenkins 2005) or through their connection to organized crime (e.g. Hardouin 2009). Thus, corruption facilitates the accumulation of resources for terrorist groups (ibid.), as they “are assisted by corrupt officials whose services provide mutual benefits” (ibid.: 207). Furthermore, “[t]errorists benefit from uneven enforcement. Many financial institutions and some countries remain reluctant to interfere with suspect transfers, not because they support terrorism but because strict controls could interfere with lucrative transactions deriving from […] political corruption” (Jenkins 2005: 121). Therefore, I argue that, in more corrupt countries, terrorist groups rarely have to rely on their members’ resources and, hence, are less reluctant with regard to the admission of relatively deprived people.

Regarding the fourth causal mechanism, the Shining Path is a prominent example: The organization drew most of its resources from illegal drug trafficking, which was facilitated by the high levels of corruption (Kay 1999). This made the organization financially independent from other sources, such as their members’ properties (ibid.). In fact, the Shining Path even “has provided significant [material] benefits to its supporters” (McClintock 1984: 81), further fostering recruitment among the deprived (ibid.).

Hence, in sum, I argue that political corruption moderates the impact of economic inequality on the size of terrorist groups through four mechanisms (see Figure 3): First, the combination with corruption increases the grievances produced by economic inequality, as it creates other inequalities, fostering frustration and discontent. Second, corruption decreases the chances to express grievances in an institutionalized way, which further increases the likelihood of radicalization. Third, it undermines the functioning of the state, impeding the suppression of radical tendencies created through income inequality. Fourth, political corruption facilitates terrorist groups’ financing and makes them less reliant on resource provision through their membership
and, accordingly, more open to underprivileged people. Thus, I formulate the following hypothesis:

**H3:** More economic inequality in a terrorist group’s country of recruitment leads to a relatively larger terrorist group in more corrupt countries, compared to terrorist groups in less corrupt countries.

![Diagram showing the moderating effect of political corruption on the relationship between economic inequality, grievances, radicalization, and terrorist group size.](image)

**Figure 3.** The Moderating Effect of Political Corruption

### 3. Methodological Approach:

#### 3.1. Data:
To test my hypotheses and answer the research question, I conduct a quantitative large-N study. Such studies yield results that are more useful in hypothesis testing, as they are more generalizable and more representative than findings from qualitative small-N research (Riesenhuber 2009: 7).

In order to do so, I rely on the End-of-Terror data set established by Jones and Libicki (2008) which holds information on 648 terrorist groups that were active between 1968 and 2008 (ibid.). They derive most of their data from the RAND-MIPT Terrorism Incident Database (ibid.), which is now known as the Rand Database of Worldwide Terrorism Incidents (RDTWI) (Sheehan 2012). The RDTWI “is widely used for comprehensive information on international and domestic terrorism” (Schomaker 2013: 121). Furthermore, “RAND staff with regional and language expertise review incidents around the world that can be potentially defined as terrorism. In addition, terrorist incidents must be confirmed as such through press reports before they can be officially counted” (Muhlhausen/McNeill 2011: 2). Additionally, “[a]n important attribute of the RDWTI is the consistent application of its definition of terrorism”⁹ (ibid.), making it a very reliable source.

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⁹ The database follows the definition by Hoffman (2006) introduced initially (Muhlhausen/McNeill 2011: 2).
As I am interested in terrorist groups instead of single terrorist acts, the terrorist group is my unit of analysis. Regarding that matter, the End-of-Terror data set holds the advantage that – in contrast to other databases, such as the RDWTI and the Global Terrorism Database (GTD) – it gathers information on the group level, rather than on the event level (Jones/Libicki 2008; Sheehan 2012). Therefore, it contains specific data on the characteristics of terrorist organizations (Blomberg et al. 2011: 442). Accordingly, several other empirical studies have also relied on this data set (e.g. Blomberg et al. 2011; Brathwaite 2013; Gaibulloev/Sandler 2013).

Moreover, Jones and Libicki (2008: 3) define a terrorist group “as a collection of individuals belonging to a nonstate entity that uses terrorism to achieve its objectives”. According to Phillips (2015), this is an inclusive definition, which holds many advantages compared to exclusive definitions.

3.2. Dependent Variable:

Regarding my dependent variable\(^{10}\), the End-of-Terror data set contains a variable on a group’s peak size, i.e. the number of members when it was the largest (Jones/Libicki 2008: 38). This number is derived from the RDWTI (ibid.: 6), which, as mentioned above, is a very credible source. The peak size is measured on a four-point ordinal scale\(^{11}\): less than 100 members (1), between 100 and 1000 members (2), between 1000 and 10000 members (3), and more than 10000 members (4) (ibid.: 38).

Admittedly, that scale is neither very accurate regarding the exact number of members, nor does it contain information on the point of time when the peak size was reached: For instance, a group might have already existed for many years and then suddenly become very large, or might be very large at the beginning and then decline. However, the End-of-Terror data set still holds the most comprehensive data that exists: “Terrorists […] depend on secrecy as a foundational concept for their organizations. This includes secret membership, secret locales, secret leadership, and secret communications” (Shelley/Picarelli 2002: 307). Therefore, the accumulation of more detailed data is hardly possible in practice, making the present information the most accurate measure of terrorist group size that is available. Hence, I use Jones and Libicki’’s (2008) peak size values as my dependent variable.

\(^{10}\) For a table with summary statistics regarding all variables, see Appendix A1.

\(^{11}\) An ordinal variable is one that allows a ranking and pairwise comparison of objects (better/worse than or more/less than), but no measurement of the interval between different values. Thus, arithmetic operations are not possible (Backhaus 2016: 11-12).
3.3. Independent Variables:

As my main independent variable, I use the Gini coefficient, which, as indicated above, is the most common measure of economic inequality. Following Krieger and Meierrieks (2016), I derive the data from the Standardized World Income Inequality Database (SWIID) in the latest version 6.2 (Solt 2018). The SWIID holds the advantages that, on the one hand, it has a greater coverage in time and space than other databases, and, on the other hand, that it is standardized, allowing a greater comparability between different countries (Krieger/Meierrieks 2016: 9-10). Altogether, it contains values for 192 countries, some of them ranging from 1960 to the present (Solt 2018).

