A Dangerous Discrepancy

Testing the micro dynamics of opportunity and grievance on Palestinian support for armed resistance

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Department of Political Science
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Abstract

This study aims to uncover how grievance and opportunity factors affect attitudinal support for violent and non-violent resistance among Palestinians in the West Bank and Gaza Strip. To that end national survey data is applied to operationalize the mechanisms proposed in the traditionally macro-oriented theories of the opportunity-grievance debate on the micro level. On the grievance side of the debate, I hypothesize that (i) the poorer a highly educated individual is, (ii) the better an individual considers the civil and political rights situation in the occupied territories, and (iii) the larger the difference in economic conditions between the individual's own governorate and the closest Israeli sub-district is, the more likely he or she is to support violent resistance. Results indicate support for the latter two hypotheses, which I argue is in line with the economic and political horizontal inequality mechanisms proposed by Cederman, Weidmann, and Gleditsch (2011). The mechanism is a special case of the relative deprivation mechanism described by Gurr (1970): Frustration arises when people feel there is a discrepancy between their own economic situation or the amount freedom and political participation they are allowed, and the economic or political situation of a reference group, in this case Israeli Jews. On the opportunity side of the debate, I hypothesize that coming from (iii) a less wealthy household or (iv) a less wealthy governorate will significantly increase support for violent resistance. Neither opportunity cost hypothesis is statistically supported.

At the heart of most macro theories attempting to explain the onset of internal conflict, lies the question of why some groups resort to violence while others restrict their collective action to non-violent forms of resistance. While the macro theories make assumptions about the underlying micro-mechanisms, quantitative researchers often resort to highly aggregated proxies when testing the theories. Micro-level studies therefore provide an important supplement, but good micro data on participation in armed insurgency is rare. Given these constraints, I argue that this study – despite limitations resulting from the attitudinal nature of the dependent variable and the limited generalizability of a single case study – contributes to the opportunity-grievance debate by providing one of the best micro-level tests of opportunity and grievance mechanisms that existing data allows.

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1 Introduction

Why do some national, ethnic and religious groups resort to violence, while other groups limit their collective action to non-violent strategies of civil resistance? This central political question has become particularly pronounced in light of the recent Arab uprisings. While Tunisians and Egyptians succeeded in overthrowing their governments through largely non-violent means, the situations in Libya and Syria soon evolved into outright civil war, with armed insurgents challenging their governments by force. In the occupied Palestinian territories there has been no revolution, but the so-called Arab Spring is reflected in a revival of traditional practices of non-violent civil resistance against the Israeli occupation (Christophersen, Høigilt, & Tiltnes, 2012:17). These renewed boycotts and weekly protest marches are best seen as a compliment to, rather than a replacement of, the practice of armed resistance. Renewed violent clashes recently ended a four month cease-fire that followed the latest Israeli offensive in the Gaza Strip (Kershner, 2013; Sanders, 2013). This study aims to shed light on some factors than can help explain why some Palestinians support violent strategies of resistance instead of non-violent resistance.

In the field of armed conflict research, an important debate revolves around the relative importance of opportunity and grievance factors in defining the circumstances under which the number people resorting to violence is sufficient to result in civil conflict. On the grievance side of the debate, theorists from Gurr (1970) to Cederman et al. (2011) have argued that frustration arising from different kinds of relative deprivation – economic, social and political exclusion – can explain rebellion. On the opportunity side of the debate, this view has been challenged by scholars who emphasize instead the feasibility and viability of rebellion. They argue that the primary factor determining civil war onsets is the opportunity rebel actors have to rebel, rather than their motivation to do so. A much applied measure of such opportunity is country-level GDP per capita, which has been found to correlate negatively with risk of civil war onset. Important opportunity proponents have interpreted this differently. Fearon and Laitin (2003:80) consider GDP per capita a proxy of state strength, the mechanism being the state's ability to monitor, deter and suppress rebellion. Collier and Hoeffler (2004:88) suggest that increased wealth increases the opportunity cost of individuals for taking part in costly rebellions.

Micro-level studies can offer important contributions to the grievance-opportunity debate. There is a tendency to lean towards either large-N cross-country studies or small qualitative studies in the field. The macro-level studies use highly aggregated measures to test proposed mechanisms that ultimately rest on dynamics at the individual and group level. As stated by Justino (2009:317), "existing research offers only limited systematic accounts of the micro-level channels through which low incomes among a large fraction of individuals in society affect the viability of violent conflicts". GDP per capita is a particularly crude measure in this context. First, it is difficult to interpret, as it tends to correlate with many omitted variables (Collier, Hoeffler, & Rohner, 2009:7). Second, it may in fact proxy both opportunity and grievance (Hendrix, 2010:283), making it ill-suited for solving the debate at hand. Statistical studies that aim to get closer to the actual mechanisms at play, by testing the macro theories systematically on the local and individual level, therefore provide an important supplement. A micro-level approach allows the researcher to operationalize the concepts of opportunity and grievance on the level where they logically belong, permitting more nuanced tests of the propositions of the debate.

1.1 Research problem

To test the micro-level mechanisms of the opportunity-grievance debate, I introduce national survey data from the occupied Palestinian territories. Good survey data from active conflict zones is rare, because considerations of security and data quality make large-scale data collection difficult. The pragmatic consideration that good survey data do exist in the Palestinian case weighs heavily in the choice of this case. The dataset at hand has an important limitation, however. The mechanisms proposed by the macro theories of civil war onset aim to explain why individuals decide to participate in insurgency, but there is no variable in my dataset measuring actual participation. Thus my focus will be on explaining attitudinal support for violent resistance.

Research question: *How do grievance and opportunity factors affect support for violent and non-violent resistance among Palestinians in the West Bank and Gaza Strip?*

Support for violent resistance can be considered a first step towards actual participation in such resistance. While most supporters never get from attitudinal support to actual participation, studying attitudes helps us understand how people become part of the

mobilizational potential of a movement. And in the socio-psychological literature attitudinal support has been found to be an important predictor for more proximal measures of behavior (Saab, 2011:142). Because measures of actual participation in violent conflict are rare and very difficult to obtain, the study of determinants of attitudinal support for violence is probably among the best micro-level tests of grievance and opportunity mechanisms that existing data allows.

Popular support for violence also merits study in its own right, as public opinion undoubtedly matters in civil conflict. Justino (2009:318-319) has argued that the support and participation of local populations in the provision of shelter, information, material support, as well as participation as fighters, is of crucial importance for the decision to start such a conflict. According to Tessler and Robbins (2007:306) the correlation between public support and militant action in the Palestinian case is sufficiently strong that the Israelis have been able to use public opinion surveys to forecast trends in violent resistance. Hamas' sensitivity to public opinion in their choice of strategy is well-documented. Popular pressure seems to have contributed to both the declaration and suspension of ceasefires (Gunning, 2009:156; 239; Roy, 2011:205-206; Tamimi, 2007:243).

But while the importance of a certain level of public support for rebels in civil conflict is widely recognized, there is little agreement about the determinants of such attitudes (Tessler & Robbins, 2007:306). In the Palestinian-Israeli case quantitative studies of the determinants of attitudes acting as barriers to the resolution of the conflict on the Israeli side include Maoz and McCauley (2005) and Halperin and Bar-Tal (2011). Studies that attempt to explain such impediments, more specifically attitudes towards violent resistance, on the Palestinian side, include Sønsterudbråten (2009) – who finds that opportunity factors affect the risk of supporting rocket attacks – and Lundervold (2012) – who finds that nationalism and political trust affects the risk of supporting violent rather than non-violent resistance.

1.2 Study structure

Chapter 2 provides a backdrop for the study in the form of a brief historical overview of the Palestinian-Israeli conflict, focusing on the evolving nature of resistance strategies employed by the Palestinian side and the coexistence of violent and non-violent resistance. Chapter 3 outlines the theoretical framework of the study – the opportunity-grievance debate. After briefly reviewing the merits of testing macro theories on the micro level, I use well-

established macro theory contributions from grievance (Cederman et al., 2011; Gurr, 1970) and opportunity (Collier & Hoeffler, 2004) theory to derive testable hypotheses on the micro level. Drawing on the grievance literature, I hypothesize that higher perceived (i) relative economic deprivation, (ii) relative political deprivation and (iii) socio-economic horizontal inequality should increase the risk that an individual supports violent strategies of resistance. The counter-hypotheses derived from the opportunity cost literature propose instead that a lower absolute level of wealth, on both household and regional level, should increase this risk. I conclude the chapter by discussing how the pragmatic choice of an attitudinal dependent variable, support for violent resistance rather than participation in such resistance, makes this study a somewhat easy test for the grievance arguments and a very though test for opportunity theory.

Chapter 4 discusses the research design with which I aim to answer the research question. First, I present the Fafo survey dataset I use in the analysis and justify the handling of missing data by use of the technique of multiple imputation. Second, I discuss issues concerning the measurement of key concepts. Third, I outline the logic of the principal analysis models to be applied – the standard multinominal logistic regression model and the two-level multinominal logistic regression model.

In Chapter 5 the results of the analysis are presented and discussed. I find some support for the grievance arguments that center on the mechanism of political and economic group comparison. Coming from a governorate that is much poorer than the closest Israeli sub-district increases the risk that an individual will support violent rather than non-violent resistance. Perceiving the status of civil and political rights as low will have the same effect. Relative economic deprivation, the hypothesis that highly educated individuals in the lower economic segments of the population would be more likely to support violence, is not supported by my analysis. Neither is the opportunity cost mechanism, whether on the household or the regional level.

The results appear reasonably robust across various operationalizations and specifications, as demonstrated in Chapter 6. I conclude that the validity of my construct-, statistical- and causal inferences is satisfactory, but that attempts to generalize from the Palestinian case to other cases of civil conflict is fraught with uncertainty and should be done with caution. In Chapter 7, I summarize the main findings and theoretical contribution of the study and make some suggestions for future research on the opportunity-grievance debate.

2 Background

This chapter outlines a backdrop against which to understand Palestinian attitudes towards resistance. It provides a brief historical overview of the conflict, focusing on the Palestinian-Israeli dimension and on evolving strategies of violent and non-violent resistance.

At the turn of the twentieth century, Jewish immigration into Palestine led Zionism and Palestinian nationalism to increasingly clash over "the ownership of the land, the right for self-determination, and statehood" (Rouhana & Bar-Tal, 1998:762). Communal violence erupted in 1929 (Tessler, 1994:235), and after the United Nations declared the partition of Palestine into a Jewish and a Palestinian state in 1947, the clashes evolved into full-blown war (Rouhana & Bar-Tal, 1998:762). The conflict took on a strong inter-state dimension. Israel expanded its borders, while the remaining Palestinian territories came under Jordanian and Egyptian control, until they were occupied by Israel in 1967 (Ibid). The wars created an immense number of Palestinian refugees, both internally and in neighboring Arab countries (Brynen, 2000:34). Their potential return soon became one of the most contentious issues in the conflict. Meanwhile, Israel began a process of Jewish settlement in the Gaza Strip, the West Bank and around East Jerusalem (Rouhana & Bar-Tal, 1998:762), the expansion of which continues to this day.

The internal dimension of the conflict gradually returned to the fore. Palestinian resistance to the occupation first peaked in 1987, in a popular uprising – the First Intifada – that lasted for six years (Rouhana & Bar-Tal, 1998:762-763). The uprising involved grassroots mobilization of all segments of the Palestinian population, engaging in demonstrations and non-violent civil disobedience (Allen, 2008:454), but also widespread use of more violent forms of resistance. According to Morris (1999), it was "a massive, persistent campaign of civil resistance, with strikes and commercial shut-downs, accompanied by violent (though unarmed) demonstrations against the occupying forces. The stone and, occasionally, the Molotov cocktail and knife were its symbols and weapons, not guns and bombs" (Morris, 1999:561). The activists avoided the use of firearms from the beginning. It was better to "fight the enemy with what they weren't equipped for, and what was at hand in every alleyway and hillside village – stones, bricks, and slingshots" (Morris, 1999:580). The rioting started in refugee camps, and turned the refugees and urban poor into a dominant force in Palestinian society (Ibid:574).

The Israelis responded in various ways. According to Morris "[a]lmost everything was tried: shooting to kill, shooting to injure, beatings, mass arrests, torture, trials, administrative detention, and economic sanctions" (Morris, 1999:587). Still the end result was a stalemate. The Palestinians could not eject the Israelis from the territories, and the Israelis were unable to stop the violence. Consequently both sides revised their policies fundamentally. Eventually both Israel and the PLO opted for recognition and peace negotiations (Ibid:596).

The first Oslo Agreement was signed in 1993, after a round of secret negotiations between Israel and the PLO, paralleling the official peace process. It was a declaration of principles, marking the beginning of an interim period of negotiations for transitional arrangements before "permanent status" negotiations were to start in 1996 (Brynen, 2000:55). In 1995 the second Oslo Agreement extended both the territorial and functional control of the newly established Palestinian Authority (PA) (Ibid:57). Most of the Gaza Strip had come under PA control in 1994, but Israel retained full control in areas surrounding settlements and security control in some additional areas ("yellow areas") (Ibid:56). The West Bank came to be divided into areas A, B and C. In area A the Palestinian Authority assumed full responsibility for public order, civil policing and internal security (Ibid:60). Area A included the cities of Tulkarem, Qalqilia, Jenin, Nablus, Ramallah and Bethlehem – comprising 2.7 percent of the West Bank and 36 percent of its people. In area B the Palestinian police became responsible for public order, but Israel retained the so-called "overriding responsibility for security" (Brynen, 2000:60). This area included most Palestinian towns and villages – about 25 percent of the West Bank and 60 percent of its people. The rest of the West Bank became area C – comprising sparsely populated areas, military areas and Israeli settlements – where Israel retained full security control (Ibid).

But in light of periodic Israeli closure, aggravating economic conditions and the election in 1996 of a hardline Likud-led Israeli government stepping up settlement activity instead of furthering the peace process, Palestinian frustration grew (Brynen, 2000:64-69). Support for attacks against Israel, which with the general optimism during the Labor government had gone down, rose again, as the domestic position of the Fatah-led PA deteriorated (Ibid:69). Terrorist attacks by radical Islamist groups continued (Ibid:68). Hamas, the former Muslim Brotherhood in the Palestinian territories, had since its birth during the first Intifada continued to define itself in terms of armed resistance to the occupation, in striking contrast to Fatah's support for the peace process (Robinson, 2004). The organization, well known for its

extensive network of social and charitable institutions, had become the only significant opposition movement in the Palestinian territories.

In 2000 the peace process ended, having failed to result in a final status agreement and with renewed distrust between the parties (Robinson, 2011:379-380). Few months later the Second Intifada began. The uprising began as demonstrations and stone-throwing, but escalated to more militarized confrontations between Israeli forces and Palestinian police and other gunmen (Allen, 2008:455), geographically concentrated around military checkpoints and Israeli settlements (Hammami & Tamari, 2001:12-13). The Intifada became characterized by various forms of violent resistance to the occupation – "terrorist attacks, guerilla fighting, and mutual assassinations" (Kliot & Charney, 2006:354). Perhaps most importantly, as the uprising escalated, the violent resistance became increasingly characterized by suicide bombings targeting Israeli civilians, committed by Islamic groups such as Hamas' Qassam Brigades, Islamic Jihad's Al-Quds Brigades (Kliot & Charney, 2006:361) and the Al Aqsa Martyrs' Brigades, informally affiliated with Fatah.

The Second Intifada and the breakdown of the peace process led to two major Israeli moves: First, the construction of a separation barrier along its border with – and some places cutting into – the West Bank; and second, the unilateral withdrawal from the Gaza Strip in 2005 (Robinson, 2011:380). Despite the withdrawal and dismantling of settlements in the Gaza Strip, Israel retained its complete control with its economy and borders and did not halt efforts to eliminate Gazan activists they considered a threat (Tamimi, 2007:222).

During this same period, Hamas had taken on a new strategy – electoral participation. After doing well in municipal elections in 2004 (Tamimi, 2007:210), and as a result of extensive deliberation and consultation, the organization announced in 2005 its intention to participate in legislative elections (Ibid:211-212). They called a unilateral ceasefire, without thereby giving up armed resistance as a strategic option at a later time (Ibid). In 2006 Hamas won the legislative elections, with 74 seats against Fatah's 45 (Tamimi, 2007:218). International community outrage and Fatah reluctance contributed to the repeated failure of efforts to form a national unity government (Ibid:224-229). Instead, President Mahmoud Abbas issued a decree stripping the newly formed Hamas government of control over of its institutional base. With the backing of the international community he established a parallel government, rendering the Hamas government virtually powerless (Tamimi, 2007:229). The international community enforced economic sanctions against Hamas (Ibid:230).

Meanwhile, the Gaza Strip experienced a dramatic increase in factional violence (Roy, 2011:213). In 2006 and 2007 more than 400 Palestinians were killed and thousands injured as a result of fighting between Fatah and Hamas and attacks on institutions aligned with each faction. Torture, vandalism and extrajudicial killings were committed by both sides (Ibid). In May 2007 Gaza City was a patch-work of neighborhoods and blocks under either Fatah or Hamas control. In June 2007 Hamas seized control of the Gaza Strip (Ibid). Thus the new status quo was one of consolidated political and territorial control of Hamas in the Gaza Strip and Fatah in the West Bank. The isolation of the Gaza Strip, resulting from both Israeli and international community siege policies, worsened (Ibid). The economic situation deteriorated further.

These developments were paralleled by continued Israeli assassinations and firing of shells into the Gaza Strip, which, combined with popular pressure, led Hamas to end the unilateral truce in June 2006. They resumed armed resistance and kidnapped several Israeli soldiers, resulting in almost daily Israeli bombings, claiming many lives and destroying Gaza's infrastructure (Ibid:239-245). While the separation barrier appears to have prevented further suicide bombings, armed resistance in the form of rocket attacks were increasing in scope. From 2006-2008 alone, an estimated 6000-7000 Qassam rockets and mortars were fired from the Gaza Strip into Israel (Cordesman, 2009:13). There is considerable uncertainty surrounding the exact numbers, but consensus that the number and range of rockets increased considerably during the period (B'Tselem, 2012; Cordesman, 2009:13-14; ISA, 2009:8-9). Most of the rockets were fired by Hamas and Islamic Jihad (Flibbert, 2011:55).[1] Alongside this increase in rocket attacks, public support for violent strategies of resistance increased as well. Fafo survey data shows a decrease of 32 percentage points in the share of Palestinians opposing attacks, and a 29 percentage point increase in the share of people strongly supporting attacks between 2005 and 2008 (Fafo, 2005:48; 2008:51).[2] This popular support is essential, as Hamas employs a system of consultation (Mishal & Sela, 2006:xxv) and is known to be sensitive to public opinion (Roy, 2011:205-206; Tamimi, 2007:243).

[1] The Fatah leadership has been attempting to halt the Al Aqsa Martyrs' Brigades attacks on Israel since 2002, and in 2006-2008 they started to forcibly disarm remaining members (Bhavnani, Miodownik, & Choi, 2011:156). Given this, and the fact that the Fatah-controlled Palestinian Authority (PA) has been cooperating closely with Israeli authorities after the Oslo Accords (Bhavnani et al., 2011:151), Fatah should no longer be considered part of the violent resistance.

[2] Some of this difference might be due to a change in the phrasing of the Fafo survey question. In 2005 the relevant question was phrased "All Palestinian factions must stop military operations from Gaza" while in 2008 it was "Palestinians factions must stop firing rockets against Israel" (Fafo, 2005:48; 2008:51).

On December 27 2008, Israel launched a massive attack on the Gaza Strip (Roy, 2011:226) – Operation Cast Lead. The operation involved "a complex combination of airstrikes, naval and artillery bombardment, and eventual ground fighting led by an armored incursion" (Flibbert, 2011:56). While the Israeli motivation is contested – the immediate pretext claimed by Israel was self-defense against a surge in rocket attacks (Cordesman, 2009:9), but some observers have suggested destroying Hamas as a political force might have been the ultimate motive (Flibbert, 2011; Roy, 2011:227) – the human toll was unquestionable. In the three weeks the assault lasted, as many as 1400 Palestinians might have been killed and more than 5000 injured (Roy, 2011:227). Homes, schools, mosques, factories and hospitals were destroyed.

The data analyzed in this study were collected in February 2011. This was a period of relative calm in the Palestinian-Israeli conflict. The number of rockets fired from the Gaza Strip, as reported by the Israel Security Agency, had shown a sharp decline following operation Cast Lead; 2048 rockets in 2008, 569 in 2009, and 150 in 2010. The trend was on the verge of shifting, however. During 2011 419 rocket attacks were reported, and in 2012 the number rose to 2327 (ISA, 2009, 2010, 2012). Fafo survey data show a corresponding trend in public opinion. In 2010 the percentage of respondents supporting rocket attacks was 38 (Liu & Tiltnes, 2010:21), down from 58 in 2008 (Fafo, 2008:51). In the 2011 survey it was back up to 46 percent. These corresponding shifts in public opinion and number of rockets make early 2011 a particularly interesting point in time for studying determinants of support for such strategies of violent resistance.

At the same time, the last years have seen a growing revival of traditional practices of non-violent resistance against the occupation – so-called "popular resistance" (Christophersen et al., 2012:17). The revival can be seen in boycott campaigns and the organization of weekly protest marches against the military zone in the Gaza Strip and the separation wall in the West Bank (Christophersen et al., 2012:17; Ehrenreich, 2013). This broad and decentralized movement has also provided an umbrella for a small but dedicated group of youth activists – al-Harak al-Sahabi (the youth movement) – that organizes exhibitions, lectures, and local boycott teams at the Universities and village youth centers (Christophersen et al., 2012:17). The non-violent resistance strategy might be considered a "third way between Hamas's strategy of violence and the negotiations paradigm prevalent in the [Fatah-controlled part of the] PA" (Christophersen et al., 2012:17). In the 2011 Fafo survey, 66 percent of respondents agreed more emphasis should be put on non-violent forms of resistance.

In sum, ever since the first Intifada, Palestinian resistance against the Israeli occupation, while varying in intensity, has encompassed both violent and non-violent strategies. The modus operandi of violent resistance strategy has shifted, however. It has ranged from stone-throwing, via guerilla tactics and suicide bombings, to rocket attacks originating in the Hamas-controlled Gaza Strip, which is the main form the violent resistance takes today.

3 Theory

The grievance-opportunity debate dates back to the 1960s (Cederman et al., 2011:478), when authors like Davies (1962) and Gurr (1970) argued that inequality, conceptualized as relative deprivation, increases the risk of internal conflict through frustrated expectations. Thirty years later, such grievance arguments were forcefully challenged by opportunity theorists. They argued that insurgent actors' opportunity to rebel matters more for the decision to start an insurgency than their motivation for doing so. Following the influential large-N studies of Fearon and Laitin (2003) and Collier and Hoeffler (2004), a consensus started to emerge that largely discarded grievance-based explanations. But more recently this consensus has been challenged by researchers arguing that grievances were prematurely rejected. They have found that the non-discovery of statistically significant relationships between grievances and conflict is due to inappropriate conceptualization and imperfect measurement, rather than the absence of any causal effect (Cederman et al., 2011; Stewart, 2008).

The focus of this thesis is on testing theories that explain civil war as a function of individual and group grievances against theories that emphasize the feasibility of rebellion. Answering my research questions – determining which of the two theories fit the Palestinian-Israeli conflict better – can contribute to armed civil conflict research by operationalizing and testing some of the mechanisms put forth in the macro level conflict research on the micro level. I begin this chapter by briefly reviewing the advantages of adopting a micro-level approach when testing the theories of opportunities and grievances against each other and proceed by outlining a framework for testing important strands of the grievance and opportunity theories against each other. In the second section, I present the most important grievance arguments, focusing on relative deprivation, vertical inequality and horizontal inequality. In the third section, I present the two most important mechanisms proposed in the opportunity literature – opportunity costs and state capacity – of which I am only able to test the former. In the final section, I discuss the problems and potential of applying attitude data to a debate where the dependent variable should be participation. In this case, such an approach is dictated by pragmatic concerns of data availability. While this is not unproblematic, a look at the social psychology literature on the subject of attitude-behavior consistency in general, and social movement participation in particular, leads me to conclude that such an approach can be justified in cases where data on participation are not readily available.