The dataset holds information on inequality in market income, i.e. before taxes and redistribution by the state take place, and inequality in disposable income – post-tax and post-transfer (ibid.). I use the latter measure, as “that is the kind of inequality actually felt by society and can thus considered to be a potential breeding ground for frustration and, ultimately, terrorism” (Krieger/Meierrieks 2016: 9).

As indicated in my hypotheses, I consider the inequality in a group’s country of recruitment to be decisive, that is, the country in which the group admits most of its members, as, most likely, this is the country where the recruits’ process of radicalization takes place. For instance, the members of the Japanese Red Army were recruited in Japan, then emigrated to Lebanon and operated from there (Box/McCormack 2004: 96). As they radicalized in Japan, this is coded as the group’s country of recruitment. In contrast to that, most of the Cambodian Freedom Fighters, whose leader Chhun Yasith emigrated to the United States, were recruited among the Cambodian-American community (Deth et al. 2017: 25; Sodhy 2004: 162). Thus, in this case, the country of recruitment is the United States.

End-of-Terror includes a variable for every group “on the country to which it is best associated” (Jones/Libicki 2008: 34). As there is far more domestic than transnational terrorism (Sánchez-Cuenca/de la Calle 2009), this is also the country of recruitment in most cases. Regarding the remaining groups, I recode the country variable using a number of different sources from the academic literature (see Appendix A2). Furthermore, some groups could not be assigned to a single country. Here, I follow Gaibulloev and Sandler (2013: 781) who, in such cases, averaged variables across the countries.

Regarding the year the value is derived from, the data set includes a group’s start year “based on the first indication that the group existed and was dedicated to the use of violence” (Jones/Libicki 2008: 5). In order to avoid endogeneity bias, I lag the value by one year, that is, I use the value of the year before the group was launched.
In sum, every group is assigned one country (or two in very few cases) and one year. The Gini coefficient of that country-year combination builds my main independent variable. However, although the SWIID is the most comprehensive data set on income inequality, there are still missing values for around 200 of the 648 groups. One option would be to try and complete the missing data with other data sets. However, on the one hand, the SWIID contains the most values regarding both countries and years anyway. On the other hand, this would dramatically decrease the values’ comparability. Therefore, I exclude these units from the analysis. This might bias the findings, which has to be considered when interpreting the results.

With regard to the second independent variable, End-of-Terror includes a categorical variable on a group’s ideology that can take four values: right-wing, left-wing, nationalist, or religious (ibid.: 142). The classification was taken based on the RDWTI and a qualitative assessment of the group’s statements and actions (ibid.: 5). If groups hold a combination of different ideologies, then the primary motivation was the decisive one12 (ibid.). Regarding the definition of the four types, Jones and Libicki (ibid.: 15) state that

“left-wing includes a range of Marxist-Leninist, environmental, animal rights, anarchical, and antiglobalization groups. Right-wing includes racist and fascist groups. Nationalist includes groups inspired by a desire for independence, territorial control, or autonomy because of ethnic or other affiliations. Religious terrorists commit acts of terrorism to comply with a religious mandate or to force others to follow that mandate”13.

From the four-point categorical variable, I create a dummy variable, i.e. a binary variable with two distinct categories which can take the values 1 (attribute present) and 0 (attribute absent) (Backhaus et al. 2016: 17, 363). If the group is left-wing, I code it as 1, otherwise as 0.

Concerning the third independent variable, political corruption, I use the V-Dem Political Corruption Index. It measures corruption in the polity realm and includes measures of four different spheres that are weighted equally: executive corruption, legislative corruption, judicial corruption, and corruption of the public sector (V-Dem Institute 2018). This leads to a continuous scale from 0 to 1, where higher values indicate a higher level of political corruption (ibid.). In comparison to other corruption indices, such as the Corruption Perception Index, it holds the

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12 For instance, the Hamas’ ideology includes components of religion and nationalism (Jones/Libicki 2008: 5). However, as the group’s primary goal is the liberation of Palestine, it is coded as nationalist (ibid.).

13 In the data set, there are two groups whose major purpose are environmental or animal rights issues: the Earth Liberation Front, and the Animal Liberation Front (Jones/Libicki 2008; Pellow/Brehm 2016). As the abolishment of inequalities is also incorporated into their agenda (Pellow/Brehm 2016), I still count them as left-wing.
advantage that it focuses on and is restricted to the political type of corruption (Curini 2018: 95). In addition to that, it also covers a larger time span (ibid.).

3.4. Research Method:

With regard to the research method, I have to consider that the data structure is hierarchical, i.e. not all units are independent, as the terrorist groups are clustered within higher levels (Finch et al. 2014: 24; Gelman/Hill 2007: 2, 7). Typical examples of clustering are students within schools, or patients within hospitals (Finch et al. 2014: 24; Gelman/Hill 2007: 2, 7). Here, the organizations are clustered within countries, and within years, i.e. I am dealing with time-series cross-sectional data (Gelman/Hill 2007: 297).

Usual regression models include the assumption that there are “independently distributed error terms for the individual observations within a sample” (Finch et al. 2014: 23). Ignoring a hierarchical data structure violates this assumption of independent standard errors, leading to an overestimation of statistical significance (ibid.: 28). In addition to that, “another problem with ignoring the multilevel structure of data is that we may miss important relationships involving each level in the data” (ibid.). Therefore, I have to apply a multilevel model, i.e. an extension “of regression in which data are structured in groups” (Gelman/Hill 2007: 237).

Following Gelman and Hill (ibid.: 2), “[n]either ‘state’ nor ‘year’ is above the other in a hierarchical sense. In this sort of example, we can consider individuals, states, and years to be three different levels without the requirement of a full ordering or hierarchy”. This leads to the adoption of a non-nested or crossed model (ibid.; Finch et al. 2014: 24). This implies that I will allow for varying – or random – intercepts for each country and year14 (Gelman/Hill 2007: 1-2).

Furthermore, as explained above, the dependent variable is measured on an ordinal scale. A commonly used model with regard to such a data structure is the cumulative logit model, an extension of the logistic regression model used for binary outcome variables (Finch et al. 2014: 129). “This model has J – 1 logits where J is the number of categories in the dependent variable” (ibid.). Essentially, each of these logits measures the likelihood that the outcome variable will take a certain value or below compared to a higher value15 (ibid.). For each logit, the model

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14 Another option would be to additionally allow for random slopes, i.e. regression coefficients that can also vary by cluster (Gelman/Hill 2007: 1-2). However, the inclusion of random slopes yields variances very close to 0 for both levels, i.e. country and year, and across all models and model specifications. This indicates that the estimate of random slopes is not helpful. Accordingly, I only include random intercepts in my empirical analysis.

15 Accordingly, my model consists of three logits: first, 1 vs. 2, 3, or 4 (less than 100 vs. more than 100), second, 1 or 2 vs. 3 or 4 (less than 1000 vs. more than 1000), and third, 1, 2, or 3 vs. 4 (less than 10000 vs. more than 10000).
estimates a unique intercept, but there is only one coefficient (ibid.). Hence, this method relies on the proportional odds assumption, i.e. that the slope is identical across all logits (ibid.). Therefore, I test this assumption as well.

In sum, in order to take into account both the hierarchical data structure and the ordinal dependent variable, following Finch et al. (ibid.: 151-153), I use a multilevel cumulative logit model.

Furthermore, I estimate three different models – one for each hypothesis. While in Model 1, I only want to test the relationship between economic inequality and the size of terrorist groups, for Model 2 and Model 3, I want to find out whether the effects of the independent variables are not additive, i.e. if the influence of economic inequality on the size of terrorist groups is affected by the group’s ideology, respectively by the level of political corruption. Thus, I want to test whether there exist interaction effects (Lohmann 2010: 678). The estimation of three separate models is due to the fact that “[i]n multiple regression, the effects of independent variables are only interpretable as main effects when they are reported from analyses without the interaction term” (Crawford et al. 2014: 857). This implies that an analysis in two steps is necessary: “a first step with just the independent variables that assesses main effects and a second step in which the interaction term is added to the model with the main effects” (ibid.). Therefore, the effect of the independent variables is only interpreted in the first model, the interpretation in the other models is restricted to the interaction terms.

3.5. Control Variables:

In order to estimate a causal effect, it is necessary to introduce control variables due to possible confounding issues: This implies that a statistical association between two variables does not necessarily mean that one of them is caused by the other, but instead that both are dependent on a third factor (Morgan/Winship 2015: 82-83). Such non-causal relationships can be ruled out by controlling for those variables that have a causal effect on an independent variable on the one hand, and on at least one of the dependent and intervening variables on the other hand (ibid.: 105-106).

All of these control variables are measured on the country level: Similar to the Gini coefficient, the coded values are those fitting to the groups’ country-year combinations.
The first control variable is the *gross domestic product per capita (GDPPC)*, a measure of a country’s economic development\(^{16}\) (Krieger/Meierrieks 2016: 11). As indicated above, lower levels of economic development might foster radicalization (Fearon/Laitin 2003), and also have an impact on income inequality\(^{17}\) (Barro 2000). I draw the data from the Institute for Health Metrics and Evaluation (IHME). This is the most comprehensive data set, as it takes existing data series, completes them by calculation with regard to both time and country and creates a new one from these (James et al. 2012).

The data on the GDPPC is positively skewed, i.e. there are many low, but few high values, and the median is much lower than the mean (Machina 1982: 280; Weins 2010: 68). Such a data structure is problematic in several ways, for instance regarding the estimation of significance levels (Olivier/Norberg 2010). This issue can be solved through a logarithmic transformation (ibid.). Accordingly, in my models, I introduce the logged GDPPC instead of absolute values.

As a second control variable, I include the *population size*: On the one hand, in larger populations, more people radicalize (Savun/Phillips 2009). On the other hand, smaller populations tend to have smaller Gini measures (Deltas 2003). Here, I use data from the United Nations Population Division (United Nations 2017). As the data is also skewed, again, I apply a logarithmic transformation.

Furthermore, a country’s *democracy level* might influence radicalization in both directions (Eubank/Weinberg 2001: 156) and could also reduce the level of economic inequality (Muller 1988). Hence, I use the Polity IV index as a control variable – one of the leading, and most comprehensive democracy indices (Högström 2013). It is measured on a scale from -10 (full autocracy) to +10 (full democracy)\(^{18}\) (CSP 2017).

The next control variable is *regime stability*, as stable regimes are more secure and less prone to trends of radicalization (Piazza 2007), and more regime stability might also lead to less income inequality (Muller 1988). The Polity IV data also includes a measure on regime stability, that is, the number of years since the last regime change, i.e. a change of at least three levels in the democracy score in less than four years (CSP 2017). Other studies (e.g. Krieger/Meierrieks

\(^{16}\) As an additional robustness check, following Krieger and Meierrieks (2016), I also substitute GDPPC with life expectancy, an indicator of socio-economic development. The data is drawn from The World Bank (2018).

\(^{17}\) Some of the control variables introduced might also have an impact on one or even both of the other independent variables, i.e. political corruption and group ideology. However, as it is sufficient to include a variable if it has an impact on one of the predictor variables, I only demonstrate the controls’ influence on economic inequality.

\(^{18}\) Although this is in fact an ordinal scale, I treat it as a continuous variable. Many scholars have implicitly or explicitly followed this strategy (e.g. Gerring et al. 2005; Lin et al. 2012), which is supported by the large number of categories (Rhemtulla et al. 2012).
have also used this indicator. Thus, I also include it in the analysis, relying on the logged values\(^{19}\), as the data is also positively skewed.