3.1 Micro dynamics

"At a fundamental level, conflict originates from individuals' behaviour and their interactions with their immediate surroundings, in other words, from the micro-foundations" (Verwimp, Justino, & Brück, 2009:307-308). While macro-level factors may correlate with the onset, intensity and duration of conflict "only careful examination of the choices, and constraints, faced by individuals and groups can reveal the mechanisms linking poverty, resources, and identities to the practice of violence" (Weinstein, 2007:339). Still most research programs of conflict prevention and resolution are driven by regional, national and international perspectives. The data applied are often aggregated to the country-level.[3] This is particularly true of the theories of opportunities and grievances to be tested in this study. The theoretically influential contributions of Cederman et al. (2011), Collier and Hoeffler (2004), and Fearon and Laitin (2003) are all developed and tested on the macro level.

Such macro-level studies should be supplemented by systematic research on the *mechanisms* that link the behavior of individuals, households and groups with conflict processes. "Crosscountry analyses are not equipped to capture nuanced triggers or stops of violence only visible at the micro level." (Verwimp et al., 2009:308). Attempting to infer on-the-ground dynamics from the macro-level "will likely generate biased inferences, in a way that parallels the well-known problem of ecological fallacy" (Kalyvas, 2006:391). Rigorous theoretical and empirical analysis of civil war warrants close attention to micro-level dynamics (Ibid). Most of the aggregated proxies applied – in particular *per capita* national income – are pretty far removed from the lives of individuals. They are insufficiently attentive to potential homogeneity between individuals and groups within countries. Also, many of the economic measures can, when applied at the country level, be interpreted as proxying both grievance and opportunity factors (Hendrix, 2010:283; Kalyvas, 2006:391).

In the introduction to a special issue of the *Journal of Peace Research* designed to address this important gap in the literature, Verwimp et al. (2009) argue that "in order to understand conflict dynamics and its effects on society, we have to take seriously the incentives and constraints shaping the interaction between the civilian population and the armed actors" (Verwimp et al., 2009:307). Conflicts shape and are shaped by the behavior of individuals, households and communities. A micro-level approach advances our understanding of conflict

[3] This is partially a result of the traditional focus of security studies on the state and state agency, but there are also numerous difficulties associated with collecting micro-level data in conflict areas (Verwimp et al., 2009:308).

by accounting for individual and group heterogeneity within a country or conflict (Verwimp et al., 2009:308). Still few systematic attempts to supplement the macro level research with such micro level studies have been made. This is where studies like this one can make an important contribution. By operationalizing the macro-theories on the regional and individual level in one particular country, I aim to begin to fill the gap, by introducing national survey data to attempt to get closer to the mechanisms proposed by macro theory. More such studies are needed to improve our understanding of the micro foundations of aggregated civil war theory.

3.2 Grievance theory

Grievance theorists like Gurr (1970) have argued that frustration arising from different types of relative deprivation can explain rebellion. The core idea is that aggression is a response to frustration (Gurr, 1970:33). Relative deprivation theory holds that participation in violence is a response to frustration triggered by the discrepancy between what a person expects and what he is able to accomplish (Ibid). Violence results from the feeling of being deprived of something one feels entitled to.

3.2.1 Relative deprivation

Relative deprivation (RD) is defined by Gurr (1970) as the «actors' perception of discrepancy between their value expectations and their value capabilities» (Gurr, 1970:24). Value expectations refer to the conditions and goods people believe they are rightfully entitled to (Ibid). Value capabilities refer to the conditions and goods they believe themselves capable of attaining and keeping (Gurr, 1970:24). It should be noted that relative deprivation is a subjective phenomenon. This means that cases of objectively defined absolute deprivation might not be cases of relative deprivation as long as those who experience such deprivation do not themselves consider it unjust (Gurr, 1970:24).

Values are defined as the objects, events and conditions men strive for (Gurr, 1970:25). Three categories of values should be considered. Welfare values are values that contribute directly to physical well-being and self-realization, such as food, shelter, health and development of mental and physical abilities. Economic and self-actualization values are the two most important sub-categories. Power values are values that "determine the extent to which men can influence the actions of others and avoid unwanted interference by others in their own

actions" (Gurr, 1970:25). This includes participation in collective decision-making, but also self-determination and security, in particular freedom from oppressive political regulation and disorder (Gurr, 1970:26). Interpersonal values are values that give psychological satisfaction through interaction with others (Gurr, 1970:26).

The intensity with which relative deprivation is felt will vary. The same is true for its scope – the "proportion of people in any collectivity that feels deprived with respect to any specified class of values" (Gurr, 1970:29). Collective violence becomes more likely the more widespread the discontent (Ibid).

When it comes to the sources of human aggression, Gurr (1970:36) argued that what provides the basic motivational link between relative deprivation and the potential for collective violence is the frustration-aggression mechanism. The theory was first framed by Dollard, Miller, Doob, Mowrer, and Sears (1939) whose core idea was that aggression is always a response to frustration (Gurr, 1970:33). Since then the theory has been qualified somewhat, as it has been pointed out that frustration does not always lead to violence and that violence can also be motivated by expected gain. But the main point holds – the anger induced by frustration is a "motivating force that disposes men to aggression […]. If frustrations are sufficiently prolonged or sharply felt, aggression is quite likely, if not certain, to occur" (Gurr, 1970:37). A number of other variables influence behavior (beliefs, inhibitions, social environment), but frustration must be accounted for in any theory of political violence. The explanatory element that frustration-aggression theory contributes to the analysis of political violence is the idea that anger functions as a driver (Gurr, 1970:34). As reformulated by Berkowitz (1965), the theory states that frustration triggers anger, but an aggressive response occurs only when the angered person sees an "attackable object or person that he associates with the source of frustration" (Gurr, 1970:34).

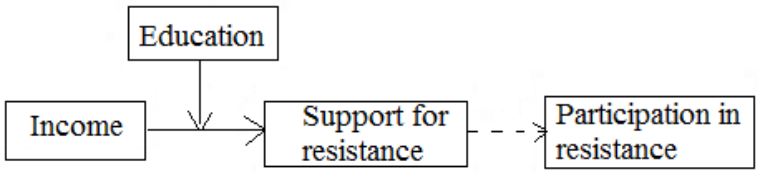
Because relative deprivation is psychologically uncomfortable, people tend to adjust their value expectations to their value capabilities in the long run. But three distinct patterns of disequilibrium are possible and may lead to political violence (Gurr, 1970:46). First, decremental deprivation is a situation where value capabilities are perceived to decline while expectations remain constant (Gurr, 1970:46). This is RD "by reference to their own past condition" (Ibid). It could result from declining production of material goods in society or the declining ability of political elites to keep order (Gurr, 1970:47). Second, aspirational deprivation occurs when expectations increase or intensify, while capabilities are fairly

constant (Gurr, 1970:46). Sources can be exposure to and knowledge of a better material way of life, demonstration effects of other groups' improving conditions (Gurr, 1970:51-52). Expectations can rise under conditions of increased schooling and literacy, an announcement of reform programs, the articulation of ideologies of modernization by political leaders, and the political and associational mobilization of citizens that were previously non-participants (Gurr, 1970:56-57). Third, progressive deprivation occurs when there is an increase in expectations and a simultaneous decline in capabilities (Gurr, 1970:46). This is the case emphasized by Davies (1962) in his J-curve theory: "[r]evolutions are most likely to occur when a prolonged period of objective economic and social development is followed by a short period of sharp reversal. People then subjectively fear that ground gained with great effort will be quite lost; their mood becomes revolutionary" (Davies, 1962:5). A typical source would be economic depression in a growing economy (Gurr, 1970:53). In any given society at any time some groups are likely to experience each type of relative deprivation (Gurr, 1970:56). It is also possible for one group or individual to simultaneously experience different patterns of relative deprivation with respect to different classes of values (Ibid:57).

Sønsterudbråten (2009:21-22) argues that in the case of Palestine relative deprivation should be felt particularly acutely by well-educated Palestinians in poor segments of the population. From an opportunity cost point of view, higher levels of education would reduce the risk for conflict, as educated men have better income-earning opportunities and therefore face a higher opportunity cost of joining rebellion (Urdal, 2004:4). But while it is true that education increases the value of a person's labor, higher education also leads to higher expectations (Ibid). And among well-educated Palestinians in poor segments of the population their upward mobility is restricted by dismal economic conditions, high unemployment rates and an unpredictable and fluctuating economy. This is an example of aspirational deprivation concerning the welfare values of economy and self-realization. A discrepancy between welfare value expectations and welfare value capabilities develops because expectations increase while capabilities remain fairly constant. Hypothesis 1 is illustrated in Figure 3.1.

Hypothesis 1: Highly educated individuals in the lower economic segments of the population are more likely to support violent resistance than others

Figure 3.1: Hypothesis 1

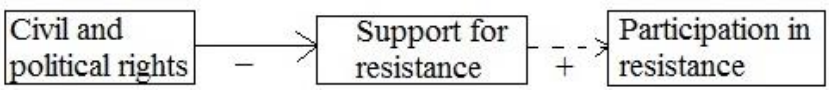


The grievance argument can be extended to other areas than economic deprivation. Common grievance indicators in cross-country studies are measures of social and political exclusion and ethnic and religious fragmentation. The mechanisms are the same as with relative economic deprivation. A discrepancy between value expectations and capabilities creates frustration that may trigger aggression. But the values concerned are different. With political exclusion the values in question are power values, as such exclusion means restricted access to participation in decision-making procedures.

According to Fearon and Laitin (2003:79), the mechanism of these kinds of arguments is that state or societal discrimination along cultural lines gives rise to the grievances that motivate rebellion. Such political grievances are difficult to measure directly, but more indirect proxies can be used. Fearon and Laitin (2003:79) argue that other things being equal, political democracy should be associated with less discrimination along any lines. More directly, the observance of civil rights should be associated with less repression and thus lower grievances (Ibid). As stated by Gurr (1993b:137), "the calculus of communal action in democracies favors protest over rebellion". Conversely, non-democracy and non-observance of civil and political rights should increase the risk of favoring rebellion over non-violent protest. Krueger and Maleckova (2003:141) found that lack of civil liberties at the country level was associated with higher participation in terrorism. Because relative deprivation is a subjective state (Gurr, 1970:24), it is the *perception* of exclusion that matters (Collier & Hoeffler, 2004:564; Hirshleifer, 2001:25-31), which implies the following hypothesis, illustrated in Figure 3.2:

Hypothesis 2: Higher perceived status of civil and political rights is associated with lower levels of support for violent resistance

Figure 3.2: Hypothesis 2



As discussed earlier, the "relative" in relative deprivation implies a comparison between actual conditions and conditions an individual feels entitled to. According to Gurr an

individual's point of reference may be an abstract ideal, his own past condition, the standard articulated by a leader, or a "reference group" (Gurr, 1970:25). For Palestinians, I expect that the implicit reference group when considering human rights will often be the Israelis. This is an assumption I am unable to verify empirically, however, and it should be treated with caution. Palestinians may also compare their situation to the one of Jordanians, and highly educated Palestinians, many having received their degrees abroad, will be familiar with Western democratic systems.

3.2.2 Vertical inequality

As the previous discussion illustrates, inequality has played a central role in classical theories of conflict (Cederman et al., 2011:479). Statistical studies have often used country-level measures of vertical inequality when studying this relationship. Vertical income equality means inequality between households or individuals, often within a country. In using upper-income quintile shares to measure country-level income inequality, Muller (1985) found that such inequality increased the number of deaths from internal political conflict significantly. More recently, influential statistical studies using vertical measures of income inequality found little or no effect on civil war onset, however (Collier & Hoeffler, 2004; Fearon & Laitin, 2003; Hegre, Gissinger, & Gleditsch, 2003). This became an emerging consensus (Østby, 2008:143).

An important problem with studies using such country level measures is that they are likely to involve ecological fallacies (Buhaug & Rød, 2006:316). Conflicts rarely involve entire countries. More often most of the conflict activity takes place in limited areas within countries. Still analysis has relied almost exclusively on country-level data (Buhaug & Lujala, 2005:399). County-level measures may mask important regional differences, and thereby lead to invalid inferences. Buhaug and Rød (2006:316) argue that the study of civil war often suffers from "a disturbing mismatch between theory and analysis. While standard statistical investigations are conducted exclusively at the country level, most hypotheses actually pertain to sub-national conditions" (Buhaug & Rød, 2006:316). Spatial disaggregation of the study of civil war is therefore needed (Buhaug & Lujala, 2005; Buhaug & Rød, 2006; Raleigh & Hegre, 2009; Raleigh & Urdal, 2007). The causes of conflict should be studied below the national level.

Early geographically disaggregated studies focused mainly on natural resources and demographic factors. Yet the need to spatially disaggregate socioeconomic inequalities is equally acute (Østby, Nordås, & Rød, 2009:303). If high income inequality heightens the risk of civil war onset, the existence of one region with large income differences might be enough to start a civil war. But if all the other regions in the country have small income differences, a country level measure of inequality would mask the region with large income differences and the heightened conflict risk stemming from inequality in that region. Østby et al. (2009) found that intra-regional income differences increased the risk of conflict. One might hypothesize that studies like Collier and Hoeffler (2004) and Fearon and Laitin (2003) missed the effect of income inequality because they used county-level measures.

Due to insufficient data availability, I am unable to measure vertical inequality on the regional level. I will focus instead on recent studies that point to the possibility vertical income measures, such as Gini or differences between income quintiles, are not that well suited to capture the mechanism through which inequality increases the probability of conflict.

3.2.3 Horizontal inequality

In addition to level of aggregation, there is a second critique to be made of the dominant studies that have rejected grievance-based explanations. Collier and Hoeffler (2004) and Fearon and Laitin (2003) both rely on a series of individual-level proxies, including the Gini coefficient, when they find no evidence that economic inequality increases the risk of conflict (Cederman et al., 2011:480). But in recent years a suspicion that this rejection of grievances and inequalities is premature has surfaced.

There are two main reasons why grievance arguments cannot be so easily dismissed. First, inequality continues to occupy a prominent place in the qualitative civil war literature (Cederman et al., 2011:478; Sambanis, 2005:315-317). Wood (2003:232) describes the reasons for the participation of the *campesinos* in collective violence in El Salvador. Resentment of their poor life conditions (absolute deprivation) was not enough to motivate rebellion until the new belief that social justice is the will of God became widespread. This can be considered a situation of aspirational deprivation. Petersen (2002:173) argues that a sudden reversal in group position was a typical trigger for political violence in Eastern Europe. This can be considered a situation of decremental deprivation.

A similarity between qualitative studies like the two summarized above is that they focus on *group* positions, rather than individuals, when describing how deprivation may lead to collective violence. This leads me to the second, and related, reason why grievance arguments should not be so easily dismissed. A possible explanation for the discrepancy between qualitative and quantitative analysis in the field could be that the statistical studies have largely missed their theoretical target when it comes to inequality (Cederman et al., 2011:480). The problems of conceptualization and measurement are severe, and revolve around the point that statistical studies have focused mainly on individuals rather than groups when measuring inequality (Cederman et al., 2011:478).

It can be argued that conflict-inducing grievances are about the "visible and felt inequalities at the local level rather than the extremes of the Gini coefficient and the ratio between earnings of the richest and poorest quintiles of the population" (Cramer, 2003:405). Cramer (2003) therefore called for a relational alternative to the individual and household-level measures commonly applied. In a thorough review and robustness test of the statistical civil war literature, similar concerns over measurement, interpretation and level of aggregation were voiced by Sambanis (2005:316-324).

The alternative that emerged was the theory of "horizontal inequalities" (HIs). Stewart defines HIs as "inequalities in economic, social or political dimensions or cultural status between culturally defined groups" (Stewart, 2008:3) and contrasts them to the vertical, individual-level inequalities discussed so far. The argument is that scholars have missed inequality's war-causing effect largely because they have used individual-level measures, when the majority of internal conflicts are organized group conflicts where "people with particular shared identities or goals attack others in the name of the group" (Stewart, 2008:11). Group-level measures are needed (Stewart, 2008; Østby, 2008:144).

The broad conceptualization of Stewart and her colleagues includes political, economic, social and cultural dimensions of HI. The political dimension has to do with restricted access to central decision-making authority (Cederman et al., 2011:480). The social dimension is about groups' uneven social access, e.g. to education and societal status. The cultural dimension has to do with group-level inequality of cultural policies and symbols (Ibid). Finally, the economic dimension is about the economic distribution of wealth among groups. This line of argument is not inconsistent with the argument of Gurr (1970), as outlined earlier. His relative deprivation argument applies just as well to groups as to individuals. The HI dimensions are

also closely related to the different kinds of values Gurr described. Horizontal inequality is perhaps best seen as a sub-category of relative deprivation, the sub-category in which the reference point each individual compares its own value capabilities to is in fact a reference *group*, rather than his own past condition or some abstract ideal. We might call the situation relative group deprivation.[4]

Cederman et al. (2011:481-482) outline the two mechanisms they perceive as underpinning the HI argument. First, HIs are transformed to grievances by a process of group comparison driven by collective emotions. This presupposes well-defined groups (Stewart, 2000:9-10). While horizontal inequalities are objective conditions of political and economic asymmetry, grievances are "intersubjectively perceived phenomena" (Cederman et al., 2011:481). They are hard to measure directly, but Cederman et al. rely on an extensive and experimentally supported literature in social psychology when describing the mechanism. They hold that grievances become cognitively linked to social identities through self-categorization (Hogg & Abrams, 1988:22-26) and that once group identities become salient, group members tend to make social comparisons that hinge on the distinction between in-group and out-group categories (Turner, 1981:80-84). These processes of social comparison are far from emotionally neutral and will typically lead to feelings of anger and resentment among members of the disadvantaged group (Cederman et al., 2011:481).

Second, grievances are transformed into violent collective action through a process of group mobilization (Cederman et al., 2011:482). Cederman et al. (2011:482) suggest that the collective action problem might have been overstated in context of civil war. The existence of such a dilemma hinges on the assumption that staying away from fighting is a less costly option than participating. This is often not the case (Kalyvas & Kocher, 2007). Moreover, several studies suggest that collective identities facilitate collective action (Cederman et al., 2011:82). In sum, Cederman et al. (2011:482) see inequality as a grievance factor, but not exclusively so, as it is also a mobilizational resource.

Most of the studies on horizontal inequalities seem to operationalize identity groups as ethnic groups. But there is little use in talking about different ethnic groups within Palestine. The population is ethnically homogenous (Robinson, 2011:383-384). Still, the logic of the "horizontal inequalities" argument need not be limited to ethnic groups. It merely presupposes

[4] In later works Gurr (1993a:124-127) himself contributed to what was to become horizontal inequality theory, by pointing to the centrality of what he called collective disadvantage and the salience of group identity, in addition to group cohesion and mobilization, in shaping a group's sense of grievance and ability to act on it.

the existence of strong shared group identities (Stewart, 2000:9-10). Ethnic groups are often ideal candidates, as ethnic identities tend to be strong and deep-rooted. But in principle some other kind of group could have the same function within an HI argument. Stewart (2000:10) exemplifies with class identity in Latin America, clan identity in Somalia, and religious identity in Northern Ireland. Regional location could be another source of identity differentiation (Ibid).

In line with this argument, Østby et al. (2009) focused on first-level administrative units when analyzing horizontal inequalities in Sub-Saharan Africa. They found empirical support for the hypothesis that "*relative socioeconomic deprivation of a region is positively associated with the risk of civil conflict*" (Østby et al., 2009:306). The authors argued that regions are suited for horizontal inequality analysis because of the shared history and overlapping cultural cleavages often associated with them. Regions often structure the distribution of state patronage, political influence and welfare. They can be important because "both cultural communalities and socio-economic and political realities can reinforce or even construct regions as relevant identity units" (Østby et al., 2009:304). In Africa regions also tend to overlap with ethnic group demarcations.

Such arguments are suitable when studying African countries, but do not transfer well to the Palestinian situation. Regions are relevant units for the kind of analysis undertaken by Østby et al. (2009) only to the extent that they function as strong identity groups. This is not a trivial precondition, and there is little evidence that it is met in the case of Palestinian first-level administrative units – the governorates. Also, it is abundantly clear that the ethnic and religious cleavage between Palestinians and Israelis is a far more salient cleavage than any internal regional divisions for the Palestinian-Israeli conflict. The ethnic, religious or communal «reference group» or "out"-group for group comparison in this case should be the Israelis.

Because my unit of analysis sits below the national level and only two ethnic groups are relevant for my analysis, I am unable to apply conventional measures of horizontal inequality, comparing characteristics of ethnic groups as wholes. The HI measures will have to be located on the governorate level instead. I will argue that for group comparison between Palestinians and Israelis, the difference between conditions in each Palestinian governorate and the closest Israeli border area provides relevant variation in horizontal inequalities.

Horizontal inequality is therefore measured as socio-economic differences between each Palestinian governorate and the Israeli sub-district[5] it has the longest border with.[6]

It might be argued that the measure does not capture the mechanism properly, for at least two reasons. First, the Palestinian Arabs within the Israeli sub-districts are measured on the "wrong side" of the ethnic divide. This is problematic, but there is little I can do about it, given that my individual level data include only Palestinians in the occupied territories. The problem is reduced somewhat by the fact that as a group, Arabs in Israel are socio-economically disadvantaged. They earn less, consume less, and own fewer durables than Jewish citizens and receive disproportionately few university degrees (CBS, 2012c: table 3.14; 2012d: tables 6.1, 6.2 & 14; 2012e: tables 2 & 25). Assuming that this holds for all sub-districts (such statistics are not publicly available), the problem might not bias my measure much, as it will make the measures of horizontal inequality smaller for *all* governorates. Given that I cannot test this assumption, and that the Arab proportion of the population varies significantly across the sub-districts in question (CBS, 2010b: table 2.7), I cannot be sure that my measures are not to some degree biased. This should be kept in mind when interpreting the results of the analysis, but I will argue the measures in question are still the best alternatives available.

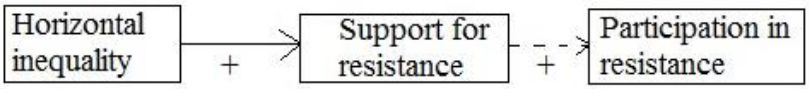
Second, some might argue that any HI measure should reflect that the Palestinian group as a whole compares itself to the Israeli people as a whole. Still it is not an unreasonable assumption that Palestinian individuals compare themselves mostly to the group of Israelis with which they have most contact, and that they have most contact with people just across the border. If we accept this assumption it follows that the intensity with which grievances stemming from HIs is felt should be less strong for individuals seeing that Israelis across the border are economically or socially not that different from them, than for individuals seeing a huge difference in economic and social conditions.

[5] I use the division into sub-districts applied by the Israeli Central Bureau of Statistics in the 2008 census (CBS, 2012b).

[6] In the case of Nablus and Jericho, the governorates that do not share a border with Israel at all, I pair them with the sub-district whose border is geographically closest to the border of the governorate in question. Thus the governorates and sub-districts are paired as follows: Jenin - Yizre'el; Tubas - Yizre'el; Tulkarm - Sharon; Nablus - Sharon; Qalqilya - Peta Tiqua; Salfit - Peta Tiqua; Ramallah - Ramla; Jericho - Jerusalem; Jerusalem - Jerusalem; Bethlehem - Jerusalem; Hebron - Be'er Sheva; Gaza North - Ashqelon; Gaza - Be'er Sheva; Deir al_Balah - Be'er Sheva; Khan Yunis - Be'er Sheva; Rafah - Be'er Sheva. This pairing might be criticized as entailing an element of arbitrariness (especially in the cases of Jericho, Nablus, Hebron, Jenin and Tulkarm), but I find it is the best option available.

Hypothesis 3: Individuals are more likely to support violent resistance the larger the difference in socio-economic conditions between their own governorate and the closest Israeli sub-district

Figure 3.3: Hypothesis 3



3.3 Opportunity theory

> Analogous to the classic principles of murder detection, rebellion needs both motive and opportunity. The political science literature explains conflict in terms of motive: the circumstances in which people want to rebel are viewed as sufficiently rare to constitute the explanation. […] [W]e contrast this with economic accounts which explain rebellion in terms of opportunity: it is the circumstances in which people are able to rebel that are rare (Collier & Hoeffler, 2004:563).