In addition to that, I introduce onset of violent conflict as a control variable: Different types of violent conflict breed terrorism (ibid.; Findley/Young 2012), and conflict could lead to more economic inequality (Bircan et al. 2010). “[T]his increase is further reinforced in the first five post-conflict years” (ibid.: 20). Therefore, I control for conflict using a binary measure, that takes the value 1 if there was a violent conflict in the five years before the respective terrorist group was launched, and 0 if not. The data is derived from the UCDP/PRIO Armed Conflict Dataset, a “conflict-year dataset with information on armed conflict where at least one party is the government of a state in the time period 1946-2016” (UCDP 2017).

I also include the number of terrorist groups in my analysis, as it negatively influences a group’s duration, which in turn has a strong effect on the group’s size (Young/Dugan 2014). Additionally, terrorism might have distributional effects, and might therefore influence economic inequality (Krieger/Meierrieks 2016: 2). Here, I use the End-of-Terror data set to count the respective number. As the database only contains comprehensive information on the years after 1968, I exclude those groups launched before 1969 from the analysis.

Finally, with regard to the first two models, I also control for political corruption, because, as described above, it influences the likelihood of radicalization (Krieger/Meierrieks 2016), and also increases economic inequality (Gupta et al. 2002).

4. Empirical Analysis:

4.1. Model 1:

As described above, the goal of the first model is to test the first hypothesis (\(H1: \text{More economic inequality in a terrorist group’s country of recruitment leads to a larger terrorist group.}\)). Table 1 summarizes the results of the different model specifications. In general, the model shows that economic inequality is not a significant predictor of terrorist group size.

Estimating the relationship of economic inequality and peak size without the inclusion of control variables, i.e. a bivariate regression (Model 1.1), yields a positive result, that is, into the expected direction, which is insignificant though. However, when introducing political

\(^{19}\) Following Fox and Weisberg (2011: 132), as regime stability might also take values of 0, I increase all initial values by 1 in order to avoid \(\log(0)\), which is not defined.
corruption or GDPPC as control variables, the coefficient becomes negative, yet still insignificant. Contrary to that, controlling for one of the other variables does not alter the positive, but insignificant result from Model 1.1. Finally, estimating the full model (Model 1.2) shows a negative relationship between economic inequality and the size of terrorist groups – the opposite direction than I presumed. However, that result is highly insignificant as well.

Table 1: The Effect of Economic Inequality on the Size of Terrorist Groups

<table>
<thead>
<tr>
<th></th>
<th>1.1</th>
<th>1.2</th>
<th>1.3</th>
<th>1.4</th>
<th>1.5</th>
</tr>
</thead>
<tbody>
<tr>
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<td>-0.008</td>
<td>-0.018</td>
<td>-0.020</td>
</tr>
<tr>
<td></td>
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<td>(0.020)</td>
<td>(0.019)</td>
<td>(0.022)</td>
<td>(0.022)</td>
</tr>
<tr>
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<td>-0.705***</td>
<td>-0.738***</td>
<td>0.197*</td>
<td></td>
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<tr>
<td></td>
<td>(0.144)</td>
<td>(0.134)</td>
<td>(0.155)</td>
<td>(0.113)</td>
<td>(0.110)</td>
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<td>logged Population</td>
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<td>(0.134)</td>
</tr>
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<td>Democracy Level</td>
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<td>-0.006</td>
<td>-0.005</td>
<td>-0.043</td>
<td></td>
</tr>
<tr>
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<td>(0.023)</td>
<td>(0.024)</td>
<td>(0.026)</td>
<td></td>
</tr>
<tr>
<td>logged Regime Stability</td>
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<td>-0.096</td>
<td>-0.136</td>
<td>-0.071</td>
<td></td>
</tr>
<tr>
<td></td>
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<td>(0.112)</td>
<td>(0.127)</td>
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</tr>
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<td>(0.301)</td>
<td>(0.289)</td>
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<td>(0.345)</td>
<td></td>
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<tr>
<td>Active Terrorist Groups</td>
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<td>-0.035</td>
<td>-0.056**</td>
<td></td>
</tr>
<tr>
<td></td>
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<td>(0.022)</td>
<td>(0.023)</td>
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<tr>
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<tr>
<td>Life Expectancy</td>
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<td>-0.113***</td>
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<td></td>
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<td>(0.022)</td>
</tr>
</tbody>
</table>

Observations 455 428 428 428 362
Country-Clusters 76 71 71 71 68
Year-Clusters 43 38 38 38 34
Country-Intercept (Variance) 1.640 0.208 0.125 0.496 0.286
Year-Intercept (Variance) 0.215 0.000 0.000 0.000 0.000

NOTE: Standard Errors in Parentheses. Significance Levels: ***p < 0.01, **p < 0.05, *p < 0.1.

Regarding the two clusters, i.e. country and year, it is striking that, while in the first model specifications, there are remarkable variances across different clusters, in the final model, there
is virtually no variance across years, and a variance of around 0.2 across countries. Consistent with that, conducting a likelihood ratio test\(^\text{20}\) that compares the model to an estimation without the inclusion of varying intercepts does not yield significant results. This leads to the conclusion that the control variables account for differences with regard to both time and space. With regard to the control variables, especially GDPPC is a strong negative predictor of group size, being significant on the 1% level. The population size, as expected, is positively and significantly correlated to group size. Furthermore, the number of active terrorist groups negatively affects the size of a terrorist group in a significant way. Concerning the other controls, none of them show a significant correlation with the dependent variable.
The academic literature suggests that some of the independent variables, such as inequality and GDPPC (Barro 2000), are closely connected. Hence, as a robustness check, I tested for multicollinearity, that is, very high correlations between independent variables which can lead to imprecise estimations (Ohr 2010: 647). The calculation of variance inflation factors\(^\text{21}\) does not indicate any multicollinearity issues, as none of the values exceed, or are even close to 10 (see Appendix A3).