In the 1970s the relative deprivation theorists that had dominated the field up to that point were challenged by the "resource mobilization" school (Gamson, 1975; Jenkins & Perrow, 1977; McCarthy & Zald, 1977; Oberschall, 1973; Snyder & Tilly, 1972; Tilly, 1978). They questioned the assumption of a direct and strong relationship between discontent and political violence and argued instead that the central explanatory variable should be the organization of discontent, the extent to which "dissident groups are able to acquire control of the resources necessary to develop strong and effective organization for the purpose of obtaining collective goods" (Muller, 1985:48). The argument was heavily influenced by rational choice theorists like Olson (1965), highlighting the problem of collective action and the conditions under which it can be overcome (Snyder, 1978:504-505). Group mobilization became a central concern, in the study of social movements in general (non-violent resistance), and collective violence in particular. In the 1990s a new wave of ethno-nationally motivated conflict led to new influential theory that ethnic grievances contributed to collective violence, but indirectly so, through ethnic mobilization (Gurr, 1993b:124-129). The debate remained unresolved (Cederman et al., 2011:479).

The civil war literature at the turn of the millennium became dominated by scholars arguing that the ubiquity of frustration around the world deprives grievance theories of explanatory value (Cederman et al., 2011:479). Grievances are widespread but rebellion is rare, so motivation cannot be the determining factor for decisions to rebel. Instead, the *opportunity* to

rebel is crucial in explaining the decision to take part in rebellion. Decisions to participate are a result of rational cost-benefit analysis. To understand why particular countries experience civil war, we need to understand the logic of insurgency (Fearon & Laitin, 2003:79). The focus is on broader conditions that favor insurgency, as better predictors of participation than grievances (Fearon & Laitin, 2003:79). Societies experiencing civil war are distinguished first and foremost by the atypical viability of rebellion (Collier & Hoeffler, 2004:564).

In the following sections I outline the two most important opportunity mechanisms proposed by Collier and Hoeffler (2004) and Fearon and Laitin (2003) – opportunity costs and state capacity.[7] Both use the highly aggregated proxy GDP *per capita* to test mechanisms that ultimately rest on the individual level and therefore should be tested with micro-level data. Unfortunately, the case under study permits micro level testing only of the opportunity cost mechanism.

3.3.1 Opportunity costs

The much-cited article by Collier and Hoeffler (2004) is best known for its explanation of civil war by reference to what is often referred to as the "opportunity costs" of rebellion. Collier and Hoeffler (2004) themselves called the mechanism "opportunities arising from atypically low cost" (Collier & Hoeffler, 2004:569) or "forgone income". Rebellions may occur when the income forgone by enlisting as a rebel is unusually low. The Russian civil war is an illustrative example. As pointed out by Figes (1997), the desertion rates of both rebel armies were ten times higher in summer than in winter – the recruits were peasants, so the income forgone was much higher at harvest time (Collier & Hoeffler, 2004:569).

Collier and Hoeffler (2004) used three proxies for forgone income – male secondary schooling, income *per capita*, and the growth rate of the economy – and found them all to be both statistically and substantially significant. In a more recent study their core results on these economic characteristics all survived renewed and improved analysis (Collier et al., 2009:24). The level and growth of income matters, also when income is instrumented to check for endogeneity (Ibid:20).

Sønsterudbråten (2009:23) argued that there is no reason to expect the opportunity cost argument to transfer from studies of participation in rebellion to studies of attitudes of

[7] Other opportunity factors much cited in the literature include rough terrain, rural bases, access to natural resources, large populations, mixed regimes and a local population that can be induced not to denounce insurgents (Collier & Hoeffler, 2004; Fearon & Laitin, 2003).

ordinary people towards resistance, unless resistance organizations are distributing benefits to their supporters. In a study testing deprivation versus opportunity theory in the West Bank, Khawaja (1995) found that the more resources people possess the more risk they can afford to take (Khawaja, 1995:151). She turns the opportunity cost argument on its head. Contrary to the individual level opportunity cost mechanism Collier and Hoeffler (2004) presuppose, this argument implies that wealthier individuals are more likely to take part in rebellion. This is because they can afford the increased risk involved. As the increased risk associated with resistance, e.g. the risk of Israeli retaliations, applies to large parts of the Palestinian population, the argument might be transferable to support for resistance in the general population (Sønsterudbråten, 2009:24-25). Sønsterudbråten (2009) found empirical support for this mechanism.

Justino (2009) offers a theoretical counterargument. Her hypothesis is consistent with the opportunity cost argument of Collier and Hoeffler (2004), but the theoretical mechanisms underpinning it might be seen as an extension of the pure opportunity cost mechanism. Her reasoning applies to households and covers a wider range of supportive actions. Household participation is defined as ranging from the provision of members as fighters, via the supply of material support, shelter and information to any of the fighting groups, to deliberate non-denunciation of activities of armed groups (Justino, 2009:317).[8]

The literature on insurgency that emphasizes the collective action problem, including the opportunity cost strand, makes the implicit assumption that non-participation is relatively costless (Kalyvas & Kocher, 2007:179). As Kalyvas and Kocher (2007:179) have pointed out, the collective action problem applies only to the degree that participation is risky *relative* to non-participation. Accordingly, Justino (2009) broadens the theoretical scope to look not only at the costs and benefits of participation, but also the costs of non-participation. Like in the pure opportunity cost argument, she presupposes an element of rational choice. Individuals weigh the costs and benefits of the alternatives available to them, before choosing whether to support insurgents or not. Her main argument is that vulnerability to poverty helps determine the probability of a household participating and supporting an armed group because it affects the cost of non-participation relative to the cost of participation (Justino, 2009:324). Such vulnerability increases the risk associated with non-participation, providing mechanisms

[8] See Petersen (2001) on distinctions between different levels of participation.

whereby armed groups can both recruit fighters and extend their support basis in the civilian population (Justino, 2009:324).

The costs of non-participation and non-support of rebels increase with household vulnerability to poverty. When everything else is constant the amount of assets held by a household will influence its ability to draw on savings and accumulated assets if household members die or are injured (Justino, 2009:324). Wealthier households will be in a better position to adapt to losses in productive assets. They are better able to protect themselves against the negative economic transformations associated with conflict. If they have to, they can relocate and use their assets to overcome the barrier to creating a new livelihood elsewhere. For poorer households both the costs of staying neutral and the costs of outside options are higher (Justino, 2009:324). Non-participation increases the risk of being identified with the other side and punished for this (Justino, 2009:319). In some cases rebels even punish non-supporters deliberately, as part of a strategy to secure population support by manipulating the costs of support relative to non-support (Justino, 2009:319). This might mean that non-supporters are forced to migrate. If so, the barriers to accessing a new livelihood after relocation are higher for poor households.

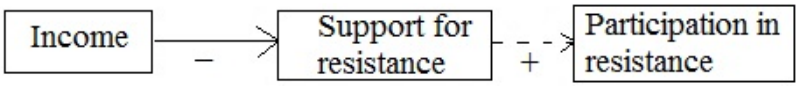
Non-participation also means being excluded from benefits the rebels can provide for their supporters. Such benefits are of greater relative importance the poorer a household is. Recent empirical literature suggests that most people support and cooperate with armed groups not for opportunistic reasons, but rather to guarantee survival and the fulfillment of basic economic needs (Humphreys & Weinstein, 2008). Poverty may drive individuals into conflict because being fighters can give them the opportunity to earn enough to fulfill basic needs when peacetime activities cannot, e.g. when productive activities are scarce or unemployment high (Justino, 2009:318). For supportive households armed groups may offer both physical and economic protection and privileged access to resources, information and skills needed in conflict zones. They can often provide employment for young household members. In some cases rebels even take over or supplement the provision of public goods and social services (Justino, 2009:323). A prominent example is the role of Hezbollah in providing social services for Shi'ites in Lebanon during the civil war (Norton, 2009:108-112). Both in the Gaza Strip and the West Bank, Hamas has a long history of providing social services through institutions inherited from its predecessor, the Muslim Brotherhood (Robinson, 2004; Roy, 2011).

In sum, poor people not only have less to loose from supporting an insurgency, they also have more to loose from not supporting it, and more to gain from supporting it. Justino (2009:324) therefore hypothesizes that the poorer a household is at the start of a conflict, the higher the probability that the household will participate and support an armed group. The hypothesis is consistent with evidence that poorer individuals constitute the bulk of soldiers (Humphreys & Weinstein, 2008), that poor peasants participate in insurgencies (Scott, 1976; Wood, 2003), and that price reductions in labor-intensive sectors, where most of the poor are employed, encourage conflict because they increase incentives for mobilization by lowering the opportunity costs of participation (Dube & Vargas, 2006:2).

Because the opportunity cost mechanism described by Justino applies to a wider range of supportive action, it might transfer more easily to attitudinal support than does the pure opportunity cost argument. While Justino's hypothesis regards the wealth at the start of the conflict, I see no theoretical reason that the mechanism should not apply also during a long-standing conflict like the Palestinian-Israeli conflict. I therefore hypothesize that

Hypothesis 4: Individuals from less wealthy households are more likely to support violent resistance than others

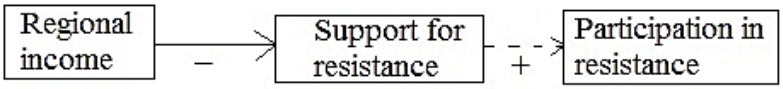
Figure 3.4: Hypothesis 4



The opportunity cost argument might also apply to the regional level. People from poorer regions generally have less to loose from joining an insurgency, because the local economy and infrastructure that is likely to be harmed by the fighting and disruption insurgency entails is less developed to begin with. Provided that opportunity cost arguments transfer to the study of attitudinal support for armed resistance, it follows that people in less wealthy regions are more likely to support such resistance as well as to join it. This also makes the potential recruitment pool in such a region larger and thereby the potential for maintaining a rebellion in such an area lager, thus creating an incentive for strategic rebels to target these less developed regions for mobilization purposes (Østby et al., 2009:305).

Hypothesis 5: Individuals from less wealthy governorates are more likely to support violent resistance than others

Figure 3.5: Hypothesis 5



Østby et al. (2009:313) did not find statistical support for proposition that regional wealth should negatively affect the risk of conflict. Sønsterudbråten (2009:72-79), on the other hand, reported tentative qualitative findings that supported the extension of the Khawaja (1995) argument to the regional level in the Palestinian case. Her findings indicate the opposite of my hypothesis. She found that people from richer regions were more likely to support violence, and argued it was because richer regions can more easily afford to handle the risks associated with Israeli retaliation, e.g. rebuilding destroyed infrastructure.

3.3.2 State capacity

Fearon and Laitin (2003:80) acknowledge that recruiting young men to the guerilla life is easier when alternatives are worse, and that per capita income might proxy this mechanism. Still they hold that the strong results reported for per capita income are due largely to another mechanism, the mechanism of state capacity. They believe GDP per capita proxies state military and police strength relative to potential insurgents. Higher per capita income marks more developed states with terrain more penetrated by roads and rural society more penetrated by central administration. It also proxies a state's overall financial, police, military and administrative capabilities.

"Most important for the prospects of a nascent insurgency, […] are the *government's police and military capabilities and the reach of government institutions into rural areas"* (Fearon & Laitin, 2003:80). The logic of the argument is that proxies for the relative strength or weakness of insurgents – their odds of being captured or killed – should be associated with the likelihood of civil war onset in a country. Insurgents are better able to survive and prosper if the military and government they are fighting are relatively weak – badly financed, corrupt, politically divided, organizationally inept, and poorly informed about what is going on at the local level (Ibid). Government forces need to distinguish rebels from noncombatants, which is an extremely complex and difficult political, military and organizational task.

To investigate the state capacity argument on the micro level, I could use a regional state capacity variable. In many parts of this chapter I have argued for the need to disaggregate the study of civil war from country level to using first-level administrative units. In the case of

state capacity it is less clear that such a disaggregation is warranted. After all, most countries only have one central government, police and military, so one might think the state capacity variables constant within each country. This need not be true, however. In practice a state can have very different levels of control in different parts of a country. This is particularly true in large countries. In principle, one might argue that distance to the administrative center of a country or to a government military installation could proxy geographical variance in state capacity within a country. In the Palestinian case the military state strength to consider would be that of Israel and the Israeli Defense Forces (IDF).[9] But I will argue that Israeli military capacity should be considered constant across Palestinian regions. In the occupied territories, the Israeli military can intervene forcefully whenever and wherever they want.

Alternatively, one might argue that brute military strength is unlikely to capture the aspect of state capacity that affects the decision to rebel and government capacity to respond most (Hendrix, 2010:274). In line with Fearon and Laitin's description of the logic of insurgency, the state's ability to collect and manage information is also crucial. This bureaucratic and administrative capacity might be a more direct determinant of feasibility of rebellion than military capability (Hendrix, 2010:274). Bureaucratic effectiveness captures a "government's effective penetration into all of its territory and its ability to provide goods and services even in times of regime change" (DeRouen & Sobek, 2004:307). This should increase the probability of government victory, or at least decrease the odds of a rapid rebel triumph (DeRouen & Sobek, 2004:307). In a comprehensive analysis of the state capacity concept, Hendrix (2010) found that the most theoretically and empirically justified measures of the concept were measures of tax capacity and survey measures of bureaucratic quality. I considered using survey questions about household access to water and electricity or individual satisfaction with services to proxy perceived bureaucratic capacity. These are not good measures of Israeli state capacity, however. The Palestinian Authority and Hamas, not Israel, are responsible for service delivery in the West Bank and the Gaza Strip, respectively.

In sum, I am unable to test the state capacity argument on the micro level. This is unlikely to bias my results, however, as Israeli state capacity should be fairly constant across Palestinian governorates.

[9] The largest regional difference in Israeli state capacity is probably between Gaza and the West Bank. The police in the West Bank have tended to function as an extended arm of Israel if asked to. The police in Hamas-controlled Gaza plays no such role.

3.4 The dependent variable: Support for resistance

When testing theories of civil war onset and duration directly on the individual level, the dependent variable should be actual participation in insurgency. My dataset has no variable measuring such participation. This means I will be unable to study the determinants of participation directly. Instead, I will look at variation in attitudinal support for resistance in the general population.

Resistance can be both violent (rebellion) and non-violent (e.g. social movements employing demonstrations, boycotts, strikes, social and political non-cooperation). Stephan and Chenoweth (2008:8) have argued for analyzing "nonviolent and violent insurgencies as analogous resistance types" when studying the effectiveness of such insurgencies. A similar argument might be made about attitudes towards violent and non-violent resistance. In both violent and non-violent movements mobilization is central for the success of the resistance, and one might plausibly ask if some of the same determinants are at play in determining attitudes towards both forms of resistance. Petersen (2001:8-9) found that people often go through a two-stage process on their way to participation in insurgency – a first stage from neutrality to non-violent resistance, then a second stage to participation in rebel organizations. A similar process might apply for attitude formation.

The importance of popular support for the success of armed rebellion and the survival of insurgent movements is well recognized in the civil war literature (Justino, 2009:316; Kalyvas, 2006:91-92).

> At a fundamental level, the outbreak and viability of violent armed conflicts is closely linked to the conduct and motivations, not only of rebel groups, elites and the state army, but also of ordinary members of society living in (potential) combat areas (Justino, 2009:316)

The decision to start a civil war depends crucially on the participation and support of local populations, providing fighters, material support, shelter and information (Kalyvas, 2006; Petersen, 2001; Weinstein, 2007:163). The establishment of relationships between armed groups and households and individuals living in areas they control or wish to control is therefore important (Justino, 2009:316).[10]

Ordinary citizens also draw on armed groups to protect their economic status. The result is a symbiotic association that helps determine the "strength of armed groups and the feasibility of

[10] Justino (2009:317) includes deliberate non-denunciation of insurgents as a form of participation. Non-betrayal to the enemy can be considered the minimal core of collaboration (Kalyvas, 2006:104).

their strategies before and during the conflict" (Justino, 2009:328). The higher the level of popular support and participation, the more likely the strategic objectives of the armed group are to succeed, both during and after the conflict.

In sum, the support of the population merits study in its own right, as it is central for the success of rebellion. But to serve this function, support must be behavioral as well as attitudinal. Moreover, the dependent variable in the mechanisms outlined above is actual participation in insurgency, rather than popular support. An important question is therefore whether I am able to contribute to the opportunity-grievance debate when studying attitudes instead of participation. To answer this I look to social psychology and the study of attitude-behavior consistency, after first providing a brief definition of the attitude concept.

3.4.1 Defining attitudes

A comprehensive and much cited definition of attitudes was provided by Ailport:

> An attitude is a mental or neural state of readiness, organized through experience, exerting a directive or influence upon the individual's response to all objects and situations with which it is related (Ailport, 1935:810).

Such a definition might seem unduly complex, but on close inspection each element makes specific and important contributions to the understanding of the concept (Oskamp, 1991:6-7).[11] Later definitions of attitudes have stressed various aspects, but a central feature of the majority is the idea of attitudes as a "readiness for response" (Oskamp, 1991:7). It is not behavior, but rather a "predisposition to respond in a particular way to the attitude object" (Oskamp, 1991:7). Such objects may include things, places, people, ideas, actions or situations. Three other points should be emphasized. First, attitudes function as a driving force, a motivating factor. Second, they are relatively enduring. Finally, there is always an evaluative aspect involved. An attitude is increasingly seen as a disposition to "respond *in a favorable or unfavorable manner* to a given object" (Oskamp, 1991:8).[12][13]

[11] See McGuire (1969:142-149) for detailed description and implications.

[12] There is also a long-standing tradition for dividing attitudes into a cognitive, an affective (emotional) and a behavioral component, but its empirical validity and usefulness is debated. I will take the view of McGuire (1969:157) that the dimensions seem to be so highly inter-correlated that separating them does not seem worthwhile.

[13] Attitudes must be distinguished from the broader category of values. Values have to do with an individual's ideas about basic goals for one's life and society and how best to achieve these goals (Hellevik, 2002:12). Values are assumed to be general in nature and therefore to affect attitudes, which are more specific to objects and situations (Hellevik, 2002:13).

3.4.2 The attitude-behavior relationship

The debate on whether and to what extent attitudes influence behavior is particularly important for this study, as I am attempting to contribute to a debate on determinants of participation in collective action by studying attitudes towards such action. I therefore look to the social psychology debate on attitude-behavior consistency.

The link between attitudes and behavior used to be taken for granted by social psychologists, but by the end of the 1960s this firm belief in the predictive validity of attitudes was shaken by a range of studies showing wide inconsistencies between verbal attitudes and overt action (Ajzen & Fishbein, 2005:175). The inconsistencies were of two kinds: first, inconsistency between expressed intentions and actions, and second, inconsistency between general attitudes and actions towards an object (Ajzen & Fishbein, 2005:178). Because I am studying general attitudes towards resistance, not intentions to participate in such resistance, the last type of inconsistency will be my focus here.

The answer of the many social psychologists to the inconsistency evidence was to propose that attitudes can have a substantial effect on behavior, but only under certain conditions (Ibid). Different factors were assumed to moderate the link, among them self-monitoring tendency and self-awareness. Of particular importance to my study is that it was found that people who have a vested interest in a topic and for whom the attitude object was important were more likely to act in accordance with their general attitudes (Fazio & Zanna, 1978; Franc, 1999; Krosnick, 1988; Regan & Fazio, 1977). There is good evidence that direct experience with or vested interest in the attitude object in question tends to improve prediction of specific behavior from general attitudes (Ajzen & Fishbein, 2005:179; Regan & Fazio, 1977). This is relevant for my study because the conflict with Israel is central in the life of most Palestinians, which might suggest that in the Palestinian case we can expect a certain level of attitude-behavior consistency.

The consistency between attitudes and actions is conditional upon a valid operationalization of the concepts. Ajzen and Fishbein (2005) emphasize that people with the same general attitude can behave in different ways to "act on" this attitude. For instance two individuals with equally favorable attitudes towards the church can express it differently – one chooses to donate money, while the other contributes time (Ajzen & Fishbein, 2005:180). This means that we cannot expect a strong relationship between a general attitude towards an object and *one* of many possible courses of action directed at that object. The correct operationalization

would be to include a wide range of such actions. In fact, when "the behavioral criterion is broadly representative of the behavioral domain, rather than a single, arbitrarily selected action, strong relations between attitudes and behavior are observed" (Ajzen & Fishbein, 2005:181). The correlation relevant for the contribution of my study to the opportunity-grievance debate is between attitudes towards resistance and participation in such resistance. The correlation cannot be expected to be as strong as those found by Ajzen and Fishbein (2005:181) because direct participation as a combatant (which is the implicit dependent variable when the applied theories are tested on the individual level) is only one of several way individuals may choose to express their attitude of support through action. Other actions may include giving money, shelter or information to combatants.

3.4.3 The socio-psychological social movement literature

Klandermans (1997:208) proposed a four step model to explain an individual's movement towards participation in a social movement: first, becoming a sympathizer; second, being targeted for mobilization; third, becoming motivated to participate; and finally, moving from intentions to actual participation. Studying attitudes means focusing on Klandermans' first step – how individuals come to identify with a specific group, define a common enemy and decide their situation is unjust but changeable. This is about the social construction and individual appropriation of collective action frames – "systems of shared beliefs that justify the existence of social movements" (Klandermans, 1997:62). Klandermans holds that it is at this point relative deprivation matters, for understanding why, at a specific moment, a group acts collectively in social movement (Klandermans, 1997:209). He also points out, however, that it has become clear that social networks – previously considered by resource mobilization proponents primarily as "mobilizing structures" – also play a crucial role in this phase of meaning construction and identity formation (Ibid).

In the social movement literature collective action has been operationalized in a variety of ways at the individual level – including attitudes towards it, intentions and tendencies to participate, and actual or self-reported participation (Saab, 2011:15). Operationalizing collective action as attitudes might be seen as a weakness for a study of collective action, but it has also been argued that the diversity of measures in the field is a strength (Van Zomeren & Iyer, 2009:650-651). The different operationalizations correspond roughly to the four steps in Klandermans' model, and research on all these different steps are crucial for understanding

the individual's path to collective action. Studying attitudinal support helps us understand how people become part of the mobilizational potential for a social movement.

In the majority of social-psychological research on collective action the focus has been on non-violent collective action (Saab, 2011:72). How does violent collective action relate to non-violent forms of resistance? Is it a two-stage process where participation in rebel organizations follows non-violent resistance, as suggested by Petersen (2001:8-9)? If so, we might imagine a model combining the insights from Petersen (2001) and Klandermans (1997), where the four steps of Klandermans takes an individual from neutrality to participation in non-violent resistance in Peterson's model. It is less clear in the social psychology literature, however, what it takes for a person to take the final step and participate in violent resistance. My data are neither longitudinal nor behavioral, so I have no way of testing such a model directly.

The traditional assumption about the primacy of non-violent means was questioned by Saab (2011:133-136). Her findings indicate that violence is not only relevant as a last resort, when non-violence is perceived as likely to fail. Instead, the two are often considered complementary strategies by participants. Moskalenko and McCauley (2009:255-256) found readiness to participate in non-violent political action and readiness to participate in violent political action to be two correlated but distinguishable concepts, better conceptualized as competing responses than by a "conveyor belt" metaphor where the former might lead to the latter.

I am unable to directly test the link between my dependent variable proxy – attitudes towards resistance – and the dependent variable most relevant to the debate I want to contribute to – participation in resistance. As the previous discussion indicates this is problematic, as we can safely assume that many of the people declaring support for resistance will never get from attitudinal support to actual participation. It is not unreasonable to expect that some of the same dynamics are in play in determining support as in predicting actual participation. But my research design provides a somewhat "easy" test for the grievance theory – one would expect it is much easier to find support for the hypothesis that grievances lead to support than that grievances lead to actual participation. In fact research has shown that more generally non-behavioral measures produce stronger effects than behavioral ones for classical antecedents of collective action (e.g. injustice and identification) (Van Zomeren, Postmes, & Spears, 2008:523). For the opportunity arguments, however, my design provides a very

"tough" test. Individual rational consideration of opportunities and constraints to participation might not come into play until the later stages of Klandermans' model, which means I am less likely to find that such considerations constrain attitudes towards resistance than they would actual participation.

Measures of actual behavior are rare in the psychological social movement literature, given the difficulties of obtaining them (Van Zomeren et al., 2008:510). Mapping behavior in civil war is even more difficult, and such data are usually lacking (Kalyvas, 2006:100). But the social movement literature has shown that intentions to participate are good predictors of behavior (De Weerd & Klandermans, 1999; Moskalenko & McCauley, 2009:242; Saab, 2011:142). In line with the attitude-behavior models discussed, intentions are "more proximal predictors of actions than attitudes" (Saab, 2011:137). Attitudes are considered relatively unrealistic; intentions take more account of practical constraints. But as we have seen in the models discussed, attitudinal support is a precondition for intentions to participate. Saab (2011:142) found that attitudinal support is an important predictor of more proximate measures of behavior. Attitudinal support for violent action played the role of intervening variable between independent variables like violence and non-violence efficacy and more proximal measures of support for violent action and participation in violent action on the other hand, like financial support for violence and violent action tendencies. This adds some empirical weight to the view of Van Zomeren and Iyer (2009) that there is value in studying attitudinal forms of collective action because they may influence behavioral tendencies and ultimately behavior" (Saab, 2011:166).

In sum, support for collective action is a first step towards participation. The results of Saab (2011:143) also underscore the importance of studying support for violent collective action in its own right – even if it does not lead to direct participation in such action – because "attitudinal support can translate into material support for groups that use violent collective action strategies, which can help sustain these groups and their activities" (Ibid).

3.5 Conclusions

In this chapter I have argued that there is a need for micro level conflict studies such as this one to supplement the largely macro level research that has characterized the opportunity-grievances-debate so far. A micro-level approach provides an opportunity to get closer to the actual mechanisms at work and to operationalize the concepts of opportunity and grievance so

as to better test the positions of the debate against each other. Micro-level hypotheses derived from the macro-oriented theories of grievances and opportunity are summarized in Table 3.1. Because my data only allows looking at attitudes towards rather than actual participation in resistance my analysis will provide a somewhat easy test for the grievance argument and a tough test for opportunity theory.

Table 4.1: Hypotheses

Hypothesis	Theory		Mechanism
Hypothesis 1	Grievance	Highly educated individuals in the lower economic segments of the population are more likely to support violent resistance than others	Relative deprivation
Hypothesis 2	Grievance	Higher perceived status of civil and political rights is associated with lower levels of support for violent resistance	Relative deprivation
Hypothesis 3	Grievance	Individuals are more likely to support violent resistance the larger the difference in socio-economic conditions between their own governorate and the closest Israeli sub-district	Horizontal inequality
Hypothesis 4	Opportunity	Individuals from less wealthy households are more likely to support violent resistance than others	Opportunity costs
Hypothesis 5	Opportunity	Individuals from less wealthy governorates are more likely to support violent resistance than others	Opportunity costs

4 Research design

In this chapter, I outline the research design of the study. I first present the dataset and sampling procedures applied. Second, I describe the multiple imputation technique I use to impute missing values. Third, I describe the variables I include in my model. I briefly discuss the content validity of this operationalization and provide descriptive statistics for the variables in question. Finally, I describe the rationale behind the multinominal logistic two-level model I use in the analysis.

4.1 The Dataset

The individual-level data analyzed in this study comes from a survey organized by the Fafo Institute for Applied International Studies in the West Bank and Gaza Strip (WBGS) in 2011 (Fafo, 2011a). The data was collected between 8 and 13 February 2011 in the West Bank and between 16 and 21 February 2011 in Gaza. The interviews were conducted face-to-face by female interviewers locally recruited and trained by Fafo. A total of 1805 interviews were completed, 899 in Gaza and 906 in the West Bank.

In addition to the individual level data I use regional level data on the 16 administrative regions (governorates) of the Palestinian territories from sources external to the WBG dataset. Governorate-level data on casualties were retrieved from the Casualties Database of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA)[14]. Governorate-level socio-economic data were retrieved from the Palestinian Central Bureau of Statistics (PCBS)[15] and its Israeli counterpart – the Central Bureau of Statistics (CBS).[16]

4.1.1 Sampling[17]

Fafo's sample design targeted a total of 1002 households in WB and 1040 in the Gaza Strip, chosen from a sub-selection of clusters from a stratified cluster sample drawn for Fafo by the Palestinian Central Bureau of Statistics (PCBS). The original sample was stratified by governorate and type of locality (urban/rural/refugee camp).

[14] http://www.ochaopt.org/poc.aspx?id=1010002
[15] http://pcbs.gov.ps/DesktopDefault.aspx?lang=en
[16] http://www1.cbs.gov.il/reader/cw_usr_view_Folder?ID=141
[17] Information about the sampling procedure was obtained from the Fafo webpage (Fafo, 2011b) and through various internal Fafo-documents and correspondence with the Fafo employees responsible for planning and organizing the data collection.

In the Gaza Strip, 76 clusters (enumeration areas) were selected from the 132 clusters drawn by the PCBS, using systematic Probability Proportional to Size (PPS) sampling.[18] Households were then selected from each cluster proportional to cluster size (minimum 10 households) by mapping and listing households in each cluster and drawing from the list. Adjusted sampling weights were calculated (see Appendix 2). This design was a probability design in all stages.

In the West Bank, 82 clusters (enumeration areas) were selected from the sample frame of 144 clusters drawn by the PCBS, using systematic Probability Proportional to Size (PPS) sampling. Households were selected from each cluster proportional to cluster size (minimum 10 households) by use of a random walk procedure. In each selected cluster a starting point was chosen by assigning numbers to all buildings on a sketch map of the cluster and using a random number list to choose which building to start in front of. The fieldworker then walked to the left and included every 20th dwelling on the random walk path in the sample, using another random number table to decide which direction to walk in road crossings and the like. There are two main problems with such random walk procedures. First, the field staff unavoidably gets some discretion in deciding who to interview. Second, the procedure poses problems for assigning inclusion probabilities. Still I will argue that the procedure was sufficiently random not to pose any severe threat to the statistical validity of my inferences.

The survey questions were divided into three thematic parts. First, a responsible adult in each household was asked about housing and infrastructure. This person was chosen by asking first for the household head. In many cases the male household head would be at work. In these cases the wife was interviewed. Second, the same responsible adult was asked questions about demographic characteristics of each household member. Third, in what was called the RSI questionnaire, a randomly selected household member aged 18 or more were asked questions about satisfaction with services, confidence in institutions, voting preferences and political attitudes. This household member was chosen by listing first all male household members over 18 female members by decreasing age, and selecting one from a Kish-selection table.[19]

The governorate-level data comes from several different sources, with somewhat different procedures for sampling. The sampling procedures of PCBS are very similar to those of Fafo,

[18] Systematic PPS sampling is implemented as follows: First, all households are listed by cluster and clusters by cumulative size (number of households). Second, a sampling interval (SI) is chosen by dividing the total number of households by the number of clusters wanted in the sample. Third, a random start is chosen between 1 and the SI. Third, the households are counted through, using the sample interval. The clusters in which the households chosen are located make up the cluster sample.

[19] For details on the procedure see Kish (1965:398).

with probability designs in all stages (PCBS, 2010a, 2011a, 2011b, 2012a, 2012c). The sample is a two-stage stratified cluster sample. First a sub-sample of clusters is selected by probability sampling from a sampling frame of all enumeration areas from the 2007 census, stratified by governorate and type of locality. Then a systematic random sample of households is drawn from each selected cluster and sampling weights calculated. The sample sizes are usually more than 4000 households and response rates are around 80-90 percent. The Palestinian 2007 census covered all individuals living in the Palestinian territories on the night of 30 November 2007 (PCBS, 2012b).

The Israeli CBS also applied a design of two-stage cluster sampling in the 2008 expenditure survey (CBS, 2010a). First, a sample of localities was selected from a stratified list of localities. Then dwellings were sampled from each locality in accordance with its size. In the Israeli 2008 census two independent samples were investigated. In the field cluster sample the country was divided into geographical cells of approximately 50 households. A random sample of cells was chosen and all residents in these cells interviewed. The information is then compared to results from a sample of individuals whose address in the Improved Administrative Files is found in the sampled field cells (CBS, 2012a).

4.1.2 Sampling issues

Design effects come with all designs that are more complex than simple random ones (Häder & Gabler, 2003:122). Such effects need to be accounted for in my analysis because my sample was derived from a complex sampling design, including both cluster sampling and stratification. In practice, this means that the variance estimator used should be "the estimator based on simple random sampling multiplied by the design effect" (Häder & Gabler, 2003:123). Researchers often use probability weighting to adjust for such biases in sampling methods, attempting to compensate for departures from random sampling and give a more realistic picture of population characteristics and sampling variability (Hamilton, 2009:393).

A second sampling issue of relevance to my study is that of unit non-response. In this case the actual sample size of completed interviews consisted of 1805 households, which is equivalent to a response rate of 88.4 percent. Response rates and types of non-response are presented in detail in Table 4.1. Of the households targeted but not included in the effective sample, 1.6 percent was accounted for by frame errors (targeting of empty houses and ineligible households) and 10.2 percent by non-response. Most of the non-response (173 households)

was due to interrupted interviews because of time constraints. Only 18 households refused to participate.

Table 4.1: Response rates

Interview status	Frequency	Percent	Cumulative
Interview completed	1790	87.66	87.66
Refusal converted	15	0.73	88.39
Partly completed	173	8.47	96.87
Refusal	18	0.88	97.75
Selected dwelling vacant	24	1.18	98.92
Selected structure does not exist	2	0.10	99.02
No dwelling in selected structure	4	0.20	99.22
Not eligible	3	0.15	99.36
No contact	13	0.64	100.00
	2.042	100.00	

Even small non-response rates like this one may bias results to the degree that respondents and non-respondents differ significantly from each other on variables of interest (Couper & de Leeuw, 2003:165-166). Because I do not have that much information about the non-respondents, this cannot be tested empirically. The best available option for reducing such bias is to use weighting methods to adjust the data to reflect the population on selected variables (e.g. sex and age), assuming that respondents belonging to the same weighting class would respond in similar ways (Hamilton, 2009:395; Häder & Gabler, 2003:123-124). This assumption might not hold in all cases, meaning that some bias could remain. But weighting the data in this manner will in most cases help *reduce* potential bias.[20]

Fafo calculated weights for the sample of 1805 respondents with completed interviews. Household expansion weights were calculated to account for the two-stage stratified cluster sampling procedure used in the West Bank and the Gaza Strip, respectively. These were calculated as the inverse of the inclusion probabilities. RSI weights were then calculated by multiplying the household expansion weight by the number of household members eligible. The RSI weights are of most interest to me, as my units of analysis are the individuals asked the RSI questions, not households. Finally, the RSI weights were adjusted to reflect the mid-

[20] To incorporate design effects and the need for weighting in my analysis, I use the survey commands in Stata 11 when estimating the one-level model. This allows me to set my data as cluster sampled and weighted, to be able to account for this in analysis and variance estimates. In the multilevel models this is not an option.

year population size estimated by the PCBS for each governorate, and age and gender composition. For a detailed description of the procedure, see Appendix 2.

4.1.3 Multiple imputation of missing data

On average, about half of respondents to political science surveys do not answer at least one survey question (King, Honaker, Joseph, & Scheve, 2001:49). Contrary to recommendations of the statistics community, political scientists have often met this challenge by filling in educated guesses for some items or applying listwise deletion, eliminating entire observations and thereby losing on average about one-third of their data (Ibid). The result is "loss of valuable information at best and severe selection bias at worst" (King et al., 2001:49).

King et al. (2001) have shown how multiple imputation will normally perform better than listwise deletion and never worse than it. In fact the point estimate in the average political science article is about a standard error "farther away from the truth because of listwise deletion" (King et al., 2001:52). Omitted variable bias will often be preferable to listwise deletion, although social scientists would rarely choose it. Fortunately, better methods make this choice between suboptimal methods unnecessary.

I therefore use multiple imputation to replace the missing values in my dataset. The method involves "imputing *m* values for each missing item and creating *m* completed data sets. […] *m* can be as small as 5 or 10" (King et al., 2001:53). Across the datasets the missing values are replaced with different imputations to reflect uncertainty levels. "The multivariate normal specification implies that the missing values are imputed linearly. Thus, we create an imputed value the way we would usually simulated from a regression" (King et al., 2001:54).

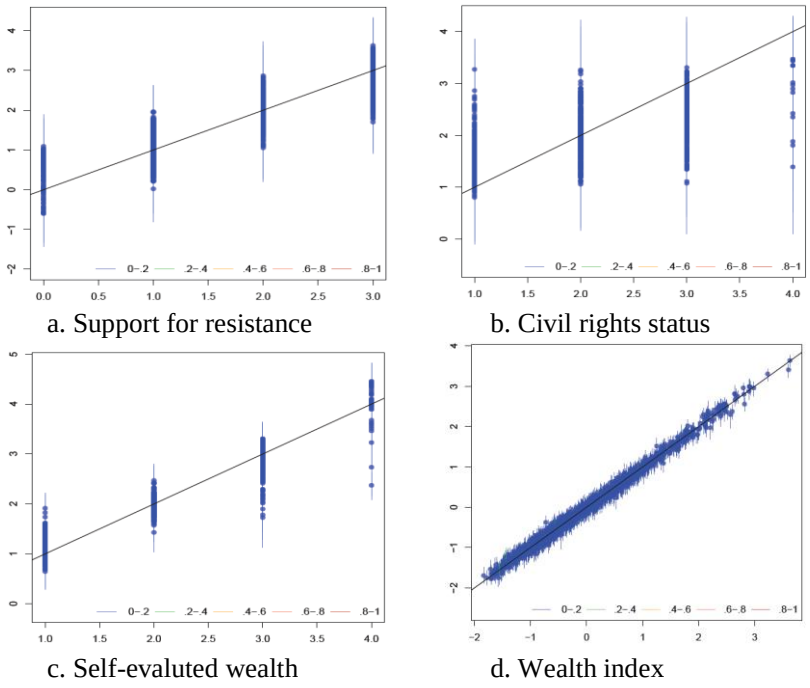
I use Amelia II software to conduct the imputation.[21] In the imputation model I include all the variables I use in my analysis and robustness checks. I also include variables identifying the individual respondent, cluster number and stratum. To improve the model further I add a selection of socioeconomic and political variables that are likely to correlate with the variables I want to impute. These include variables measuring indebtedness, household and living area characteristics, attitudes towards the human rights situation in the area, trust in institutions and voting pattern in the 2006 election.

To evaluate the fit of the imputation model, I perform overimputation diagnostics available in Amelia. This involves "sequentially treating each of the observed values as if they had

[21] Available at http://gking.harvard.edu/amelia.The program applies the EM computational algorithm.

actually been missing. For each observed value in turn we then generate several hundred imputed values of that observed value, as if it had been missing", which allows construction of a confidence interval of what the imputed value would have been if any of the observed data had been missing. We can then graphically evaluate whether the observed data tends to fall within the range it would have been imputed in, had it been missing (Honaker, King, & Blackwell, 2012:30). Figure 4.1 displays the result of overimputation on key variables graphically for the dataset with 1805 respondents. On the x-axis are the observed values and on the y-axis the imputed alternatives. The figure shows that the imputation model does fairly well for the dependent variable and for the economic variables, in particular the wealth index. The model is less able to predict values on the civil and political rights variable, however. This is not ideal, but having included all the variables in the dataset that could possibly be thought to correlate with the variable, it is the best fit I am able to achieve with this dataset.

Figure 4.1: Overimputation diagnostics for the 1805 respondent sample



a. Support for resistance b. Civil rights status

c. Self-evaluted wealth d. Wealth index

Notes: The x-axis denotes observed values and the y-axis imputed values

When calculating sampling weights, Fafo used the 1805 respondents that completed all three parts of the interview. To be able to use these weights in analysis, I therefore run one imputation for the 1805 completed interviews only. In addition to this, I run an imputation where I add the 173 partly completed interviews discarded by Fafo. This results in a sample

size of 1978 respondents, accounting for 96.9 percent of the targeted sample. As a robustness test, I run the analysis on this dataset as well.

4.2 Dependent variable: Support for resistance

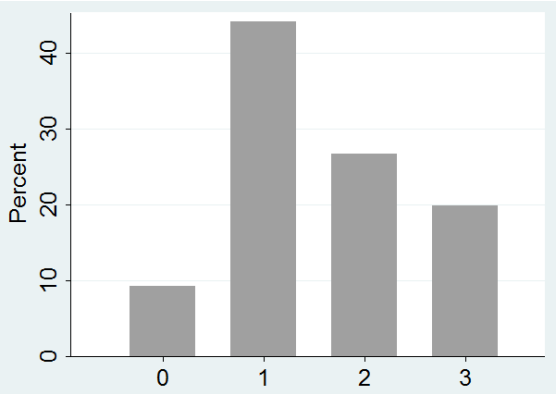
The most straight-forward option for measuring support for violent resistance would be to use the question "*All Palestinians factions must stop/refrain from firing rockets against Israel*. *Do you… Strongly agree/ Agree/ Disagree/ Strongly disagree".* The fact that support for other forms of violence is not included is not a major threat to content validity, as rockets fired from the Gaza Strip have been the most important tool of violent resistance since the mid-2000s, when suicide bombings disappeared almost entirely.

I want to combine the previously discussed measure of support for violent resistance with a measure of attitudes towards less violent forms of resistance, measured by the question *"Some claim that Palestinians should put more emphasis on civil, non-violent resistance. To what extent do you agree? Do you… Strongly agree/ Agree/ Disagree/ Strongly disagree"*. One way this could be accomplished is by creating a simple additive index ranging from strong support for non-violent measures to strong support for violent resistance (in the form of rocket attacks). The problem with this approach is that individuals who support both violent and non-violent resistance would end up with a medium value on such an index, which makes it unclear what we are actually measuring with the index and whether we can call it a continuous concept.

A second, and preferable, alternative is to follow Lundervold (2012) – to dichotomize the two variables and make a simple index with four categories comprising those who (i) supported neither form of resistance, (ii) supported only non-violent resistance (iii) supported only violent resistance, and (iv) supported both forms of resistance, respectively. While dichotomizing the variables entails a loss of information, this is the measure best suited for capturing the complexity of Palestinian attitudes towards violent and non-violent resistance, as it explicitly accounts for the possibility that individuals can support both violent and non-violent resistance at the same time. The distribution of the variable is shown in Figure 4.1. I choose "non-violence only" as the reference category, as I am particularly interested in comparing respondents that support only violence to those that support only non-violence.

The ordinal support for rocket attacks variable and the summated scale are included as alternative dependent variables in robustness testing.

Figure 4.1 Support for violent resistance



Notes: 0 = "Neither"; 1 = "Non-violent resistance only"; 2 = "Violent resistance only; 3 = "Both"

4.3 Explanatory variables

In addition to dividing the occupied territories into areas A, B and C, the Oslo Accords established 16 administrative units under the jurisdiction of the Palestinian National Authority (PA) – 11 in the West Bank and 5 in the Gaza Strip (UNEP, 2003:17).[22] Dummies for these administrative units – the Palestinian governorates – serve as regional controls in the one-level model and as the grouping variable in the two-level models presented in Chapter 5. [23]

4.3.1 Relative deprivation

When testing hypotheses 1 and 5, I use the question "*Consider the total economic situation of your household. Please tell me if the following statements describe your situation?"* The respondents replied yes or no to the statements: *"We feel among the well-offs"; "We are not rich, but we manage to live well"; "We are neither rich nor poor"; "We are among the poor".* The answers were combined in one variable measuring self-evaluated wealth.

[22] West Bank: Jenin, Tubas, Tulkarm, Salfit, Qalqilya, Nablus, Jericho, Ramallah, Bethlehem, Jerusalem, Hebron. Gaza: Gaza North, Gaza, Deir al Balah, Khan Yunis, Rafah.

[23] In the Palestinian case, regions can mean several things. Perhaps the most important division is between the West Bank and Gaza, as these areas are both physically and politically separated. Another common division in the literature on Palestinian regions is between the northern, central and southern part of the West Bank (Sønsterudbråten, 2009:75-76), and sometimes the North and South of Gaza. In this thesis, I operationalize the concept of regions as the 16 administrative units in the occupied Palestinian territories called governorates. The reason is two-fold. First, I find the governorates most closely resemble the concept of regions as administrative units applied by Østby et al. (2009). Second, to be able to conduct a two-level analysis to test the regional-level hypotheses, I need a certain amount of level-two units, for statistical reasons of possible overdetermination and bias. In any case, the difference between the larger regions, such as West Bank and Gaza, should be captured fairly well by the governorate variable.

The economic status of the entire household should work fairly well as a measure of economic grievances, but is less ideal for testing opportunity arguments. First, the mechanism of opportunity costs (Collier & Hoeffler, 2004) relies on considerations of the future income an individual would have to forgo by choosing to participate in insurgency, so ideally I would want to measure *personal* income, not the economic status of the household as a whole. Second, the questionnaire design described earlier, with three thematic parts and usually two different respondents per household, means that the household questions were often not answered by the same person that was interviewed for the political attitude (RSI) part of the survey. This makes the advantages of having a measure of *self-evaluated* wealth less clear, given that the wealth evaluation of the person that answered household wealth question might differ from the evaluation of the person answering the questions about attitudes towards resistance. In cases where such evaluations differ, any mechanism of opportunity cost might not be captured by the wealth measure. It seems reasonable to assume, however, that in most households, members will assess the economic situation of the household fairly similarly.

The variable has two important advantages, making it the best choice available. First, it overcomes issues of potential systematic measurement error due to short-term economic fluctuations that short-term income or consumption measures may suffer from (Øvensen, 2006:9). Second, it measures *perceived* economic status. This is an advantage because it is the subjective perception of one's own and others' economic situation, rather than objective economic wealth, that underpins both the grievance and opportunity cost mechanisms I aim to test (Collier & Hoeffler, 2004:564; Hirshleifer, 2001:25-31). The distribution of the variable is shown in Figure 4.2.

For robustness testing, I construct a more objective wealth measure, an asset-based wealth index based on durable consumer goods and dwelling qualities. Its distribution is shown in Figure 4.3. Measuring income in developing countries is fraught with difficulties – including seasonal variability of earnings and the fact that large shares of income often stem from self-employment (Sahn & Stifel, 2003:464). Combined with the frequent use of short reference periods for income questions in surveys and frequently changing labor market conditions, this indicates that we should use other questions than employment-related ones to measure the long-term economic situation of households (Øvensen, 2006:7). Income data are prone to systematic measurement error, usually due to underreporting, and they tend to fluctuate (Øvensen, 2006:9). The occupied Palestinian territories are particularly prone to income fluctuations because of Israeli checkpoints and blockades. Using an asset index to measure

long-term wealth in developing countries minimizes the problems of underreporting and fluctuations. Additional advantages are that assets in developing countries are fewer and easy to measure, and that problems connected to recall period and other forms of reporting bias are minimized (Sahn & Stifel, 2003:466). In short, the measure is even more long-term oriented than the self-reported economic status, while avoiding many of the drawbacks of self-reported current income or expenditures (Filmer & Pritchett, 2001; Sahn & Stifel, 2003).

Figure 4.2: Self-evaluated wealth

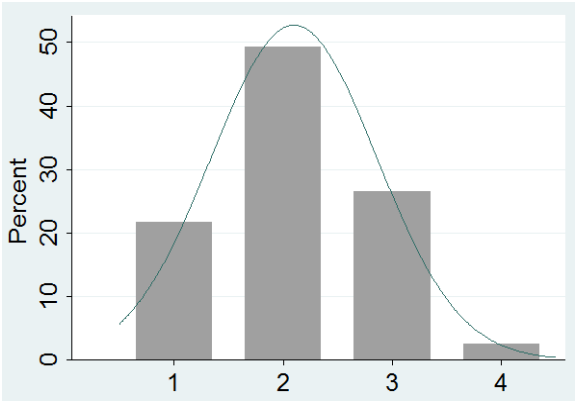
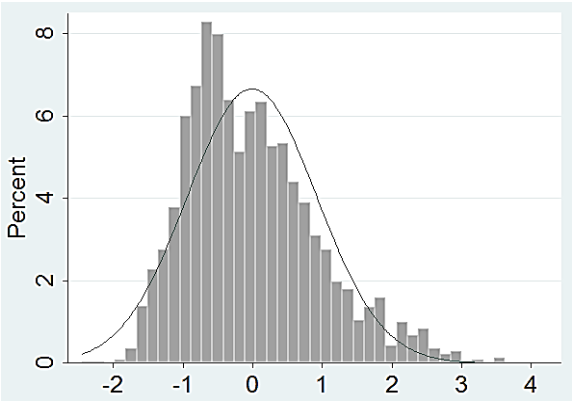


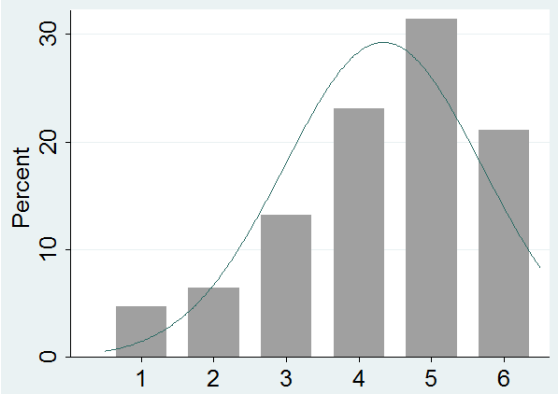
Figure 4.3 Wealth index



Notes: 1 – "Poor"; 2 – "Neither rich nor poor";
3 – "Not rich, but live well"; 4 – "Well-off"

To test Hypothesis 1, I interact the wealth variables with education. To measure education I use a recoded version of the question "*What is the most advanced education […] has COMPLETED"*. Its distribution is shown in Figure 4.4.