Furthermore, as described above, I also tested the proportional odds assumption\(^\text{22}\). The assumption is supported with regard to all independent variables, except for the number of control variables. However, when rescaling the dependent variable through merging categories 2 and 3, i.e. creating a new category containing all groups with more than 1000 members, the assumption is not violated anymore. This implies that, in this model specification, I condone a loss of information\(^\text{23}\), in order to ensure the correctness of the model’s assumptions. The results of this model (Model 1.3) are not different than before though, confirming the previous specification. Furthermore, substituting GDPPC with life expectancy also does not alter the results (Model 1.4), with one exception: The effect of the number of active groups on the group size is not significant anymore. As an additional robustness check, I lagged all country-year variables five years instead of one (Model 1.5). This is due to two reasons: On the one hand, choosing a one-year lag “is, theoretically speaking, arbitrary” (Feldmann/Perälä 2004: 127). On the other hand,

\(^{20}\) The likelihood ratio test (LR test) is a technique to compare two different models (Finch et al. 2014: 148). Significant results “indicate that the models provide different fits to the data” (ibid.).

\(^{21}\) The variance inflation factor (VIF) is the reciprocal of the tolerance index which measures the proportion of an independent variable that is not explained by the other independent variables (Ohr 2010: 655). The VIF is the most common indicator for multicollinearity (Stine 1995: 53). As a rule of thumb, values above 10 are usually problematic (ibid.: 54).

\(^{22}\) This can also be done with a special kind of LR tests that examines whether the proportional odds assumption holds with regard to all independent and control variables (Mangiafico 2016).

\(^{23}\) However, the loss of information is acceptable, as the recoding only applies to 18 groups. This small number of organizations with more than 10000 members might also be a reason for the distortion regarding the step from the third to the fourth category.
it might be possible that the effect of inequality on terrorism “is not immediate but takes time to unfold” (ibid.: 119). However, this robustness test also does not reveal any substantial connection between the two variables. Therefore, in sum, the first hypothesis, H1, is not supported, as there is no observable significant effect of economic inequality on the size of terrorist groups.

4.2. Model 2:
Table 2 illustrates the results of Model 2 that tested the second hypothesis (H2: More economic inequality in a left-wing terrorist group's country of recruitment leads to a relatively larger terrorist group, compared to terrorist groups with other ideologies.). In sum, the model indeed shows that economic inequality has a more positive influence on the size of leftist terrorist organizations than on other groups. However, I first ran two regressions excluding the interaction term, in order to see the main effect of left-wing ideology on the group size. Running a bivariate regression (Model 2.1) shows that, in general, left-wing groups are significantly smaller than other groups. This relationship is not significant anymore when including the controls though (Model 2.2), suggesting that the connection between the two variables might rather be non-causal.

With regard to the interaction effect of inequality and left-wing ideology on the peak size, I find a positive coefficient, i.e. into the expected direction, when not controlling for the other variables (Model 2.3). While this result is not significant, the inclusion of single control variables yields a significant result in most cases. The exceptions are GDPPC, democracy level, and political corruption, which hardly alter the previous result. Nevertheless, when I control for all the variables (Model 2.4), I find a positive interaction term that is significant on the 10% level. This implies that economic inequality has a more positive effect on the size of left-wing groups than on the size of other groups.

Similar to the first model, the variance of the country- and year-specific intercepts decrease heavily when introducing control variables: In Model 2.3, i.e. without any controls, the variances are 1.28 and 0.23. In contrast to that, in Model 2.4, which includes all variables, the cross-country variance is estimated at 0.08, while the variance across years is practically 0. An LR test, such as in the first model, does not lead to significant discrepancies regarding the inclusion or exclusion of varying intercepts. This implies that, in this model too, variability between clusters can be traced back to differences regarding the control variables.
Table 2: The Moderating Effect of Left-Wing Ideology

<table>
<thead>
<tr>
<th></th>
<th>2.1</th>
<th>2.2</th>
<th>2.3</th>
<th>2.4</th>
<th>2.5</th>
<th>2.6</th>
<th>2.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gini*Left-Wing Id.</td>
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<td>0.059*</td>
<td>0.059*</td>
<td>0.066*</td>
<td>0.093**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.035)</td>
<td>(0.032)</td>
<td>(0.031)</td>
<td>(0.034)</td>
<td>(0.039)</td>
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<td>-0.023</td>
<td>-0.038</td>
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<td>(0.027)</td>
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<td>(0.022)</td>
<td>(0.025)</td>
<td>(0.024)</td>
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<tr>
<td>Left-Wing Ideology</td>
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<td>-0.298</td>
<td>-2.762*</td>
<td>-2.665***</td>
<td>-2.708***</td>
<td>-3.037**</td>
<td>-4.179**</td>
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<tr>
<td></td>
<td>(0.241)</td>
<td>(0.267)</td>
<td>(1.419)</td>
<td>(1.331)</td>
<td>(1.299)</td>
<td>(1.397)</td>
<td>(1.623)</td>
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<tr>
<td>logged GDPPC</td>
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<td>-0.657***</td>
<td>-0.645***</td>
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<tr>
<td>logged Population</td>
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<td>0.213**</td>
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<td>(0.121)</td>
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<tr>
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<td>0.003</td>
<td>-0.033</td>
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<tr>
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</tr>
<tr>
<td>logged Reg. St.</td>
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<td>Active Terr. Groups</td>
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<td>-0.052**</td>
<td>-0.057***</td>
<td>-0.035</td>
<td>-0.059**</td>
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<td>(0.022)</td>
<td>(0.025)</td>
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</tr>
<tr>
<td>Political Corruption</td>
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<td>-0.657</td>
<td>-0.713</td>
<td>0.406</td>
<td>-1.179*</td>
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<tr>
<td></td>
<td>(0.701)</td>
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<td>(0.635)</td>
<td>(0.654)</td>
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<tr>
<td>Life Expectancy</td>
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</tbody>
</table>

Observations: 648 428 455 428 428 428 362
Country-Clusters: 103 71 76 71 71 71 68
Year-Clusters: 57 38 43 38 38 38 34
Country-Intercept (Variance): 1.588 0.193 1.280 0.083 0.016 0.296 0.067
Year-Intercept (Variance): 0.693 0.000 0.231 0.000 0.000 0.000 0.000

NOTE: Standard Errors in Parentheses. Significance Levels: ***p < 0.01, **p < 0.05, *p < 0.1.