Figure 4.4: Education

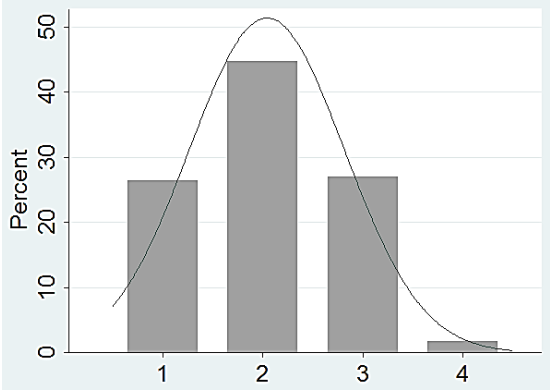


Notes: 1 – "Never attended school"; 2 – "Never finished elementary";
3 – "Elementary"; 4 – "Intermediate"; 5 – "Secondary/Vocational";
6 – "Diploma/University"

I measure perceived status of civil and political rights with a reversed version of the question "*Everything considered, how would you rate the status of public freedom and human rights in*

the West Bank and the Gaza strip? Would you say it is… 1.Very satisfactory/ 2.Satisfactory/ 3.Poor/ 4.Very poor/ 5.DK/ 6.NA" (Fafo, 2011a). Its distribution is shown in Figure 4.5. The operationalization is not unproblematic. First, there is the problem of reference group. Different people may implicitly compare the human rights situation to different groups or to more abstract ideal situations. Given the conflict situation, however, it is not unreasonable to expect most Palestinians to compare their own rights to the rights of Israelis when asked the question. To the extent that this is the case, the relative aspect of relative deprivation is captured fairly well by the measure.

Figure 4.5: Civil and political rights status



Notes: The status of public freedom and human rights is:
1 – "Very poor"; 2 – "Poor"; 3 – "Satisfactory";
4 – "Very satisfactory"

A more serious problem is that people might associate different things with the somewhat ambiguous term "human rights". Some will include social and economic rights in this, others might not. This makes the content of the variable less clear and means that what I am able to actually measure might not overlap equally well with the theoretical concept of civil and political rights for all the individuals asked. This is a substantial challenge to the content validity of the measure. Still I would argue that the measure captures the concepts better than a similar questions about the ambiguous term "democracy" (open to even more interpretations) or questions about only freedom of expression (too narrow to capture the concept properly). For robustness testing I include a reversed version of the question "*Everything considered, how would you rate the status of democracy in the West Bank and Gaza Strip? Would you say it is ... 1.Very satisfactory/ 2.Satisfactory/ 3.Poor/ 4.Very poor* (Fafo, 2011a)". The relevant questions about freedom of expression are less suitable, as they were asked separately for the Gaza Strip and the West Bank.

To measure horizontal inequality (HI) between Palestinians and Israelis in neighboring regions, I construct three measures – two alternatives for measuring economic and one for measuring social HIs. The first economic measure is an index of horizontal inequality between neighboring Palestinian and Israeli regions in ownership of a set of consumer durables. The reasons for using this alternative on the governorate level are similar to the reasons for using an asset index as a robustness test on the individual level. I use the result from the Israeli 2008 expenditure survey (CBS, 2010a: table 16) and the 2007 Palestinian census (PCBS, 2012b: table 18) to calculate the share of households in each Palestinian governorate and corresponding Israeli sub-district that had at least one refrigerator, microwave, washing machine, vacuum cleaner, phone line, car.[24] I then construct a combined consumer durable measure by using a somewhat simplified version of the formula recommended by Østby (2008:151):

$$\text{HI} = 1 - \sum_{i=1}^{M} \frac{A_{i1}/A_{i2}}{\text{M}}$$

where M is the number of asset types (i) included in the index, A_{i1} is the share of Palestinian households in each region that owns asset i, and A_{i2} is the share of households in the corresponding Israeli sub-district that owns the same asset. Figure A.1 in Appendix 4 shows the distribution of governorates on this variable.

The second economic measure compares household expenditure levels. For each Palestinian governorate, household expenditure is divided by household expenditure in the closest Israeli sub-district and subtracted from 1, using 2008 estimates for Israel (CBS, 2010a: table 9.2) and 2009 estimates for the Palestinian territories (PCBS, 2010a: table 2.28).[25] Figure A.2 in Appendix 4 shows the distribution of governorates on this variable.

The third measure is more social in character. It measures horizontal inequality in educational attainment and is constructed using data from the 2007/2008 censuses (CBS, 2012b; PCBS, 2012b) to estimate the share of the regional population with higher education (which in both countries means having completed 13 years of education or more) in Palestinian governorates and the corresponding Israeli sub-districts.[26] A measure of social HIs is constructed by

[24] I exclude owning a tv, as many orthodox Jews choose not to buy them for religious reasons.
[25] To make comparison possible I convert the consumption estimates into 2008 US dollars (American-Israeli Cooperative Enterprise, 2012a, 2012b).
[26] The Palestinian estimates are calculated from the total population aged above 10, while the corresponding Israeli estimates use the total population aged above 15.

subtracting the Palestinian estimate divided by the Israeli estimate from 1. Figure A.3 in Appendix 4 shows the distribution of governorates on this variable.

4.3.2 Opportunity cost

When testing Hypothesis 4, I use the measures of household wealth described for Hypothesis 1 – self-evaluated wealth as the main indicator and wealth index as a robustness test. Using household level measures to test the individual-oriented opportunity cost mechanism is not ideal, but as discussed in Section 4.3.1, this is the best alternative available in my dataset. The variable also has the advantage of measuring subjectively perceived economic status.

To test whether absolute level of regional wealth affects individual attitudes towards resistance (Hypothesis 5), I include a variable measuring the average per capita monthly expenditure in each Palestinian governorate in 2010 (PCBS, 2011b: table 2.30). For robustness testing, I construct two alternative variables. First, a measure of average daily wage for Palestinian wage workers by governorate (PCBS, 2012a: table 18). Second, a consumer durable index measuring the share of household in each governorate that owned at least one refrigerator, microwave, washing machine, vacuum cleaner, phone line, and car in 2007 (PCBS, 2012b: table 18).

4.3.3 Controls

Governorate level

An important variable to control for is the intensity of the conflict, which is often measured as the number of casualties. Gartner (2008:96) has argued that level of recent casualties in times of war affect both mass opinion and individual attitudes. He found that both higher monthly casualties and increasing casualty trends negatively affected support for military action (Gartner, 2008:103). This is often referred to as the "body bag effect". He also emphasized that monthly casualties lack clear meaning without the context of casualty trends. Casualty *trends* are very important when individuals decide whether or not to support military action, as their cost-benefit analysis involves projecting future losses from previous trends (Gartner, 2008:97). It is crucial to hold such trends constant when examining the effect of recent casualty levels.

The opposite argument was made by Jaeger, Klor, Miaari, and Paserman (2008). They found that during the Second Intifada, Israeli violence against Palestinians had a radicalizing effect

on their attitudes towards the conflict. The effect was temporary – it disappeared after ninety days. It was also stronger the more geographically proximal the casualties. This would lead us to expect a positive effect of an increasing regional casualty trend, as opposed to the negative effect expected by Gartner. In any case, the intensity of the conflict, as measured by casualties and casualty trend, should be controlled for, as it can be expected to affect both support for resistance and independent variables like wealth (Justino, 2009:320).

I use casualty data from the "protection of civilians" database of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) to measure intensity. I operationalize the concept on the regional level, by measuring how many Palestinians were reported killed in each governorate (by the IDF, Israeli border police, police, private security forces, Israeli non-settlers or settlers) in incidents directly or indirectly related to the Palestinian-Israeli conflict in the period 01.02.2010-31.01.2011 (OCHA-oPt, 2012). I also include a simple trend variable measuring how the casualty count differed for January 2011 as compared to December 2010 in each governorate.[27] As robustness checks, I use proxies for conflict intensity based on data from the Palestinian Central Bureau of Statistics (PCBS), even though the definitions and sources used for these statistics are neither very clear nor well-documented. The first variable measures the percentage of households in each governorate that have been "exposed to violence from Israeli occupation forces and settlers during the period that proceeded July/ 2010" (PCBS, 2012c: table 19).[28] The second variable measures the number of "martyrs" in each region since the start of the second Intifada (PCBS, 2010b:63).[29]

As a third governorate-level control variable, I include the proportion of young men (age 15-29) residing in each governorate. This is relevant for a strand of opportunity arguments pertaining to potential for recruitment. The idea is that a larger pool of young men makes recruitment easier for insurgents (Collier et al., 2009:22). It has been tested on the national level, but should be transferable to regional circumstances as well. It can also be argued that youth bulges can cause grievances, however, because the expansion in education that often

[27] Three people were killed in Gaza North in the period when interviews were taking place (February) – so the negative trend variable probably gives the wrong impression for this governorate. In the other governorates nobody was killed in the period 01.02-21.02.2011, so the variable should capture the trend well.

[28] Definition: "a form of violence against the husband or wife or children, whether they are males or females or any family members by occupation or settlers and it includes several forms, martyrdom, injury, beatings, arrests, raids, demolitions of a family members." (PCBS, 2012c:40).

[29] E-mail correspondence with Fafo employees in the Palestinian territories with contacts in the PCBS indicate that any Palestinian killed by an Israeli is considered a martyr, including Palestinians that are shot by settlers or die in prison.

follows a youth bulge cannot easily be matched by a corresponding expansion in employment opportunities, and therefore often results in a large pool of young unemployed and frustrated people experiencing relative deprivation (Urdal, 2004:2-3). The corresponding opportunity cost argument would be that the less likely people are to get a job, the more likely they are to engage in violent conflict, because they have less to loose when income-earning possibilities are low. It can also be combined with a more general opportunity argument, stating that youth are more available to participate in violent conflict, both because they are more easily drawn to new ideas and have a natural urge for change, and because they have fewer responsibilities for both families and careers (Urdal, 2004:5).

Demographic controls

An individual's position in the political landscape might be expected to influence his or her attitudes, and the political platforms of Palestinian parties are closely linked to the armed resistance debate (Sønsterudbråten, 2009:32). Attitudinal studies have suggested that Fatah supporters are more supportive of a conciliatory line and peace negotiation (Shamir & Shikaki, 2002:197). Hamas supporters have been found to be more supportive of rocket attack and Fatah supporters are less supportive of such attacks than those that will not vote (Sønsterudbråten, 2009:59-60). When controlling for political affiliation I use the question "*Who would you vote for today?*". Due to low levels of support for parties other than Hamas and Fatah I include them all in the category "Others" and recode my variable to include dummy variables for the categories "Fatah"; "Hamas"; "Others"; "Don't know"; and "Will not participate in the election". "Will not participate in the election" serves as the reference category. The less than clear-cut causality of this relationship is discussed in Section 6.4.

Sønsterudbråten (2009:55) found that higher perceived personal security was associated with higher support for rocket attacks, as people who feel secure have better prospects to handle potential consequences of resistance. I therefore control for perceived security with the question "*Do you generally feel that you, your family and properties are safe*" (Fafo, 2011a). I also control for gender. Sønsterudbråten (2009:55) found that women were more supportive of rocket attacks than men, somewhat contrary to what one might expect due to earlier findings of women in general being less supportive of the use of force in foreign policy (Fite, Genest, & Wilcox, 1990) and Palestinian women being more supportive of peace than men (Nachtwey & Tessler, 2002:277). Lundervold (2012:54), on the other hand, found that women

are significantly more likely than men to support non-violent resistance only rather than support neither violence nor non-violence.

It is often assumed that young people are more radical than older people. Tessler and Robbins (2007:322) found that support for terrorism decreased with age in Jordan and Algeria. I therefore control for age, expecting younger respondents to be more supportive of violent resistance. In some studies, however, the effect of age has been found to disappear when education is brought into the equation. Somewhat counter-intuitively, higher education has been found to decrease support for reconciliation (Shamir & Shikaki, 2002:194). Employment status may also influence attitudes. Sønsterudbråten (2009:59) found that the unemployed were more supportive of rocket attack than the working. Shikaki (1996:6) has argued that students is the most hardline group in the Palestinian community. To control for both students and unemployment I recode the employment status variable B13 into dummy variables, representing the categories "Working", "Attending school", "Housewife", "Unemployed" and "Other", with "Working" as the reference category.

Finally, whether a respondent is living in an urban or rural area or a refugee camp might affect support for violence, particularly because refugee camps can become breeding grounds for militancy. Socio-economic explanations often involve poor living conditions combined with a large number of young men (Lischer, 2005:9). I therefore control for type of living area ("Urban"; "Rural"; "Camp"). Whether the respondent has refugee status is likely to affect the intensity of his or her feelings towards the conflict, and is controlled for by a dichotomous variable.

4.3.4 Descriptive statistics

Descriptive statistics for individual-level and governorate-level variables are shown in Table 4.2 and Table 4.3, respectively. For interpretation purposes and to minimize potential problems of multicollinearity, I standardize all non-dichotomous independent variables so that their means equal zero and their standard deviations equal one.[30] The governorate distributions of governorate-level variables are shown in Table 4.4 and the distribution of governorates on the dependent variable in Table 4.5.

[30] Descriptive statistics for the unstandardized variables for imputations and the unimputed dataset are available in Appendix 1.

Table 4.1: Individual-level variables

	Obs	Mean	Std. dev.	Min	Max
Explanatory					
Self-evaluated wealth	1805	0	1	-1.45	2.51
Civil and political rights	1805	0	1	-1.34	2.52
Controls					
Political affiliation: Fatah	1805	.314	.464	0	1
Political affiliation: Hamas	1805	.122	.327	0	1
Political affiliation: Other	1805	.086	.280	0	1
Political affiliation: Will not participate	1805	.353	.477	0	1
Political affiliation: Don't know	1805	.125	.331	0	1
Personal security: Feel safe	1805	.684	.465	0	1
Gender: Woman	1805	.541	.498	0	1
Age	1805	0	1	-1.25	3.88
Education completed	1805	0	1	-1.05	1.22
Employment status: Working	1805	.260	.439	0	1
Employment status: Attending school	1805	.121	.326	0	1
Employment status: Housewife	1805	.407	.491	0	1
Employment status: Unemployed	1805	.134	.341	0	1
Employment status: Other	1805	.077	.267	0	1
Living area: Urban	1805	.408	.491	0	1
Living area: Rural	1805	.262	.440	0	1
Living area: Refugee camp	1805	.330	.470	0	1
Refugee	1805	.590	.492	0	1
Robustness tests					
Support for rocket attacks	1805	0	1	-1.50	1.53
Resistance attitude index	1805	0	1	-2.80	3.36
Wealth index	1805	0	1	-2.61	3.90
Human rights situation	1805	0	1	-1.23	2.65

Note: Non-dichotomous variables are standardized.

Table 4.2: Governorate-level variables

	Obs	Mean	Std. dev.	Min	Max
Explanatory					
HI durables index	1805	0	1	-1.84	1.49
HI household expenditure	1805	0	1	-2.80	1.10
HI education	1805	0	1	-2.30	2.52
Regional expenditure level	1805	0	1	-0.82	2.96
Controls					
Per capita casualties	1805	0	1	-1.05	2.69
Casualty trend	1805	0	1	-2.89	1.22
Proportion of young men	1805	0	1	-2.66	1.16
Robustness tests					
Household durables index	1805	0	1	-1.47	2.01
Wage level	1805	0	1	-1.28	2.50
Exposure to Israeli violence	1805	0	1	-3.16	1.46
Per capita martyrs	1805	0	1	-1.32	1.96

Note: All variables are standardized.

Table 4.3: Distribution of governorates on governorate-level variables

Governorate	HI expenditure	HI durables	HI education	Expenditure level	Casualties	Casualty trend	Young men
Jenin	0.51	0.45	0.68	136.5	0.000004	1	0.14
Tubas	0.51	0.50	0.66	133.9	0.000040	2	0.13
Tulkarm	0.64	0.43	0.66	159.4	0.000006	0	0.14
Nablus	0.62	0.39	0.68	191.2	0.000016	1	0.14
Qalqilia	0.63	0.46	0.79	167.5	0.000000	0	0.14
Salfit	0.67	0.43	0.75	167.5	0.000017	0	0.14
Ramallah	0.53	0.32	0.66	195.0	0.000007	1	0.13
Jericho	0.46	0.43	0.80	133.9	0.000000	0	0.12
Jerusalem	0.35	0.41	0.72	284.3	0.000014	0	0.12
Bethlehem	0.55	0.35	0.72	138.3	0.000015	0	0.14
Hebron	0.62	0.40	0.74	125.5	0.000067	2	0.14
Gaza North	0.56	0.52	0.72	100.3	0.000020	-1	0.15
Gaza	0.68	0.40	0.66	106.8	0.000035	0	0.14
Deir Al Balah	0.68	0.52	0.57	101.7	0.000102	-6	0.15
Khan Yunis	0.70	0.54	0.66	97.7	0.000044	-3	0.15
Rafah	0.62	0.54	0.64	104.8	0.000035	0	0.14

Notes: Unstandardized variables. The HI variables are measured from 0 to 1, with increacing values indicating increasing inequality. Expenditure level is measured in Jordanian Dinars (JOD). Casualties are measured per capita and the casualty trend in absolute numbers. Young men are measured as a proportion of total governorate population.

Table 4.4: Distribution of governorates on dependent variable

Governorate	Non-violence only	Violence only	Both	Neither	Percent
Jenin	46.0	14.9	27.6	11.5	100
Tubas	35.5	29.0	16.1	19.4	100
Tulkarm	37.4	31.9	24.2	6.6	100
Nablus	33.1	29.1	29.1	8.8	100
Qalqilia	41.2	11.8	26.5	20.6	100
Salfit	50.0	27.3	18.2	4.5	100
Ramallah	34.9	34.9	22.0	8.3	100
Jericho	30.8	35.9	20.5	12.8	100
Jerusalem	47.3	24.1	17.0	11.6	100
Bethlehem	65.7	17.1	11.4	5.7	100
Hebron	52.1	34.4	8.0	5.5	100
Gaza North	51.6	19.8	20.3	8.3	100
Gaza	48.9	24.3	16.9	9.9	100
Deir Al Balah	51.7	16.7	18.3	13.3	100
Khan Yunis	36.4	33.3	21.6	8.6	100
Rafah	25.9	42.0	27.7	4.5	100

Notes: Row percentages reported.

4.4 Statistical models

Because my dependent variable is categorical, I use a multinominal logit regression model. I first construct a one-level model using the individual level variables only, then add the governorate-level variables in a random intercept two-level model.

4.4.1 Mulitnominal logistic regression

The dependent variable of this study is categorical. When the dependent variable is not interval-scaled logistic regression is more suitable than OLS. Logistic regression is based on odds and odds ratio (=*relative* measures of effect). The odds of an outcome is given by the probability of the outcome occurring divided by the probability of the same outcome not occurring ($\frac{p}{1-p}$). Odds ratios are relative odds ($(\frac{p}{1-p})/(\frac{q}{1-q})$). In logistic regression the odds are transformed into logits by applying the natural logarithm, to achieve an unbounded scale, so as to be able to use a linear regression model (Skog, 2005:355-361). The logit estimates the regression produces have no intuitive interpretation, so we usually interpret the odds ratios (the antilogarithm of the regression coefficients) instead (Skog, 2005:362-363). Each odds ratio estimate measures the *relative* difference in odds on the dependent variable that corresponds to a difference of one unit of measurement on the independent variable in question (Skog, 2005:369). These are relative rather than absolute measures of effect.

In this study a multinominal logistic regression model is required. The dependent variable index has four categories, with no natural ordering. This precludes binominal and ordinal logistic regression models, respectively. As the dependent variable has more than two categories, several different odds can be calculated. In a multinominal logistic regression model we therefore have to choose a baseline category, to be able to calculate baseline-category odds and baseline-category logits (Hegre, 2011:29-30). We are estimating not only one equation, but one equation for each category relative to the baseline category (Hegre, 2011:31). In this study the dependent variable has four categories. It follows that three equations are estimated, resulting in three sets of coefficients to interpret. If the A possible dependent variable categories (alternatives) are indexed by $a = (1, \ldots, A)$, and X represents all independent variables, the probability of an individual *i* choosing category *f* is given by

$$\begin{aligned} \Pr(f_i) &= \exp(V_i^f) / \textstyle\sum_{a=1}^{A} \exp(V_i^a) \\ &= \exp(b_0^f + b_1^f X) / \textstyle\sum_{a=1}^{A} \exp(b_0^a + b_1^a X) \end{aligned} \qquad (4.1)$$

where V_i^a is a linear predictor for category *a*, consisting of an intercept b_0^a and a coefficient b_1^a describing the slope of X. One such equation is estimated for each category except the baseline category, which in this case means three equations. I choose the category "support for non-violence only" as baseline category, as I am particularly interested in what separates those that support violent resistance from those that only support non-violence.

4.4.2 Multilevel analysis

The governorate-level variables measure characteristics of the governorates rather than of individuals. The individuals are grouped or nested within governorates. Simply including governorate-level variables in a regular one-level model would be problematic for two reasons. First, I would be using too many degrees of freedom by using individual-level degrees of freedom to evaluate a governorate level coefficient. The standard errors of regression coefficients are likely to be inflated (Bickel, 2007:145), thus increasing the probability of erroneously rejecting the null hypothesis (Bickel, 2007:110). Second, I might be violating the preconditions of independent observations and uncorrelated residuals, to the degree that a significant part of the variability of in the dependent variable is accounted for simply by the fact that individuals are grouped within governorates. Nesting of individuals within governorates might give rise to a consequential degree of homogeneity among individuals within each governorate. Because the correlation among residuals implied by this is not temporally patterned, but rather occasioned by a nominal-level variable, time series procedures cannot fix the problem (Bickel, 2007:111). Instead a random coefficient or multilevel regression model is necessary to deal with the intraclass correlation (Bickel, 2007:112).

By permitting coefficients to vary across groups, random coefficient models acknowledge that homogeneity caused by nesting may give rise to varying intercepts and slopes (Bickel, 2007:105). We may then construct intervals to enable estimating how much coefficients vary across groups due to this nesting-engendered homogeneity (Ibid:106). The model becomes a multilevel model once we add contextual variables in order to explain the group-to-group variability in intercepts and slopes (Bickel, 2007:105-106).

I choose a model with a random intercept only. This is most relevant for my hypotheses because I am interested in the variability of the intercept and have no theoretical reason to expect variability in slopes and cross-level interaction between the level one and level two variables in my model. For a model of *i* individuals and *j* governorates, the level one linear predictor can be specified as:

$$V_i^a = b_{0j}^a + b_1^a X_1 + e_{ij} \qquad (4.2)$$

where b_{0j}^a represents the now random and therefore governorate-specific intercept, b_1^a the fixed slope of X_1 and e_{ij} the individual- and governorate-specific residual. When including

level two contextual variables Z in the random intercept model we can specify the level two equation for the random intercept as

$$b_{0j}^{a} = g_{00}^{a} + g_{01}^{a} Z_1 + u_{0j}^{a} \quad (4.3)$$

where g_{00}^{a} is the fixed component of the random intercept, g_{01}^{a} the fixed slope of level two variable Z_1 and u_{0j}^{a} is the governorate-specific level two residual. Combining the two levels, the full model is specified as

$$V_i^{a} = g_{00}^{a} + g_{01}^{a} Z_1 + g_{10}^{a} X_1 + (e_{ij} + u_{0j}^{a}) \quad (4.4)$$

where the fixed component $g_{10}^{a} = b_1^{a}$.

To estimate a two-level multinominal logistic multilevel model the basic multilevel model must be combined with the multinominal logistic model described above. In the multilevel multinominal logistic model, the probability of an individual choosing category *f* is specified as

$$Pr(f_i) = \exp(g_{00}^{f} + g_{01}^{f} Z_1 + g_{10}^{f} X_1) \; / \; \sum_{a=1}^{A} \exp(g_{00}^{a} + g_{01}^{a} Z_1 + g_{10}^{a} X_1) \quad (4.5)$$

One such equation and corresponding intercept variance is estimated for each dependent variable category except the baseline category. To execute the analysis, I use the Stata program for Generalized Linear Latent and Mixed Models ("gllamm"), written by Skrondal and Rabe-Hesketh (2003). The program provides maximum likelihood estimation "using adaptive quadrature to approximate the integrals involved" (Rabe-Hesketh & Skrondal, 2008:248).