Calculating the variance inflation factors shows very high values for ideology, as well as the interaction term. Presumably, this is a case of structural multicollinearity, i.e. the high values are caused by the fact that the interaction term is made up of other variables included in the analysis (Kraemer/Blasey 2004: 148). However, as indicated by Jaccard et al. (1990), such ...
multicollinearity issues with interaction terms can be solved through centering one of the variables, that is, transforming it by subtracting the variable’s mean from each value (ibid.: 471). This does not alter the regression coefficients, except for the values regarding the other variable included in the interaction term (ibid.: 471-472). Indeed, when centering the Gini index, the VIFs are not problematic anymore, supporting the supposition of structural multicollinearity. Again, testing the proportional odds assumption leads to a rejection with regard to the number of active groups. In addition to that, the assumption is also violated regarding the variable on ideology, as well as the interaction term. This raises uncertainty about the significant results. However, when rescaling the outcome variable, similar to the first model, the assumption is supported. The new model specification (Model 2.5) replicates the previous results, supporting the findings from Model 2.4. The same holds true when GDPPC is replaced with life expectancy (Model 2.6). Furthermore, lagging the independent and control variables that are on a country-year level by five years (Model 2.7) further endorses the findings: Here, the interaction term is even more significant, on the 5% level. This might indicate that, indeed, the impact of inequality could take time to unfold. Hence, H2 is supported, as left-wing ideology is a significant positive moderator of the effect between economic inequality and the peak size of terrorist groups.

4.3. Model 3:
The results of the final model, which I used to examine the third hypothesis (H3: More economic inequality in a terrorist group’s country of recruitment leads to a relatively larger terrorist group in more corrupt countries, compared to terrorist groups in less corrupt countries.), are shown in Table 3. They demonstrate that, apparently, political corruption does not have a moderating effect with regard to the relationship between economic inequality and the size of terrorist organizations. In this model, just as in the previous one, I also started by estimating a bivariate regression between the second independent variable – political corruption – and the outcome variable (Model 3.1). This produces a significant positive connection between both variables, i.e. in more corrupt countries, terrorist groups tend to be larger. However, as could be seen in Model 1.4, this relationship becomes negative and insignificant when including all controls. Estimating the moderating effect without controlling for any other variables (Model 3.2) leads to a negative, yet insignificant coefficient. A negative coefficient here implies that higher levels
of inequality lead to comparably smaller terrorist groups in more corrupt countries. Introducing the number of active terrorist groups as a control variable leads to that negative interaction effect becoming significant. However, the introduction of any of the other control variables does not yield a significant result. This hardly changes when introducing all control variables (Model 3.3): Here, although the coefficient is positive, i.e. into the expected direction, it is far from being significant.

Table 3: The Moderating Effect of Political Corruption

<table>
<thead>
<tr>
<th></th>
<th>3.1</th>
<th>3.2</th>
<th>3.3</th>
<th>3.4</th>
<th>3.5</th>
<th>3.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gini*Political Corruption</td>
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<td>0.028</td>
<td>0.013</td>
<td>-0.054</td>
<td>0.046</td>
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<tr>
<td>Gini</td>
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<td>-0.013</td>
<td>0.005</td>
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<td>(0.040)</td>
<td>(0.038)</td>
<td>(0.041)</td>
<td>(0.045)</td>
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<td></td>
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<td>(3.200)</td>
<td>(3.339)</td>
<td>(3.164)</td>
<td>(3.287)</td>
<td>(3.546)</td>
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<td>-0.714***</td>
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<td>(0.159)</td>
<td>(0.146)</td>
<td>(0.172)</td>
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<td>0.221**</td>
<td>0.218*</td>
<td>0.170</td>
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<td>(0.110)</td>
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<td></td>
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<td>(0.316)</td>
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<td>-0.036</td>
<td>-0.055**</td>
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<td>(0.022)</td>
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<td>71</td>
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<td>Year-Clusters</td>
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<td>43</td>
<td>38</td>
<td>38</td>
<td>38</td>
<td>34</td>
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<tr>
<td>Country-Intercept (Variance)</td>
<td>1.193</td>
<td>1.038</td>
<td>0.219</td>
<td>0.128</td>
<td>0.449</td>
<td>0.299</td>
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<td>Year-Intercept (Variance)</td>
<td>0.656</td>
<td>0.259</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
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</tr>
</tbody>
</table>

NOTE: Standard Errors in Parentheses. Significance Levels: *** p < 0.01, ** p < 0.05, * p < 0.1.
Regarding the higher levels of the model, the varying intercepts show variances that resemble the other models: Excluding the control variables leads to larger variances, the introduction of controls decreases these values. This especially holds true concerning the variability across years, indicating that at least a meaningful portion of the differences between clusters are caused by disparities concerning the control variables. An LR test further supports this idea, as it does not produce significant results – similar to the other models.

With regard to the different robustness checks, the variance inflation factors show very high values, in this case with regard to political corruption and the interaction term. Once again, after centering the Gini coefficient, the VIFs are far below 10, reconfirming the fact that the high values were caused by structural multicollinearity.

Furthermore, as the proportional odds assumption once more does not hold regarding the number of active groups, I also included a model specification that combines the outcome variable’s third and fourth category (Model 3.4), but does not alter the findings.

Finally, controlling for life expectancy instead of GDPPC (Model 3.5) yields a negative coefficient, which is also far from being significant. Lagging all country-year specific variables five years (Model 3.6) also does not change the results in a significant way.

Accordingly, in sum, the level of political corruption does not moderate the effect of income inequality on the size of terrorist groups significantly. Therefore, H3 is not supported.

4.4. Discussion:

In the empirical analysis, I tested three hypotheses. With regard to the first hypothesis (H1: More economic inequality in a terrorist group’s country of recruitment leads to a larger terrorist group ), I argued that relative deprivation theory is relevant for the size of terrorist groups, i.e. economic inequality leads to grievances and frustration among the population, which fosters radicalization and causes people to join terrorist groups. I further argued that contrary arguments, namely concerning the lack of political awareness in lower classes and the non-admission of deprived people to terrorist organizations, might slightly decrease that effect, but not make it disappear.

However, the analysis did not raise support for H1. The relationship between income inequality and the size of terrorist groups was even negative, though highly insignificant. This could have several reasons: One option is that, indeed, people who are affected by relative deprivation either do not radicalize or are not integrated into existing terrorist groups. At least the former
option seems questionable, given the previous findings on the relationship between income inequality and the amount of terrorist attacks, which indicate an increased number of terrorists. Instead, it might be possible that inequality, especially on the individual level, rather leads to the emergence of new, smaller cells than to the growth of existing organizations, an idea that is supported by the negative – though insignificant – coefficient. Accordingly, it might also be interesting to see the impact of horizontal inequalities, i.e. inequality between groups, on the size of terrorist groups.

Another option could be that, indeed, economic inequality does not radicalize people, but not due to the above arguments. For instance, trends of radicalization might rather be fostered by rapid changes than by persistent conditions. As I explained before, relative deprivation theory does not only aim at comparisons to other people, but also to earlier conditions. Therefore, how changes in economic inequality and well-being influence radicalization trends might be a promising field for future research.

Finally, a third explanation for the non-significant results could lie in the data structure. As described above, the dependent variable provides a very suboptimal measure of group size: On the one hand, a four-point ordinal scale is much more imprecise than absolute numbers. On the other hand, the variable does not indicate when a group actually reached its peak size.

Furthermore, the exclusion of over one third of the cases due to the non-availability of data regarding the independent variables, particularly the Gini coefficient, might also have biased the results: The cases that were dropped were certainly not random, but rather terrorist groups in non-democratic, poor, and conflict-prone countries, such as Iraq, Lebanon, and the Palestinian territories.

In sum, the findings indicate that there is no relationship between income inequality and the size of terrorist groups, thus not supporting the first hypothesis. However, it cannot be ruled out that missing or inaccurate data is responsible for the insignificant results. More comprehensive data regarding both the outcome and the independent variable would be needed to obtain less ambiguous findings.

Regarding the second hypothesis (H2: More economic inequality in a left-wing terrorist group’s country of recruitment leads to a relatively larger terrorist group, compared to terrorist groups with other ideologies.), I formulated three possible mechanisms how a terrorist group’s ideology could moderate the effect of income inequality on its membership: First, as the abolishment of inequalities is part of the left-wing ideology, people rather tend to join these groups to eliminate the source of their grievances. Second, inequality also leads to more left-
wing intellectuals joining terrorist groups who also pursue the goal of economic equality. Third, while members of higher classes in general are very likely to be integrated into terrorist groups, the leftist ideology and promotion of equalitarianism might also foster the admission of deprived members of society. This, in turn, could increase the positive impact regarding the first mechanism.

In contrast to H1, the empirical results support the second hypothesis: The interaction effect was positive and significant across different model specifications and robustness checks. However, the empirical analysis could not show which of the three mechanisms formulated is in fact the decisive one for the ideology’s significant moderating effect. Furthermore, the results were only significant on the 10% level in most model specifications, casting some uncertainty, especially with regard to the incomplete and imprecise data. Nevertheless, H2 is supported, suggesting that economic inequality causes more people to join left-wing terrorist groups, compared to organizations that follow other ideologies.

The third hypothesis (H3: More economic inequality in a terrorist group’s country of recruitment leads to a relatively larger terrorist group in more corrupt countries, compared to terrorist groups in less corrupt countries.) deals with the moderating effect of political corruption regarding the impact of inequality on the membership of terrorist groups. Here, I argued that four mechanisms might cause such an interaction: First, corruption might lead to economic inequality fostering other inequalities, for instance in the polity realm, and thus increase grievances. Second, more corruption decreases the opportunities for the relatively deprived to address the grievances resulting from inequalities in institutionalized ways, which could raise the likelihood of radicalization. Third, high levels of corruption might undermine counterterrorism efforts, and hence, in turn, encourage trends of radicalization caused by inequality. Fourth, more corruption increases terrorist organizations’ options to gather resources, making them less dependent on the funding through their membership. This could make these groups more permeable regarding the inclusion of relatively deprived people.

However, based on the empirical analysis, I did not find support for H3: Although I could identify a positive interaction term, i.e. into the expected direction, this result was highly insignificant across all model specifications, and partially even negative. Again, there are several possible factors that might explain these findings. First, the mechanisms that I formulated might not work in the expected way: As indicated above, the demand side, that is, the terrorist groups’ requirements concerning new members, could suppress the causal path from individual radicalization to the admission into a terrorist organization. Accordingly, although trends of
radicalization could be fostered by the interaction of inequality and corruption, as formulated in the first and second mechanism, this might not cause the growth of existing terrorist organizations. In addition to that, active mobilization by the groups, as suspected in the third mechanism, might in many cases not be necessary due to the large supply of new members.

Second, contrary mechanisms might decrease the impact of corruption on the connection between inequality and group size. For instance, although political corruption might increase a group’s pool of resources and hence its willingness to admit people affected by inequality, that willingness might be decreased through other effects of corruption: For instance, as Simpson (2014) has pointed out, corruption has a negative impact on the necessity to use terrorism, which could make the overall interaction effect insignificant.