4.5 Conclusions

In this chapter I have outlined the research design of the study. I first presented the main dataset and its sampling and weights, and then described how I have dealt with missing data by using multiple imputation. Second, I presented operationalizations of the theoretical concepts in my model. I discussed potential challenges to content validity and presented summary statistics and distributions for central variables. Finally, I described the statistical models I intend to apply in the analysis. In the following chapter I conduct the analysis and discuss the findings.

5 Analysis

In this chapter I conduct the analysis and discuss the results. My findings indicate support for the grievance theory. In particular the strands of grievance theory that emphasize the group comparison element seem to contribute a great deal to explanations of support for violent resistance. Hypothesis 1, that highly educated individuals in the lower economic segments are more likely to support violent resistance, is not supported. But the hypotheses most clearly operationalizing the mechanism of political and economic horizontal inequality are confirmed. The better an individual considers the civil and political rights situation (Hypothesis 2) and the larger the difference in economic conditions between the individual's own governorate and the closest Israeli sub-district (Hypothesis 3), the more likely he or she is to support violent resistance. Opportunity factors seem unimportant in explaining attitudinal support for violence. Neither coming from a less wealthy household (Hypothesis 4) nor a less wealthy governorate (Hypothesis 5) significantly increases support for violent resistance among Palestinians in the West Bank and the Gaza Strip.

5.1 Results

5.1.1 The multinominal logistic model (Model 1)

Model 1 is a one-level multinominal logistic regression model including only the level-one variables. The results are reported in Table 5.1. The only explanatory variable that appears to have a significant effect on support for violence is the civil and political rights status variable. A difference of one standard deviation on this variable corresponds to a 21 percent decrease in the odds for supporting only violent resistance rather than only non-violent resistance. The effect is significant at the 5 percent level. This lends preliminary support to the relative deprivation argument of Hypothesis 2, the proposition that lower perceived status of civil and political rights is associated with higher levels of support for violent resistance.[31] The

[31] What makes this finding particularly interesting is that it differs from the result of Lundervold (2012:54), who used the same dataset and the same operationalization of civil and political rights status and support for resistance. This is most likely due to the fact that we control for different variables – either she controls for something that makes this effect go away because it was spurious or I control for something that makes it come out. It seems most likely that I have omitted variable bias and that one of her variables makes the effect disappear, because the effect is significant even in a bivariate multinominal model and in the unimputed dataset – it is even stronger and more significant in both of these bivariate tests, suggesting OVB that some of the variables I later introduce lessen. Of the variables Lundervold controls for that are not included in my model, trust in the political leadership and nationalism seem like the most likely candidates to be responsible for omitted variable bias in my model. But including them in my model does not make the effect of civil and political rights disappear.

perceived status of civil and political rights does not, however, significantly affect the odds of supporting neither form of resistance or both forms of resistance rather than non-violence only.

Table 5.1: Model 1 – Multinominal logistic regression model

	Violence only				Both				Neither			
	exp(b)	z	CI 95%		exp(b)	z	CI 95%		exp(b)	z	CI 95%	
Intercept	0.12***	(-3.44)	0.04	0.40	0.54	(-1.41)	0.23	1.27	0.26**	(-2.23)	0.08	0.85
Grievances												
Wealth*education	0.77	(-0.60)	0.33	1.79	0.99	(-0.02)	0.39	2.49	0.42	(-1.37)	0.12	1.45
Civil and political rights	0.79**	(-2.30)	0.65	0.97	1.02	(0.18)	0.82	1.27	0.80	(-1.57)	0.61	1.06
Opportunity												
Self-evaluated wealth	1.27	(0.86)	0.73	2.20	0.99	(-0.03)	0.53	1.85	1.84	(1.45)	0.81	4.19
Controls												
Political affiliation: Fatah		Ref.				Ref.				Ref.		
Political affiliation: Hamas	9.87***	(6.94)	5.17	18.86	3.86***	(4.09)	2.02	7.37	4.26***	(3.63)	1.95	9.34
Political affiliation: Other	4.10***	(4.27)	2.15	7.82	1.82*	(1.76)	0.94	3.55	1.51	(0.89)	0.61	3.71
Political affiliation: Will not participate	4.22***	(4.97)	2.39	7.45	2.44***	(3.56)	1.49	3.97	1.35	(0.88)	0.69	2.63
Political affiliation: Don't know	4.18***	(4.61)	2.28	7.67	2.29***	(2.77)	1.27	4.13	1.39	(1.00)	0.73	2.66
Personal security: Feel safe	0.82	(-0.95)	0.54	1.24	0.63**	(-2.42)	0.44	0.92	1.25	(0.59)	0.60	2.57
Gender: Woman	0.81	(-0.70)	0.45	1.46	1.39	(1.03)	0.74	2.60	0.47	(-1.60)	0.19	1.19
Age	0.92	(-0.73)	0.74	1.15	0.97	(-0.23)	0.75	1.25	1.08	(0.57)	0.82	1.43
Education completed	0.99	(-0.04)	0.57	1.71	1.03	(0.11)	0.61	1.75	1.63	(1.17)	0.72	3.72
Employment status: Working		Ref.				Ref.				Ref.		
Employment status: Attending school	0.94	(-0.17)	0.47	1.87	1.25	(0.67)	0.65	2.38	1.11	(0.24)	0.49	2.52
Employment status: Housewife	1.20	(0.51)	0.60	2.38	0.84	(-0.58)	0.45	1.53	1.55	(0.88)	0.58	4.14
Employment status: Unemployed	1.27	(0.75)	0.68	2.38	1.32	(0.80)	0.67	2.63	0.70	(-0.64)	0.23	2.09
Employment status: Other	0.86	(-0.41)	0.42	1.78	1.05	(0.13)	0.50	2.21	0.32	(-1.63)	0.08	1.26
Living area: Urban		Ref.				Ref.				Ref.		
Living area: Rural	0.96	(-0.14)	0.54	1.70	0.99	(-0.03)	0.56	1.75	1.08	(0.21)	0.50	2.33
Living area: Refugee camp	1.39	(1.22)	0.82	2.36	1.38	(1.23)	0.83	2.29	0.97	(-0.09)	0.51	1.85
Refugee status	0.76	(-1.23)	0.50	1.17	1.04	(0.16)	0.64	1.70	1.07	(0.19)	0.53	2.17
Observations	1805											

Notes: Dependent variable reference category "Non-violence only". z-values in parantheses. Estimates significant on the .10, .05 or .01 level are marked with *, ** or ***, respectively. Continous variables are standardized. All independent variables are on the individual level. Governorate dummies are controlled for but not reported in table.

The economic explanatory variables were chosen specifically to be able to separate the mechanisms of economic grievances from economic opportunities in the analysis, but neither of them seems to have any discernible effect on support for resistance.

The only control variable that is significant across all dependent variable categories is the political affiliation variable. It is clear from the estimates in Table 5.1 that stating that one would vote for Fatah if there was an election today is highly correlated with supporting non-violent resistance only. Supporting Hamas rather than Fatah corresponds to a higher odds for being in all other dependent variable categories – for supporting violence only, supporting

both forms of resistance or supporting neither form of resistance. Supporting other parties than the two dominant ones, answering "don't know" or not wanting to participate in election rather than supporting Fatah also increases the odds for supporting violence only or both forms of resistance significantly, though to a lesser degree.

Having the feeling that one and one's family are generally safe corresponds to a significantly reduced odds of supporting both forms of resistance rather than only non-violence. None of the other control variables are found to significantly affect support for violent resistance. This is particularly surprising, given that many of these have been firmly established in the literature in general and the Palestinian context in particular.

The governorate dummies are not reported in the table, but several of them are highly significant.[32] In line with the findings of Sønsterudbråten (2009), there are significant regional differences in support for resistance that the individual-level explanatory variables cannot account for. It therefore makes sense to extend the model to a multilevel model to be able to quantify and attempt to explain the governorate-level variance.

In sum, the results for the explanatory variables in this preliminary model suggest that what affects support for violent resistance most is relative political deprivation and that the economic aspects of both deprivation and opportunity are not important for determining support for resistance in the Palestinian-Israeli conflict at this point.

5.1.2 Random intercept model (Model 2)

Model 2, as shown in Table 5.2, is a random intercept model.[33] The model is identical to the simple multinominal model (Model 1) except that intercepts are allowed to vary across governorates. Results remain pretty much the same as in Model 1. Higher perceived status of political and civil rights still appears to reduce the risk of supporting violence only rather than non-violence only. Effects of supporting other parties than Fatah, in general, and Hamas, in particular, are still significant across the board. The effects of both variables are still strong, but they become a little smaller when intercepts are allowed to vary across governorates. The largest difference between Models 1 and Model 2 is that being a woman rather than a man or having the employment status "other" rather than "working", both significantly reduce the

[32] Governorate dummies are reported in table A.7 in Appendix 6.

[33] The gllamm program is not supported by the Stata command for estimation in multiply imputed datasets. I therefore run the analysis on each of the five imputed dataset and combine the results myself. The procedure is described in detail in Appendix 5.

odds of supporting neither form of resistance rather than non-violence only in Model 2. Employment status "other" also affects the risk of supporting violence only rather than non-violence only, though to a smaller degree.

Table 5.2: Model 2 – Random intercept model

	Violence only				Both				Neither			
	exp(b)	z	Conf.int.95%		exp(b)	z	Conf.int.95%		exp(b)	z	Conf.int.95%	
Intercept	0.35***	(-4.21)	0.22	0.57	0.29***	(-4.70)	0.17	0.48	0.20***	(-4.72)	0.10	0.39
Grievances												
Wealth*education	0.81	(-0.64)	0.43	1.53	1.13	(0.37)	0.58	2.22	0.65	(-0.86)	0.24	1.74
Civil and political rights	0.84**	(-2.34)	0.72	0.97	0.98	(-0.28)	0.85	1.13	0.86	(-1.62)	0.71	1.03
Opportunity												
Self-evaluated wealth	1.12	(0.51)	0.72	1.74	0.89	(-0.50)	0.56	1.42	1.28	(0.72)	0.65	2.54
Controls												
Political affiliation: Fatah		Ref.				Ref.				Ref.		
Political affiliation: Hamas	7.80***	(8.64)	4.90	12.43	3.80***	(5.00)	2.25	6.40	4.00***	(4.27)	2.12	7.57
Political affiliation: Other	3.33***	(4.64)	2.00	5.54	1.86**	(2.27)	1.09	3.18	1.56	(1.18)	0.74	3.27
Political affiliation: Not participate	2.73***	(4.87)	1.82	4.09	2.02***	(3.92)	1.42	2.88	1.33	(1.16)	0.82	2.14
Political affiliation: Don't know	3.00***	(5.00)	1.95	4.61	2.13***	(3.14)	1.33	3.41	1.58	(1.38)	0.82	3.04
Personal security: Feel safe	0.88	(-0.86)	0.65	1.18	0.75*	(-1.95)	0.56	1.00	1.29	(1.05)	0.80	2.09
Gender: Woman	0.78	(-1.19)	0.51	1.18	1.33	(1.32)	0.87	2.02	0.56*	(-1.71)	0.29	1.09
Age	0.95	(-0.71)	0.81	1.10	0.93	(-0.83)	0.78	1.11	1.12	(0.98)	0.89	1.41
Education completed	1.05	(0.25)	0.71	1.54	0.90	(-0.50)	0.60	1.35	1.46	(1.18)	0.78	2.72
Employment status: Working		Ref.				Ref.				Ref.		
Employment status: Student	0.86	(-0.57)	0.52	1.43	0.93	(-0.25)	0.56	1.57	1.00	(-0.01)	0.48	2.06
Employment status: Housewife	1.01	(0.04)	0.63	1.63	0.72	(-1.27)	0.44	1.19	1.29	(0.71)	0.63	2.64
Employment status: Unemployed	0.85	(-0.70)	0.55	1.33	0.90	(-0.42)	0.56	1.46	0.67	(-1.19)	0.34	1.30
Employment status: Other	0.61*	(-1.72)	0.35	1.07	0.85	(-0.54)	0.47	1.53	0.21***	(-2.86)	0.07	0.61
Living area: Urban		Ref.				Ref.				Ref.		
Living area: Rural	0.97	(-0.16)	0.70	1.35	1.08	(0.37)	0.73	1.60	0.98	(-0.08)	0.61	1.57
Living area: Refugee camp	1.26	(1.31)	0.89	1.77	1.20	(0.97)	0.83	1.74	0.84	(-0.64)	0.49	1.43
Refugee status	0.93	(-0.46)	0.70	1.24	1.20	(1.02)	0.85	1.69	0.96	(-0.16)	0.61	1.51
Observations	1805											
Log likelihood	-2165.88											
Level 2 variance	0.13** (0.066)											

Notes: Dependent variable reference category "Non-violence only". z-values in parentheses. Estimates significant on the .10, .05 or .01 level marked with *, ** or ***, respectively. Grouping variable "governorate". All independent variables are on the individual level. Level 2 variance reported in logit form with standard error in paranthesis.

For the outcome "violence only", the fixed part of the random intercept, 0.35, is the expected odds that an individual with zero on all dummy variables and mean value on all other variables will support violent resistance only, rather than non-violent resistance only, when all independent variables in the model are held constant. It is a weighted average over all governorates. The random component of the intercept, the level-two (governorate-level) variance, has a logit-form value of .13 and a standard error of .066. It is statistically

significant on the 5 percent level, indicating that intercepts do in fact vary between governorates.

To get a better idea of the amount of variation, I construct a variance interval for the intercept. The random component variance for the intercept is normally distributed when in logitform, so 95 percent of the distribution should be included in an interval covering 1.96 standard deviations above and below the mean (Bickel, 2007:123). In this case the mean is the fixed component of the intercept. To estimate the variance interval correctly, I need to use the logit-form estimate of the intercept. I can then find the odds-form interval by calculating the antilogarithm of the upper and lower boundary of the logit-form interval. The logit-form of the fixed component of the intercept is -1.05. Following the description of Bickel (2007:123), I use the square root of the intercept variance (the random component) as standard deviation. The square root of 0.13 is 0.36. Thus, I use the intercept estimate of -1.05 and the standard deviation of 0.36 to calculate a logit-form 95 percent variance interval for the intercept. The interval is defined by $-1.05 \pm 1.96 \times 0.36$, giving a lower boundary of -1.75 and an upper boundary of -0.34. Translating this into odds I conclude that the intercept for 95 percent of governorates lie between an odds of 0.17 and one of 0.71. The magnitude of this variation is best interpreted in comparison with the magnitudes of the effects estimated in the model. In this case a variance interval width off more than .50 is clearly of substantial interest when compared to the effect of civil and political rights and employment status, but less so in the case of political affiliation.

5.1.3 The full two-level model (Model 3)

The statistically and substantially significant variation in intercepts across governorates makes it all the more interesting to include governorate-level variables to try to account for this variation. This is done in Model 3 and results are displayed in Table 5.3, by introducing governorate-level variables measuring horizontal inequality in household durables, expenditure and education, the absolute expenditure level, per capita casualties the previous year, casualty trend the previous two months and the proportion of young men in each governorate.

In the following discussion I primarily interpret the results for the category “Violence only”, which is the category I am most interested in comparing to the base outcome of “Non-violence only”. For this outcome the variables measuring horizontal inequality in household

durables and expenditure, the casualty trend and the proportion of young men have statistically significant effects. Horizontal inequality in education, absolute expenditure level and per capita casualties appear statistically insignificant. I consider it a given that all effect estimates are controlled for the other independent variables, and will not point this out in each specific interpretation.

Table 5.3: Model 3 – Full two-level model

	Violence only				Both				Neither			
	exp(b)	z	Conf.int.95%		exp(b)	z	Conf.int.95%		exp(b)	z	Conf.int.95%	
Intercept	0.31***	(-4.90)	0.20	0.50	0.27***	(-5.18)	0.16	0.45	0.19***	(-5.18)	0.10	0.35
Grievances												
[1] Wealth*education	0.81	(-0.64)	0.43	1.54	1.11	(0.29)	0.56	2.17	0.65	(-0.88)	0.25	1.71
[1] Civil and political rights	0.83**	(-2.37)	0.72	0.97	0.97	(-0.36)	0.85	1.12	0.86	(-1.62)	0.71	1.03
[2] HI durables index	1.52***	(3.31)	1.19	1.95	1.52***	(3.22)	1.18	1.96	1.32	(1.60)	0.94	1.85
[2] HI household expenditure	1.76***	(3.04)	1.22	2.53	1.20	(1.01)	0.84	1.71	1.17	(0.69)	0.75	1.85
[2] HI education	0.93	(-0.69)	0.75	1.15	0.79**	(-2.15)	0.63	0.98	0.94	(-0.43)	0.72	1.24
Opportunity												
[1] Self-evaluated wealth	1.12	(0.50)	0.72	1.76	0.91	(-0.40)	0.57	1.45	1.27	(0.71)	0.65	2.48
[2] Regional expenditure level	1.16	(1.05)	0.88	1.54	1.17	(0.94)	0.85	1.60	1.06	(0.35)	0.75	1.51
Controls												
[1] Political affiliation: Fatah		Ref.				Ref.				Ref.		
[1] Political affiliation: Hamas	8.03***	(8.74)	5.03	12.80	3.79***	(5.02)	2.25	6.37	4.02***	(4.43)	2.17	7.45
[1] Political affiliation: Other	3.34***	(4.55)	1.98	5.61	1.82**	(2.20)	1.07	3.10	1.53	(1.11)	0.72	3.24
[1] Political affiliation: Not participate	2.82***	(5.06)	1.89	4.20	2.00***	(3.88)	1.41	2.85	1.26	(0.92)	0.77	2.04
[1] Political affiliation: Don't know	2.94***	(4.91)	1.91	4.53	2.18***	(3.28)	1.37	3.47	1.54	(1.27)	0.79	2.97
[1] Personal security: Feel safe	0.89	(-0.71)	0.66	1.21	0.76*	(-1.83)	0.56	1.02	1.34	(1.21)	0.84	2.13
[1] Gender: Woman	0.78	(-1.15)	0.51	1.19	1.32	(1.28)	0.86	2.00	0.55*	(-1.74)	0.29	1.08
[1] Education completed	0.95	(-0.68)	0.81	1.11	0.92	(-0.94)	0.77	1.10	1.12	(0.98)	0.89	1.41
[1] Education completed	1.05	(0.26)	0.71	1.55	0.91	(-0.45)	0.61	1.37	1.47	(1.23)	0.80	2.72
[1] Employment status: Working		Ref.				Ref.				Ref.		
[1] Employment status: Student	0.85	(-0.62)	0.52	1.41	0.95	(-0.21)	0.56	1.59	1.02	(0.05)	0.49	2.10
[1] Employment status: Housewife	1.01	(0.04)	0.62	1.64	0.73	(-1.22)	0.45	1.21	1.31	(0.74)	0.64	2.68
[1] Employment status: Unemployed	0.87	(-0.61)	0.56	1.36	0.92	(-0.36)	0.57	1.48	0.70	(-1.06)	0.36	1.36
[1] Employment status: Other	0.63	(-1.57)	0.36	1.12	0.86	(-0.49)	0.48	1.56	0.22***	(-2.86)	0.08	0.62
[1] Living area: Urban		Ref.				Ref.				Ref.		
[1] Living area: Rural	1.04	(0.24)	0.75	1.45	1.11	(0.53)	0.75	1.65	1.05	(0.21)	0.65	1.70
[1] Living area: Refugee camp	1.37*	(1.76)	0.96	1.94	1.26	(1.22)	0.87	1.82	0.84	(-0.63)	0.49	1.44
[1] Refugee status	0.94	(-0.41)	0.70	1.26	1.17	(0.92)	0.83	1.65	0.99	(-0.06)	0.63	1.53
[2] Per capita casualties	1.06	(0.29)	0.72	1.55	0.82	(-1.08)	0.58	1.17	1.02	(0.08)	0.66	1.57
[2] Casualty trend	1.60***	(3.09)	1.19	2.15	1.21	(1.27)	0.90	1.64	1.17	(0.79)	0.79	1.73
[2] Proportion of young men	0.60**	(-2.57)	0.40	0.88	0.81	(-0.99)	0.53	1.23	0.70	(-1.42)	0.43	1.15
Observations	1805											
Log likelihood	-2148.37											
Level 2 variance	0.021 (0.023)											

Notes: Dependent variable reference category "Non-violence only". Individual and governorate level variables marked with [1] and [2], respectively. Standard errors in parentheses. Estimates significant on the .10, .05 or .01 level marked with *, ** or ***, respectively. Grouping variable "governorate". Level 2 variance reported in logit form with standard error in paranthesis.

To evaluate how much the chosen governorate-level variables explain, I look at the intercept and the governorate-level variance. The fixed component of the random intercept for the outcome "violence only", 0.31, is the expected odds that an individual with zero on all dummy variables and mean value on all other variables will support violent resistance only, rather than non-violent resistance only, when all independent variables have the value zero. It is a weighted average across all governorates. What is interesting to note here, is that the reported level-two variance is not even close to statistically significant. Unlike in the random-intercept model (Model 2), none of the governorates have "violence only"-intercepts that are significantly different from the fixed intercept of 0.31. Intercepts no longer vary significantly across governorates. This means that the level-two variables included in the full multilevel model (Model 3) jointly account for all the governorate-level variance observed in the random-intercept model (Model 2).

Table 5.4: Model 4 – Reduced two-level model

	Violence only				Both				Neither			
	exp(b)	z	CI 95%		exp(b)	z	CI 95%		exp(b)	z	CI 95%	
Intercept	0.53***	(-3.47)	0.37	0.76	0.40***	(-4.48)	0.27	0.60	0.18***	(-6.53)	0.11	0.30
Grievances												
[1] Wealth*education	0.77	(-0.80)	0.41	1.45	1.10	(0.29)	0.58	2.10	0.58	(-1.10)	0.22	1.54
[1] Civil and political rights	0.79***	(-3.32)	0.69	0.91	0.94	(-0.93)	0.82	1.07	0.85*	(-1.84)	0.71	1.01
[2] HI durables index	1.55***	(3.60)	1.22	1.96	1.51***	(3.34)	1.19	1.93	1.32*	(1.71)	0.96	1.82
[2] HI household expenditure	1.70***	(3.32)	1.24	2.32	1.34*	(1.79)	0.97	1.84	1.18	(0.80)	0.78	1.79
[2] HI education	0.94	(-0.63)	0.78	1.14	0.85*	(-1.65)	0.69	1.03	0.98	(-0.19)	0.75	1.26
Opportunity												
[1] Self-evaluated wealth	1.14	(0.58)	0.73	1.77	0.90	(-0.47)	0.57	1.41	1.37	(0.92)	0.70	2.69
[2] Regional expenditure level	1.19	(1.27)	0.91	1.56	1.19	(1.07)	0.86	1.64	1.09	(0.48)	0.77	1.53
Controls												
[1] Political affiliation: Hamas	4.07***	(6.58)	2.68	6.19	2.49***	(3.80)	1.56	3.99	3.59***	(4.40)	2.03	6.35
[1] Personal security: Feel safe	0.94	(-0.39)	0.69	1.27	0.79	(-1.55)	0.59	1.06	1.38	(1.36)	0.87	2.18
[1] Gender: Woman	0.93	(-0.58)	0.72	1.19	1.20	(1.27)	0.91	1.58	0.83	(-0.92)	0.56	1.23
[1] Education completed	1.11	(0.54)	0.76	1.62	0.96	(-0.20)	0.66	1.40	1.54	(1.38)	0.84	2.82
[1] Employment status: Unemployed	1.02	(0.08)	0.69	1.49	1.08	(0.37)	0.72	1.63	0.80	(-0.70)	0.42	1.51
[1] Living area: Urban	Ref.				Ref.				Ref.			
[1] Living area: Rural	1.02	(0.12)	0.74	1.40	1.11	(0.54)	0.75	1.65	1.08	(0.31)	0.67	1.74
[1] Living area: Refugee camp	1.21	(1.23)	0.89	1.65	1.25	(1.31)	0.89	1.75	0.81	(-0.79)	0.48	1.36
[2] Casualty trend	1.51***	(3.57)	1.21	1.90	1.32**	(2.29)	1.04	1.68	1.16	(0.92)	0.85	1.59
[2] Proportion of young men	0.60***	(-2.87)	0.42	0.85	0.70***	(-1.81)	0.48	1.03	0.70	(-1.56)	0.44	1.10
Observations	1805.00											
Log likelihood	-2196.67											
Level 2 variance	0.022 (0.022)											

Notes: Dependent variable reference category "Non-violence only". z-values in parentheses. Individual and governorate level variables marked with [1] and [2], respectively. Estimates significant on the .10, .05 or .01 level marked with *, ** or ***, respectively. Level 2 variance reported in logit form with standard error in paranthesis.

5.1.4 The reduced two-level model (Model 4)

The full two-level model (Model 3) has many parameters, and many of the control variables are statistically insignificant. As a final and more efficient model to base my interpretation and discussion on, I run a model where I exclude the statistically insignificant variables measuring age, refugee status and governorate-level casualties per capita. I also reduce the number of dummies measuring political affiliation and employment status to one for each concept, one dichotomy for voting Hamas and one for being unemployed, respectively. The results for Model 4 are displayed in Table 5.4. As expected, results are almost identical to the results of Model 3.

5.2 Discussion: Grievance theory

5.2.1 Horizontal inequality

The coefficient estimates for the variables measuring economic horizontal inequality are both highly significant. This indicates support for the economic aspect of Hypothesis 3. Individuals are more likely to support violent resistance the larger the economic difference is between their own governorates and the closest Israeli sub-district. More specifically, in the reduced two-level model (Model 4) one standard deviation increase on the index measuring horizontal inequality in ownership of household durables corresponds to a 55 percent increase in the odds of supporting violent resistance rather than non-violent resistance. Similarly, a difference of one standard deviation on the variable measuring horizontal inequality in household expenditure corresponds to a 70 percent increase in the odds of supporting only violent resistance rather than only non-violent resistance. Higher horizontal inequality in household durables also increases the risk of simultaneously supporting both forms of resistance, rather than only non-violence.

To better illustrate the results, Figure 5.1 and Figure 5.2 graphically represent predicted probabilities for the different outcomes when each economic horizontal inequality variable is allowed to vary while all other variables are held constant at zero.[34] For the standardized variables this equals their mean. The figures are constructed so as to show predicted probabilities for the observed range of each variable only.

[34] In making these figures I rely on the description of Rabe-Hesketh and Skrondal (2012:673-676).

Figure 5.1: Predicted probabilities for the HI household durables variable

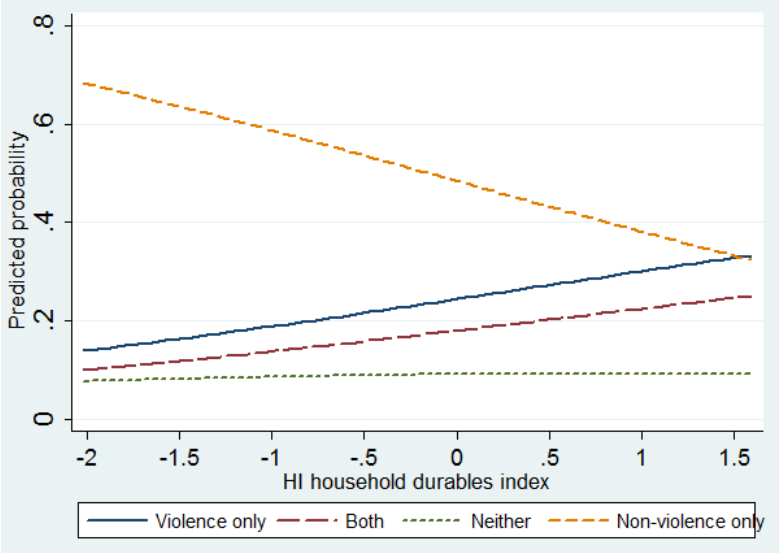


Figure 5.2: Predicted probabilities for the HI expenditure variable

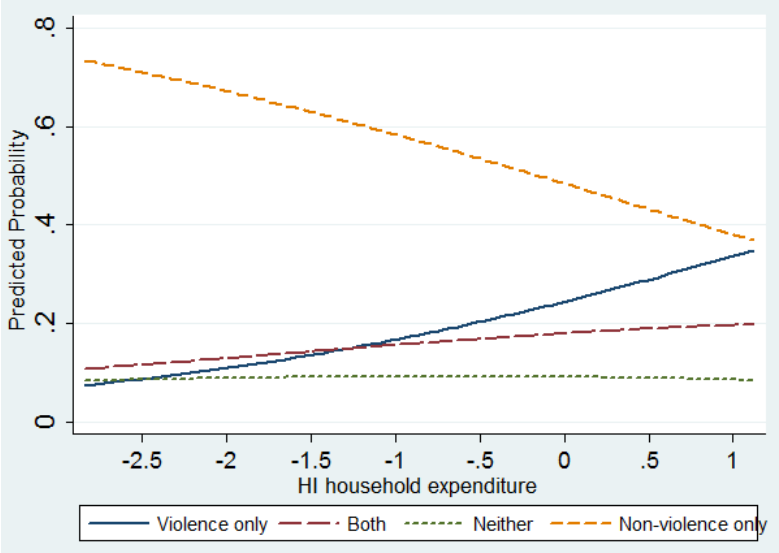


Figure 5.1 shows that higher levels of governorate wealth correspond to a higher probability of support for violent resistance and a reduced probability of support for only non-violence. The reduced two-level model (Model 4) predicts that individuals in the governorates with the highest observed horizontal inequality in household durables ownership (Khan Yunis and Rafah) have an approximately 40 percentage points lower probability of supporting only non-violent resistance than individuals in the governorate with the lowest HI in durables (Ramallah). This holds for individuals with all other dependent variables at zero. These same individuals in Khan Yunis and Rafah have an approximately 15 percentage points higher probability than the individuals in Ramallah of supporting either violent resistance only or

both forms of resistance. While an individual in Khan Yunis or Rafah is as likely to support violent resistance as non-violent resistance, an individual in Ramallah is approximately 55 percentage points less likely to support violent resistance than non-violent resistance. This is a large difference in predicted probability. The same pattern is visible for the HI expenditure variable in Figure 5.2. The largest difference is that for this variable the probability of supporting "both" forms of resistance does not to the same degree rise in parallel with the probability of supporting "violence only". In this figure the governorate with the lowest HI is Jerusalem, while Khan Yunis still has the highest HI.

These results point to the ethnic group element as central in an individual's decision to support violent resistance. They fit well with the proposal of Cederman et al. (2011:481-482) that horizontal inequalities are transformed into grievances by a process of *group comparison* driven by collective emotions. This is the first of the two mechanisms Cederman et al. proposed to connect horizontal inequalities to violent collective action.

Like Cederman et al., I measure the objective economic asymmetries the disadvantaged group experiences, not the subjective grievances this horizontal inequality inspires. I am unable to measure the subjective group deprivation directly. But the fact that the probability of supporting violent resistance increases the higher the economic horizontal inequality of a governorate, suggests a process along the lines described in the social psychology literature. Group identities become more salient the higher the horizontal inequalities. Incorporating the framework of Gurr (1970): Objective horizontal inequality leads to a subjective state of relative group deprivation via a process where group identities become salient through comparison between in-group and out-group categories. This emotional process creates the frustration and anger that often leads to support for violence and in some cases actual participation in violence.

The second mechanism in the chain proposed by Cederman et al. (2011:482) describes how grievances are transformed into actual collective action via group mobilization. This mechanism hinges critically on the assumption that the collective action problem has been overstated in the context of civil war. This is not an unproblematic assumption, but it is one I am unable to test empirically. The dependent variable of this study is attitudinal support for violent resistance, not actual participation in such resistance. The attitudinal dependent variable roughly corresponds to the first step of Klandermans (1997) model for participation in collective action, becoming a sympathizer. The group mobilization process proposed by the

second mechanism of Cederman et al. (2011:482) is more relevant for the later stages of the collective action model. A good test of this mechanism would demand a dependent variable measuring actual participation in violent resistance, or at the very least an intention to participate.

The interpretation that the economic horizontal inequality measures capture the central ethnic group dimension well is strengthened by the non-finding of any significant effect of the absolute level of governorate expenditure. The horizontal inequality measures clearly capture something more than the absolute level of poverty. The non-significance of governorate wealth *per se* indicates that while comparison with neighboring members of the other ethnic group specifically does produce increased support for violence, economic comparison with neighboring geographical areas in general does not.

Social horizontal inequality, operationalized as inequality in higher education, does not affect the risk of supporting violence rather than non-violence. It might be the case that when trying to capture the mechanism of social horizontal inequality, comparing the share of people with higher education is an arbitrary threshold. Maybe differences in more basic education could have a larger effect. But in the case of the Palestinian-Israeli conflict such differences are almost non-existent. When looking at the numbers for secondary education, the difference in regional percentages between Israeli sub-districts and neighboring Palestinian governorates are very small. Some Palestinian governorates even have a higher percentage of the population with secondary education than the corresponding Israeli sub-districts.

Larger horizontal inequalities in higher education do, however, reduce the risk of supporting both forms of resistance, rather than non-violence only. And if Jericho is excluded from the estimation there is a similar significant and negative effect of HI education on support for violence only (Table 6.4, Chapter 6). This is somewhat puzzling.

5.2.2 Relative deprivation

Hypothesis 1 is not supported by the evidence. The interaction between education and wealth is statistically non-significant in all models. Highly educated individuals in poor segments of the population are no more likely to support violent resistance than others.

If the interaction term captures the *individual* relative deprivation better than it captures relative *group* deprivation, the finding might serve to further strengthen the argument about the centrality of group comparison. I am unable to test empirically what reference point or

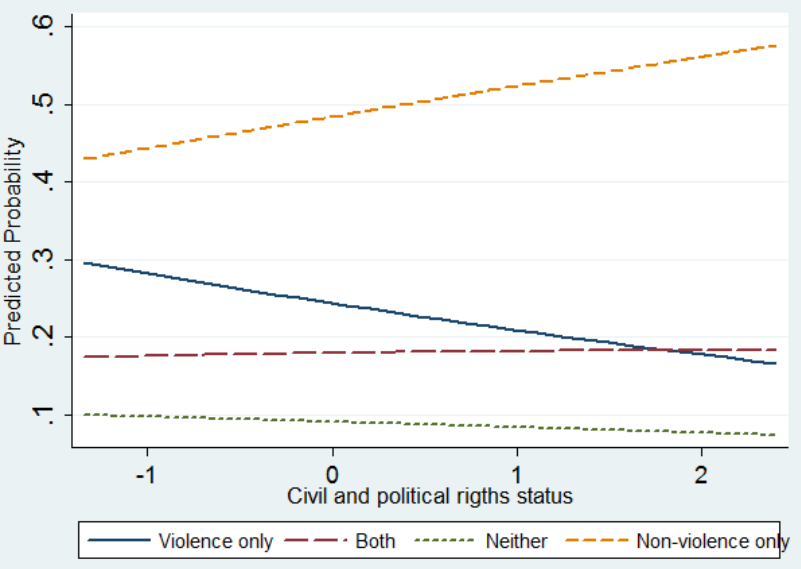
reference group the highly educated individuals in question compare their situation to. On one hand, the point of reference could be an ideal situation of better economic conditions that they believe their education makes them entitled to. If so, the measure captures the individual element of relative deprivation. Its non-significance would indicate support for the proposition that grievances lead to violent collective action in societies where inequality between ethnic groups is rampant, not societies where inequality between individuals is large. On the other hand, I cannot discard the possibility that the implicit reference point of the respondents is the economic situation of Israelis with similar levels of education. The conflict is strong in the national consciousness and could easily be blamed for the dismal economic situation and the lack of upward social mobility that follows from it. If Israelis are the reference group for most Palestinians, the wealth-education interaction measure should capture the group comparison element of relative economic deprivation, which would make its non-significance more puzzling.

In line with the argument about the centrality of group comparison, the wealth-education interaction term as a measure of grievances might have had a more discernible effect if tested on Palestinians within Israel proper. These people are competing more directly for the same jobs as Israelis with comparable levels of education, at the very least in principle. When they are discriminated against and see their upwards mobility blocked, group comparison should be more direct, and the feeling of frustration arising from the situation of relative deprivation would be more directly directed at Israeli Jews as a group.

Hypothesis 2, the proposition that higher perceived status of civil and political rights should reduce support for violence, is supported by all models. In the reduced two-level model (Model 4) I find that a difference of one standard deviation on the civil and political rights status variable corresponds to a 21 percent decrease in the odds of supporting only violent resistance rather than only non-violent resistance. Figure 5.3 graphically represents predicted probabilities for the different outcomes when the civil and political rights status variable is allowed to vary while all other variables are held constant at zero. For the standardized variables this equals their mean. The figure is constructed so as to show predicted probabilities for the observed range of the variable only. It suggests that the individuals that rate the status of civil and political right highest have an approximately 13 percentage points lower probability of supporting violent resistance than the individuals that rate the status lowest. The probability is reduced from .30 to about .17, in other words almost halved. The corresponding difference in the probability for supporting non-violence is about the same

size, but with a positive sign. Thus, for the individuals with all other variables at zero, the difference in predicted probability for supporting non-violent resistance rather than violent resistance increases with approximately 26 percentage points over the observed range on the civil and political rights status variable.

Figure 5.3: Predicted probabilities for the civil and political rights status variable



The mechanism of the relative political deprivation argument is tied to *power values*, as conceptualized by Gurr (1970:25). Such values include participation in collective decision-making (participation values), but also self-determination and security, the freedom from oppressive political regulation and disorder (security values). The mechanism proposed by Gurr is that frustration arises when people feel there is a discrepancy between the power values the political conditions allow them and the conditions they feel rightfully entitled to. The frustration gives rise to anger, and an aggressive response may occur when the angered person sees an attackable object or person that he associates with the cause of frustration (Gurr, 1970:34).

Since its establishment by the Oslo Accords, the Palestinian Authority (PA) is the national authority in the occupied Palestinian territories. One might therefore expect that the frustration stemming from a perceived lack of civil and political rights would be directed at the PA – Fatah in the West Bank and Hamas in the Gaza Strip. Especially when in Fatah hands, the PA has been associated with financial irregularity and corruption (Brynen, 2000:160). Clientelism and neo-patrimonial distribution of resources and positions has been widely used to reward loyalty to the regime and co-opt the opposition (More, 2005:985). The significant effect of perceived civil and political rights status on support for violent resistance suggests another

story, however. It would seem that many Palestinians lay the ultimate blame for their dismal political situation on Israel. Qualitative interviews by Lundervold (2012:67-68) indicate support for this assumption. In ten out of thirteen interviews respondents stated that the Israeli occupation contributed to (four people) or was the main reason for (six people) the dismal civil and political rights situation. Only three respondents did not blame the occupation at all and put all the blame on the PA and the split between Hamas and Fatah. In both 2009 and 2010, polls found that more than thirty percent of Palestinians blamed Israel rather than Hamas or Fatah for the failure to hold elections on time (PSR, 2009, 2010).

The reality created by the Oslo Accords was not one of an independent, viable Palestinian national authority (Roy, 2011:194). The PA was given responsibility for day-to-day life, but with limited authority and agency to manage it properly. In fact the political reality of the occupation is that the Palestinians in the West Bank and the Gaza Strip are effectively excluded from decision-making when it comes to issues of paramount importance to them, issues concerning the political and economic future of the land and the people. Decisions to build more settlements, for instance, changing the facts on the ground in a way crucial for the future of the occupied areas, are made by Israeli authorities. These are bodies that Palestinians in the West Bank and the Gaza Strip have no access to; elected through elections they have no vote in. It follows from the relative deprivation mechanism that the discrepancy between (i) the power value reference point of participation and self-determination and (ii) the actual situation of powerlessness in the face of important decisions about the future, leads to frustration and anger directed towards Israel, the ultimate source of deprivation.

The objective discrepancy between a reference point and reality may lead to violence only to the degree that the people experiencing the conditions in question themselves perceive the situation as unjust (cf. Gurr, 1970:24). The test of Hypothesis 2 is designed to capture this subjectivity, by measuring the effect on support for violence of *perceived* status of civil and political rights. Still there are two important challenges to the validity of the question as a measure of relative political deprivation. First, we cannot be sure that all respondents include the same aspects in their conception of "civil and political rights". The question measuring the concept is phrased "public freedoms and human rights". Most people, given a certain minimum level of knowledge about democracy and human rights, are likely to associate it with at least some participation rights in addition to classical freedoms like the freedom of speech and assembly. Some might also include social and economic rights in the concept, however.

The second challenge is whether the question captures the relative element of relative deprivation sufficiently well. Unlike with the horizontal inequality measures, I am not measuring any objective asymmetry that might lead to grievances. Instead, I am trying to capture the grievance aspect more directly, to measure the perception of relative deprivation itself. Still, with the question about the status of civil and political rights I am unable to directly capture the reference point that each respondent measures his own situation against. As discussed earlier, this could be a former situation, an ideal situation or a reference group. I have argued that the reference point for most Palestinian is likely to be the situation of Israeli Jews as a group. For some of the more educated Palestinians the reference point might be the "Western" ideal democracy. But while the Egyptian and Tunisian revolutions were under way at the time of the survey, the closest example the Middle Eastern had of an embodiment of the democratic values of civil and political rights was the freedoms enjoyed by Israeli Jews in Israel proper. I therefore consider Israeli Jews the group that Palestinian respondents were most likely to compare their political status to.

The civil and political rights variable (Hypothesis 2) seems to capture the group comparison element better than the income-education interaction (Hypothesis 1) does. This might be because the Israelis are more likely to be the implicit reference group for the political measure. Civil and political rights and liberties is something you receive as a group, making group comparison natural. The Israeli Jews experience high levels of civil and political rights, and as a group they are a natural point of reference for Palestinians that feel that as a people their rights are not fulfilled in the same way. The Israelis are therefore more likely to be considered the source of frustration when group comparison is widespread. While group comparison could also be implicit for many of the highly educated individuals that do not see their education transformed into higher income because of restricted social mobility, such comparison is less obvious than for the civil and political rights measure.

To the degree that Israelis are the political reference group for most of my respondents, Hypothesis 2 is in fact an operationalization of the mechanism of *political horizontal inequality*. Frustration arises from the perception that the access to political decision-making authority of one's group is restricted compared to another group. The statistical significance of the civil and political rights variable can therefore be interpreted as indicating the operation of the political horizontal inequality mechanism in the Palestinian case. But, as in the case of economic horizontal inequality, the mechanism tested in this study is the effect of HIs on attitudinal support for violent resistance, not on actual participation in violence.

5.2.3 Political and economic HIs combined

Political and economic horizontal inequality is often linked (Cederman et al., 2011:481). Cederman et al. hypothesized that "economic and political HIs contribute jointly to the outbreak of civil war" (Cederman et al., 2011:482). These expectations were in line with those of Stewart (2008:18), that political mobilization is most likely where political and economic HIs run in the same direction.

Figure 5.4: Predicted probabilities for all grievance variables combined

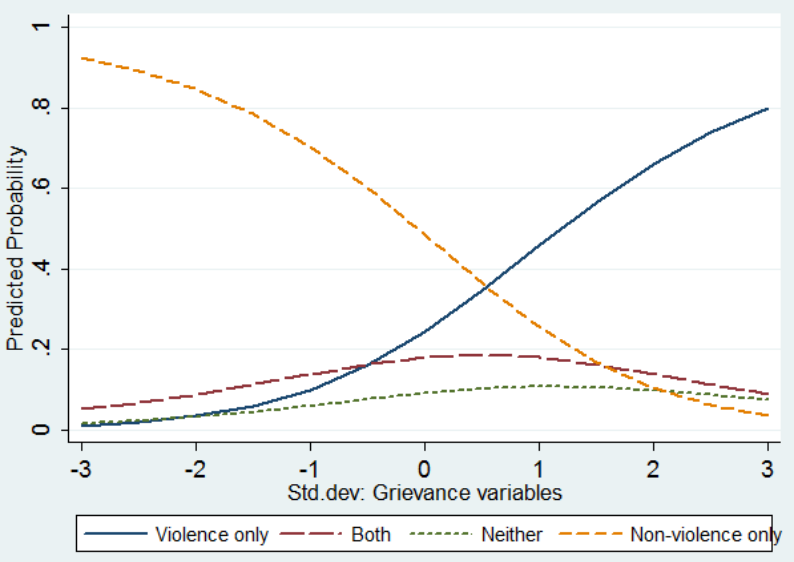


Figure 5.4 graphically represent predicted probabilities for the different outcomes when all grievance variables are allowed to vary together, while all other variables are held constant at zero. A value of one on the x-axis means all grievance variables have the standardized value of 1 standard deviation from their mean, a value of 2 means they are all two standard deviations from their mean, and so on. At zero all grievance variables equal their mean. I have reversed the civil and political rights variable so all variables work in the same direction.

In the reduced two-level model (Model 4) illustrated in Figure 5.4, grievance factors appear very important in determining attitudinal support for violent and non-violent resistance. While an individual scoring minus one standard deviation from the mean on all grievance variables is about 60 percentage points more likely to support only non-violent resistance than only violent resistance, individuals scoring plus one is about 15 percentage points more likely to support violent resistance than non-violent resistance. Individuals scoring half a standard deviation above the mean on all grievance variables and mean value on all other variables are

as likely to support violence as non-violence. These are values within the observed range on all grievance variables.

In sum, political and economic grievances appear central in determining support for violent and non-violent resistance. But it is important to keep in mind that Figure 5.4 depicts the predictions of the reduced two-level model (Model 4) only for individuals with mean values on all other variables. It does not take into account the fit of the model or its ability to classify respondents on the outcome variable. To be better able to evaluate how much the grievance variables explain, the predictive power of the model is considered in Section 5.5.

5.3 Discussion: Opportunity explanations

The purest form of the opportunity cost argument is the one proposed by Collier and Hoeffler (2004:569). The mechanism is simple: The less money an individual has and can expect to earn, the less he has too loose by joining a rebel force. Hypothesis 4 was inspired by, and is consistent with, this pure opportunity cost argument. I hypothesized that individuals from less wealthy households would be more likely to support violent resistance. But I proposed an opportunity cost mechanism modified according to the reasoning of Justino (2009:317). She focuses on the whole range of actions supportive of insurgents, all the way from participation in armed resistance to non-denunciation. Thus it is less far-fetched to hypothesize that the mechanism she proposed could transfer to attitudinal support as well as supportive action. The mechanism proposed takes into account both the cost of non-support for insurgents and the benefits of such support for a household. Poverty increases both the risks associated with non-support for insurgents and the benefits accruing from support, relative to the costs of supporting insurgents. This facilitates both recruitment of new fighters and extension of the insurgents' support base in the civilian population. Neither the pure opportunity cost mechanism nor the Justino mechanism seem present in the case of Palestinian attitudinal support for violent resistance, however. The effect of the household wealth variable is both positive and non-significant. Hypothesis 4 is not supported by my findings.

At this point it is reasonable to ask how well the conflict situation Justino presupposes when describing the mechanism fits the Palestinian case. If the Palestinian-Israeli conflict is atypical in some regards because of the special situation of occupation and blockade, the non-finding of any Justino mechanism in the Palestinian case might not be expected to hold for other, more representative conflicts. In the following discussion, the focus is on Hamas.

Considering Hamas the most important insurgent organization is in line with Palestinian public opinion. Polls suggest the public credits Hamas with playing the leading role in the armed resistance (Gunning, 2009:177). I will not attempt to distinguish between the military and the political elements of Hamas. While the Qassam Brigades are believed to be under the control of the political leadership in the Political Bureau, the exact leadership structures and who controls the overall strategy of Hamas at the moment is concealed (Jewish Policy Center, 2012).

First I consider the cost of non-participation. According to Kalyvas and Kocher (2007) non-participation increases the risk of being identified with the other side and punished for it. The costs of being suspected of collaborating with the other side are reportedly high in the Palestinian territories. "In the West Bank, individuals accused of informing the Israelis have a hard time finding lawyers when they are arrested; often, they are simply murdered, and hospitals have turned away their corpses" (Kalyvas, 2006:177). During the Second Intifada, Palestinian authorities held hundreds of Palestinians without charge or trial, sometimes arrested arbitrarily and without sufficient evidence, based on rumors and popular denunciations. Suspected collaborators were often tortured. Trials were inherently and grossly unfair and many resulted in death sentences. Vigilante killings of suspected collaborators went unpunished (HRW, 2001).