Third, the limitations concerning the data structure also apply with regard to the third model: The imprecise measurement of the outcome variable, as well as the exclusion of over 200 cases due to missing values could have led to the lack of significant results. Therefore, considerations on the functionality of the causal mechanisms that I formulated remain speculative, and it might be possible that, with more adequate data on all variables, the analysis would have produced more significant estimations.

Still, in conclusion, H3 – the last hypothesis – is not supported by the empirical findings of Model 3, as there is no significant moderating effect of political corruption with regard to the relationship between economic inequality and the size of terrorist groups.

Finally, with regard to the other variables that were included in the analysis, the significant impact of socio-economic development and population size on a group’s number of members is not surprising and supports previous findings. The non-significant effects regarding the total effects of democracy level and political corruption on group size further indicate that there might be different causal mechanisms that neutralize each other.

Nevertheless, there are also some noteworthy findings: The strong negative connection between the number of active terrorist groups and the size of terrorist groups might be a promising starting point for further research. The same holds true concerning the overall negative effect of leftist ideology on an organization’s number of members – although it was not significant across all models. Furthermore, and quite surprisingly, I did not find a substantial impact of the onset of violent conflict on the peak size of terrorist groups. However, empirical results regarding controls should be interpreted with caution, as causality can only be inferred when all confounders have been identified and controlled for. For the effect of the control variables on the group size, this is not necessarily the case.
Still, it might be interesting to find out whether the relationships that have been found also hold in other models, and what the underlying causal mechanisms are.

All in all, out of three hypotheses, one was supported by the empirical results: For left-wing terrorist organizations, the effect of economic inequality on the number of group members has a significantly more positive effect than for other terrorist groups. Therefore, despite several limitations, especially with regard to the structure of the data used in the empirical analysis, this paper could shed more light on the complexity of the relationship between income inequality, radicalization in general, and the size of terrorist groups in particular.

5. Conclusion:

The aim of this paper was to answer the question whether economic inequality influences the size of terrorist groups. In order to do so, I first introduced and defined the terms terrorism and terrorist group, indicating that it is not possible to clearly distinguish them from other forms of political violence and violent groups.

Accordingly, in the following – also due to the fact that only few scholars have examined the size of terrorist groups in particular – I reviewed literature on different types of political violence, and on causes of radicalization. Regarding certain characteristics of terrorist and rebel groups, scholars have shown that, for instance, certain ideologies and charismatic leadership have mobilizing effects. In contrast to that, those approaches that suspected terrorist and radicals to have special character traits have largely been proven wrong. More promising are ideas that regard the decision to join terrorist groups as a part of a boundedly rational cost-benefit analysis.

However, the broadest range of empirical literature on this issue deals with the impact of root causes on radicalization, i.e. factors in society, such as democracy level or socio-economic development, that might foster or decrease trends of radicalization.

One important root cause is economic inequality: Here, especially the relative deprivation theory has put forward the idea that inequality fosters grievances and discontent and might therefore facilitate radicalization. The findings concerning the relationship of income inequality and different types of political violence are mixed though. With regard to the size of terrorist groups, the argument has not been tested yet. Thus, in this paper, I sought to address this research gap.
Mainly relying on the relative deprivation theory, I expected economic inequality to be a positive predictor of terrorist group size. Moreover, I argued that both a left-wing ideology and a higher level of corruption might function as moderators and cause a more positive impact of inequality on the membership of terrorist organizations. Here, I did not solely derive my argumentation from relative deprivation theory, but also from other theories, such as the tool view of terrorism that describes radicalization as the result of cost-benefit analyses.

The three hypotheses that I derived from my theoretical considerations were then tested through a multilevel cumulative logit model. For the implementation of that model, I mainly relied on data from the End-of-Terror data set by Jones and Libicki (2008), but also on other sources, such as the Standardized World Income Inequality Database (SWIID).

In sum, I estimated three different models, each of them with several different specifications. However, only the second hypothesis, in which I expected a positive interaction effect of income inequality and leftist ideology on the size of terrorist groups, was supported: In this model, the effect was significant and robust across several tests. In contrast to that, neither the main effect of inequality on group size, nor the introduction of political corruption as a moderator produced significant results.

Therefore, with regard to the research question, I conclude that economic inequality does not seem to have an overall significant impact on the size of terrorist groups. However, the support for the second hypothesis shows that the effect is moderated by other factors. In addition to that, the rejection of two of the three hypotheses might not have been caused by other factors that impede the assumed mechanisms, but by several shortcomings concerning the data. This particularly includes the imprecise measurement of the dependent variable and missing values regarding the main independent variable.

All in all, in this paper, I demonstrated that group ideology positively influences the relationship between income inequality and terrorist group size. The issue which underlying mechanisms are responsible for these findings could not be answered without ambiguity though. Furthermore, due to the limited scope of this paper, I could not examine in-depth what precisely caused the non-significant results concerning the main effect of inequality and the moderating effect of political corruption. These questions, as well as the investigation of further possible moderators, thus remain open to further research.
References:


## Appendix:

### A1. Summary Statistics:

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### A2. Recoded Countries:

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<td>Abu Hafs al-Masri Brigade</td>
<td>Spain, UK</td>
<td>Morocco</td>
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<td>India</td>
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<td>USA</td>
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<td>al-Gama’a al-Islamiyya</td>
<td>Egypt, Afghanistan</td>
<td>Egypt</td>
<td>Jongman 2011</td>
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<td>All Tripura Tiger Force</td>
<td>Bangladesh, India</td>
<td>India</td>
<td>Schmid 2011</td>
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<td>al-Madina</td>
<td>India</td>
<td>India/Pakistan</td>
<td>Schmid 2011</td>
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<td>India</td>
<td>SATP 2001a</td>
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<td>al-Zulfikar</td>
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### A3. Variance Inflation Factors:

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