The scope of such detentions and death sentences has been reduced since then, but the practice still exists, both in the Fatah-controlled West Bank and the Hamas-controlled Gaza Strip (Alhelou, 2013; HRW, 2008; Tauber, 2009). Collaboration is still one of the most contentious issues in Palestinian society (Bhavnani et al., 2011:153). The high costs associated with being suspected of collaboration probably increases the potential cost of not explicitly supporting resistance. While I cannot be sure that non-support of violent resistance actually increases the chance of being suspected of collaboration, it is not unlikely that the *possibility* that it might is taken into account by Palestinians when deciding whether to vocally support such resistance.

Justino (2009:319) argued that poor people are less capable than rich people of protecting their economic status and starting a new life if forced to relocate due to allegations of collaboration or destruction of their livelihood. This logic should transfer well to the Palestinian context. All else equal, people with more assets will be better able to access a new livelihood if forced to migrate. The fact that the United Nations Relief and Works Agency for

Palestine Refugees (UNRWA) supports the poor refugees economically, might serve to attenuate this dynamic somewhat for the very poorest by making the extreme effects of poverty less acutely felt. Still the main argument should hold.

Second, I turn to the benefits of support and participation. There have been reports of Hamas privileging loyal individuals (ICG, 2007:8) and that social service institutions of Hamas and Fatah began discriminating against non-supporters after Hamas' takeover of the Gaza Strip in 2007 (Roy, 2011:192). This seems more related to loyalty as expressed in electoral voting and the conflict between Fatah and Hamas than to support for resistance against Israel directly, however. While support for armed resistance is highly correlated with support for parties other than Fatah, the two do not overlap completely. Still the fact that loyalty to Hamas is rewarded might act as an incentive for supporting violent resistance as well as for voting for Hamas. The fact that Hamas is sufficiently well organized on the local level to know who voted for them or not (ICG, 2007:8), might very well mean they also know who supports their strategy of armed resistance and who does not, and that there is at least a possibility that they reward such support.

Third, the costs of non-support and benefits of support are weighed against the costs of participation and support. The costs of actual participation should be of the same nature in the Palestinian conflict as in other civil conflicts. The most import aspect would be the heightened risk of being detained or assassinated by Israeli security forces. The strength of Israeli military control might mean this risk is higher in the Palestinian territories than in civil conflicts of similarly low intensity. Whether attitudinal support for armed resistance increases these risks is less clear, however. It is not unlikely that openly proclaiming support for armed resistance increases the risk of being denounced to Israeli intelligence by collaborators. But not all that report such support in an anonymous survey will openly proclaim it. And in any case the risk of attitudinal and vocal support should be much less pronounced than the risk for people providing material support or actually participating in resistance.

In sum, despite some special traits of the Palestinian-Israeli conflict situation, there is little reason not to expect the mechanism described by Justino to apply to this conflict. The individual and household-level incentives for poor people to support resistance should be about the same here as in other civil conflicts. The cost of non-support and benefits of support seem as likely to outweigh the cost of support for poor people here as elsewhere. The strength of the different incentives will probably vary across periods of intense conflict (the Second

Intifada, the Gaza Wars) and periods of relative calm, however. The Fafo survey data were collected in 2011, a period of relative calm, so testing the Justino and Collier and Hoeffler mechanisms with data from this period presumably provides a particularly hard test for the propositions. Thus the non-finding of any effect of household poverty on support for violent resistance does not exclude the possibility that such an effect could be found at other times or in other places.[35]

Sønsterudbråten (2009:23-25) might have been justified in suggesting that classical opportunity cost arguments do not transfer well to the study of attitudes. Leaning on the qualitative work of Khawaja (1995:151), she suggested instead an opportunity mechanism turning the opportunity cost argument on its head. She found that Khawaja's argument that more wealthy individuals to a larger degree could afford to take the risks associated with participation, transferred well to the study of attitudinal support for rocket attacks. The positive sign in Model 4 of the wealth variable might suggest a similar interpretation. The effect is far from statistically significant, however, so I find this alternative mechanism unsupported by the evidence.[36]

Building on the reasoning of Østby et al. (2009:305), I hypothesized that the opportunity cost argument could transfer to the regional level (Hypothesis 5). People from poorer regions have less to loose from the destruction associated with insurgency and might therefore be more likely to support armed resistance. The effect of governorate expenditure level on support for violence in Model 4 does not have the expected negative sign (odds ratio below 1). The sign

[35] Following the argument that Hamas are the insurgents in the Palestinian case, one might also argue that after 2007 the Justino mechanism should be more relevant for Gaza than for the West Bank. Only in the Gaza Strip does Hamas have territorial and political control, almost all rockets are fired from Gaza, and Israeli retaliation periodically rises to the level of outright war only in Gaza. During the first Gaza war the Israeli strategy changed from "targeted killings" of known Hamas militants to targeting the entire Hamas organization (Flibbert, 2011:67), even arguing that all Palestinians in Gaza supported Hamas, so there were no true civilians in the area (Roy, 2011:227). The constant threat of forceful Israeli retaliation, and the widespread civil suffering that comes with it, represents a narrowing of the gap between the risks faced by combatants and those faced by civilians that should intensify the Justino mechanism in the Gaza Strip. Still I will not run the analysis on Gaza only to test this proposition, however, as this would result in a two-level model with only five clusters, which is highly problematic from a statistical point of view.

[36] Sønsterudbråten (2009) found support for the mechanism using Fafo data very similar to mine. Differences in methods could explain the discrepancy. She used a dependent variable measuring only support for rocket attacks, in an one-level ordinal logit model, operationalized wealth using a wealth index similar to my robustness check index, and did not impute missing data. I did not find any positive and significant effect of wealth in my one-level model (Model 1), however, and the robustness tests reported in Chapter 6 (Table 6.1 and Table 6.3) show that the wealth variable remains insignificant both when the welath index is used, when support for rocket attack is the dependent variable and on the unimputed dataset. This indicates the difference in results might be due to actual changes in the Palestinian situation and opinion after Sønsterudbråten's data were collected early in 2008, rather than differences in research design.

is positive (odds ratio above 1), which might have suggested support for the Sønsterudbråten (2009:72-79) argument that in richer regions people can afford to take the risks associated with Israeli retaliation, had the effect not been statistically non-significant. Thus my finding for the study of attitudinal support for violent resistance is more in line with the finding of Østby et al. (2009:313) with regards to the incidence of rebellion – no such relationship exists in my data. Hypothesis 5 is not supported.

A particular point needs to be emphasized once more. The attitudinal nature of the dependent variable in this study provides a very hard test for opportunity theory. Therefore, the non-finding in this study of a significant effect of regional and household level poverty on support for violent resistance does not disprove opportunity theory as such. A relationship might well exist between poverty and actual participation in armed resistance that this study is unable to capture for methodological reasons concerning the choice of dependent variable.

The dependent variable in this study corresponds to the first of four steps towards collective action proposed in the collective action model of Klandermans (1997:208). According to Klandermans, the four stages an individual passes through before actually participating in a social movement are: (i) becoming a sympathizer; (ii) being targeted for mobilization; (iii) becoming motivated to participate; and (iv) moving from intention to actual participation. By operationalizing violent collective action with a dependent variable measuring attitudinal support, this study helps us understand the first step in an individual's path towards such action – how people become part of the mobilizational potential for resistance movements. The results imply some support for Klandermans' proposition that relative deprivation is shown to influence whether individuals becoming sympathizers. The various mechanisms of opportunity cost, however, as envisioned by Collier and Hoeffler (2004), Justino (2009) and Østby et al. (2009), are less likely to come into play in this first step towards collective action. They all imply that individuals – regardless of their motivation – weigh the opportunities against constraint associated with different forms of support for violence against each other when deciding whether they want to take part in insurgency. These considerations are more likely to come into play in the final two stages of Klandermans' model, when an individual decides whether participation is worthwhile and takes the final step to actual participation. Thus, operationalizations including the intention to participate, in addition to actual participation, would likely have captured the mechanisms better if such data existed (cf. Saab, 2011). If the debate between opportunity and grievance proponents is to be solved in favor of one or the other, good quality micro-level data on actual participation, or at least intentions to

participate, is needed to underpin future tests of the micro-level mechanisms proposed by the two schools.

5.4 Control variables

The political affiliation variables appear to have the strongest effect on support for resistance. From the simplified two-level model (Model 4) it is clear that wanting to vote for Hamas corresponds to a fourfold increase in the odds of supporting violence only rather than non-violence only. To get a more nuanced picture we might look at the full two-level model (Model 3). Stating that if there was an election today one would vote for Hamas rather than Fatah corresponds to a tremendous 803 percent increase in the odds of supporting only violent resistance rather than only non-violent resistance. Supporting other parties than Fatah or Hamas, not wanting to participate in election or answering "don't know" rather than supporting Fatah all correspond to an approximate threefold increase in the odds of supporting only violent resistance rather than only non-violent resistance. Clearly Fatah-supporters are more in favor of non-violent resistance than everybody else. This is not very surprising given the historical role of the PLO and Fatah as proponents of peace negotiations and partners to the Oslo Accords (Tamimi, 2007:188-190). Neither is it surprising that supporting Hamas is highly correlated with support for violent resistance, given how central armed resistance has been in their origins and ideology (Robinson, 2004; Roy, 2011:19-50; Tamimi, 2007:147-170) and the central role they have played in suicide bombing campaigns in the 1990s (Tamimi, 2007:159-164) and later in sending Qassam rockets into Israel after the 2005 withdrawal from the Gaza Strip (Flibbert, 2011:55). The direction of any causal effect is not clear-cut, however, as will be discussed in Section 6.4.

Two results change markedly when governorate-level variables are introduced into the random-intercept model (Model 3). First, the dummy for employment status "other" no longer significantly reduces the risk of supporting violence only rather than non-violence only. It still significantly reduces risk of supporting "neither" form of resistance. In the simplified two-level model (Model 4) this variable is replaced by a simple dummy for unemployment, which turns out to be non-significant.

Second, a new effect appears in Model 3. Living in a refugee camp rather than a non-camp area corresponds to a 37 percent increase in the odds of supporting only violent resistance rather than only non-violent resistance. This is in line with the traditional centrality of the

refugee camps in Palestinian resistance ever since the First Intifada (Morris, 1999:574). It might be due to a radicalizing effect of refugee camps, as people in camps presumably feel more intensely about the conflict, given that their family was driven from their homes and are unable to return. The result might be seen as an extra reinforcement of the relative deprivation argument, as these are people that have been deprived of their land and homes. The implicit group comparison element is pretty clear, because the land was taken by Israelis. It could also be interpreted along opportunity lines, as mobilization is probably made easier in the densely populated camps with high availability of young men. But given the attitudinal nature of the dependent variable, I find the former interpretation more plausible. In the full two-level model (Model 3) the effect is significant at the 10 percent level. In the reduced two-level model (Model 4) the effect is no longer statistically significant. As shown by a robustness test in Chapter 6 (Model 6, Table 6.2) this is probably because removing the refugee status variable, even though it is non-significant, creates omitted variable bias.

Casualties per capita are not significant in Model 3. In Model 4 the variables is excluded. The casualty trend variable is significant in both models. In Model 3 a difference of 1.95 casualties (one standard deviation) on the variable corresponds to a 60 percent increase in the odds of supporting only violent resistance rather than only non-violent resistance. In Model 4 the corresponding number is 51 percent. In other words, a recent increase in casualties (conflict intensity) in a governorate corresponds to a heightened risk of individuals supporting violent resistance. It seems that the theory of Gartner (2008), of a body bag effect where increases in casualties lead to lower support for military action, does not transfer from inter-state conflicts to insurgency. In the Palestinian case, short-term increases in casualties merely serve to increase support for resistance, probably feeding into negative enemy images and hardened narratives.

A result that is more difficult to interpret is the effect of the regional proportion of young men. A difference of one standard deviation on this variable corresponds to a 40 percent decrease in the odds of supporting only violent resistance rather than only non-violent resistance in both Model 3 and Model 4. This is quite the opposite of my theoretical expectations, whether based on opportunity or grievance mechanisms. One explanation might be that the population variable should be interacted with a variable measuring governorate-level unemployment, in line with the argument that youth bulges will create more violence if the labor market is unable to absorb the extra people. As demonstrated in Chapter 6, including such an interaction term in the model does not alter the sign or size of the young men-

coefficient and neither the interaction term nor the unemployment variable itself reaches statistical significance (Model 3, Table 6.2). They come fairly close to significance, however, with z-value of 1.61 and 1.64. The size and sign of the coefficients suggests that the effect of governorate proportion of young men does indeed become positive when unemployment levels rise above the mean, indicating some limited support for the youth bulge argument. An alternative explanation could be that the share of young men acts as a proxy for regional conflict intensity. The share of young men might be lower in some governorates because more young men have been killed or imprisoned by Israeli security forces.[37] This interpretation is supported by the fact that including a variable measuring regional exposure to Israeli violence in the model makes the share of young men-variable insignificant (Model 4, Table 6.2).

Gender significantly reduces the chance of supporting "neither" form of resistance rather than non-violence only in Model 3 but not in Model 4. Unlike in earlier studies, Palestinian youth is not significantly more radical than others. This is in line with a recent Fafo report suggesting a tendency of retreat from politics among Palestinian youth disillusioned with the political developments in the occupied territories and doubtful of the ability of the traditional political actors to change the situation for the better (Christophersen et al., 2012:18).

5.5 Model predictive power

The statistical significance of the governorate-level variables, the disappearance of the residual governorate-level variance and the increase in log likelihood, all point to Model 3 being a well-specified model. To further evaluate the fit of the model I look at how well it predicts attitudinal support for violent resistance.

A good way to estimate how well a model predicts or classifies the dependent variable, is to compare the rate of correctly predicted outcomes (true positives) for each dependent variable category to the rate of false positive predictions. My model is logistic, estimating the probability of an individual belonging to each of the dependent variable category rather than the baseline category. I want to compare each individual's predicted value on the dependent variable to his or her actual value on the dependent variable. To do this, I use predicted probabilities. The predicted probabilities tell me the probability an individual has of

[37] In 2011, more than 4000 Palestinian security detainees and prisoners were held in Israeli prisons (B'Tselem, 2013), but statistics on what governorate they came from are not available.

belonging in one specific dependent variable category, according to the model estimated and the individual's value on the dependent variables on the model. They are calculated for each dependent variable outcome separately. To be able to compare an individual's predicted outcome to his or her actual value on the dependent variable, it must be determined which probabilities count as being in the dependent variable category in question and which count as falling outside it. A threshold is needed for converting the probabilities into dichotomous outcomes for each dependent variable category (Ward, Greenhill, & Bakke, 2010:366). A natural place to start might be to consider all individuals with a predicted probability of above 0.5 as being predicted to fall within the category in question. The value of such a threshold will always be arbitrary, however, and there is a trade-off between correctly predicted outcomes and false positives, as both tend to increase when the threshold is lowered (Ibid).

To avoid arbitrarily choosing a threshold, I will measure predictive power as the area under a ROC-curve (AUC). A ROC-curve plots the true positive rate (sensitivity) as a function of the false positive rate (1– specificity) across all thresholds. The area under the curve can therefore by used as a summary measure of predictive power. An AUC of 1 would mean a model that classified outcomes perfectly, while an AUC of 0.5 would be a model that predicted outcomes no better than chance.

In this section I focus almost exclusively on the "violence only" outcome, for pragmatic reasons and because this is the outcome of primary interest to my research question. For Model 4, the reduced two-level model, the area under the ROC curve for the "violence only" outcome is 0.632. This suggests that the model classifies outcomes significantly better than chance, but far from perfectly. This reduced two-level model will serve as a baseline model for the tests in the next section.

5.5.1 In-sample predictive power

Predictive power tests are useful for evaluating the contributions various independent variables make to the overall predictive power of a model. Predictive heuristics provide a useful supplement to a focus on statistical significance only. Often too much emphasis is placed on finding statistically significant variables, which may be overdetermined (Ward et al., 2010:372). As demonstrated by Ward et al. (2010), the inclusion of a statistically significant variable into a model does not necessarily make a significant contribution to its

predictive capability (Ward et al., 2010:365). Predictive heuristics are necessary to improve models and be able to make good policy recommendations (Ward et al., 2010:364).

My research question is about the influence of grievance and opportunity factors on support for violent resistance. To go beyond statistical significance in testing the relative power of these two strands of theory in my model, I compare the contributions the two groups of variables make to the predictive power of the baseline model. I do this by sequentially excluding the groups of variables representing each theory, to see whether and how much predictive power is reduced compared to the baseline model's AUC of .632.

Figure 5.5: Predictive power contribution of grievance variables

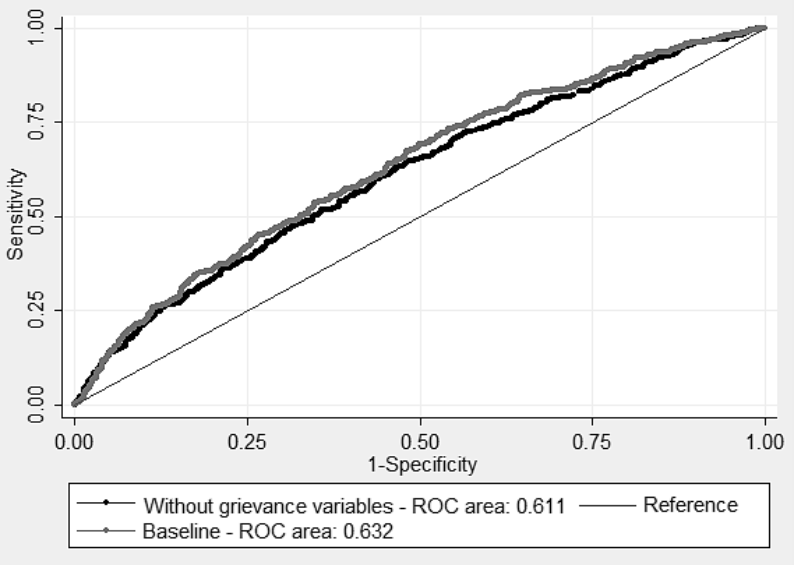


Figure 5.6 Predictive power contribution of opportunity variables

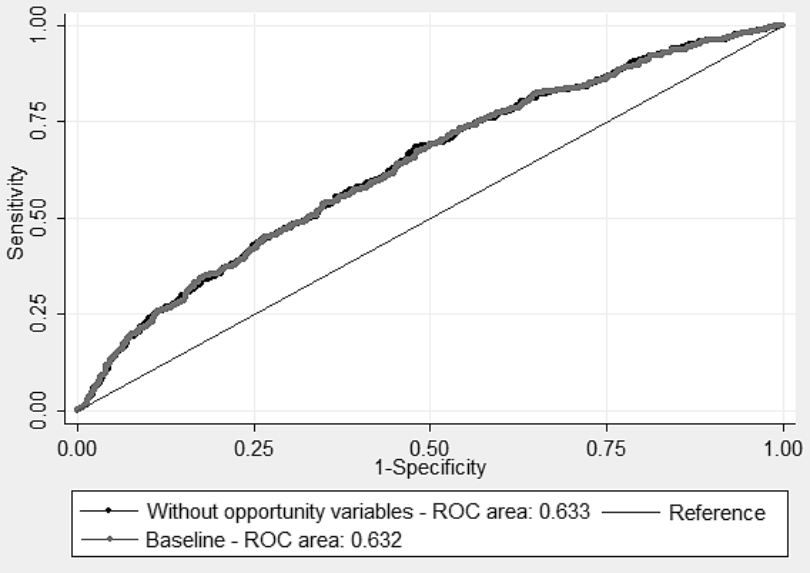


Figure 5.5 compares the ROC curves for the baseline model and the model excluding the grievance variables. The difference of 0.02 units in the AUC for the two models is significant on the 5 percent level (p=0.025)**.** The size of the difference is difficult to interpret substantially, but the test proves that the grievance variables improve the predictive power of my model. The same cannot be said for the opportunity variables. As shown in Figure 5.6, when the ROC curve of the model excluding these variables is plotted against the baseline model, the two lines almost completely overlap. A chi-square test of the difference in AUC confirms the picture – the opportunity variables do not make any statistically significant contribution to the in-sample predictive power of the reduced two-level model.

In sum, the in-sample predictive power tests confirm the main picture provided by looking at statistical significance only. Grievance factors matter for support for violent resistance in the Palestinian case, opportunity factors do not. The test also serves to moderate the picture, however. While the grievance variables make a statistically significant contribution to the predictive power of the model, the contribution is not as large as the significance level of the variables and the predicted probabilities might lead us to believe.

To make the discussion more specific, I take a closer look at the 18 individuals that the reduced two-level model (Model 4) classifies as false positives at threshold 0.5. These are the individuals that the model predicts as belonging to the "violence only"-category, when their observed value on the dependent variable falls within one of the other categories. A disproportionately large share of these individuals belong to the *observed* dependent variable category "both". The fact that they are predicted to support only violence but in reality support both violence and non-violence, might suggest that some of the same mechanisms are at work in determining the attitude of those supporting both forms of resistance as for those supporting only violent resistance. This could indicate that a multilevel binominal logistic regression where the category "both" and "violence only" are collapsed might fit the data as well or better than the multilevel multinominal model. I run this model as a robustness check in Chapter 6.

There are some visible patterns among the false positives also on other variables in my dataset. The least surprising pattern is that they have values on all the significant variables in the model that suggest increased probability of supporting violence. That is, they perceive the status of civil and political rights as low, support Hamas and come from regions representing high economic horizontal inequality. This is unsurprising because this is precisely what leads

the model to predict high probability of support for violence for these individuals. In addition they are all in the socio-economically lower ranges of the population, both on variables included on the model and other economic variables in the dataset. They are all in the lower economic and educational ranges. Almost all the false positives have refugee status and live in refugee camps. This latter fact might point to a need to control for refugee status. The removal of the refugee status variable from the model might have been premature. In Chapter 6 (Model 6, Table 6.2), I reintroduce the refugee status variable into the model as a robustness test. All important results remain the same and the refugee status variable is non-significant. The effect of living in a refugee camp becomes more strongly significant, however, indicating that removing refugee status from the model created omitted variable bias for this effect.

A disproportionate share of the respondents falsely predicted as positives come from the governorates of Rafah or Nablus. Given that these are the two governorates where the highest share of respondents say they support "both" forms of resistance (cf. Table 4.4), this fact lends further support to the interpretation that some of the same mechanisms are at play in determining who supports "both" forms of resistance as in determining who supports "violence only".

5.5.2 Out-of-sample predictive power

Ward et al. (2010) argued that out-of-sample heuristics must become a part of the evaluative tools in conflict research in order to go beyond looking at only statistical significance and make substantial theoretical progress. The ability to make out-of-sample predictions provides an even harder test for the predictive power of a model (Ward et al., 2010:370). But such tests are important because we want our models to capture the underlying relationship between the independent and dependent variables. If the model does not capture the underlying causal relation but merely gives a detailed description of relationships that happen to exist in the original dataset, it will perform poorly when tested on a new dataset (Ibid).

I am unable to test the predictive power of my model on a new dataset. A second-best solution suggested by Ward et al. (2010:370) is the technique of k-fold cross-validation, which is performed within the original dataset. The model is re-estimated on a subset of the dataset, setting aside observations to test its predictive ability on. By rotating trough a sufficient number of different ways of dividing the sample, estimates of overall predictive power can be obtained without using new data (Ibid). To test the out-of-sample predictive power of model

4, I randomly divide the sample into 30/70, estimating the model on 70 percent and testing its predictive power on the remaining 30 percent. I repeat the procedure five times, using a new random division of the sample each time.[38] I do the same thing for a model excluding the opportunity variables and one excluding the grievance variables. Average areas under the ROC curves (AUC) are reported in Table 5.5.

Table 5.5: Predictive power contributions of opportunity and grievance variables

Model	In-sample AUC	Average out-of-sample AUC
[A] Baseline: Full model 4	0.632	0.600
[B] Excluding **grievance** variables	0.611	0.584
[C] Excluding **opportunity** variables	0.633	0.608

Notes: All AUCs calculated for the outcome "Violence only". Averages calculated over five random divisions of the sample into 70/30, where the model is estimated on 70 percent and predictive power tested on the remaining 30 percent.

Because the sample is different for the different estimates, I am unable to chi-square-test the difference between the out-of-sample AUCs, but the results seem to confirm the picture from the in-sample analysis. Grievance variables contribute to the predictive power of the model, but a bit less so than in the in-sample test. Opportunity variables do not contribute to predictive power in either test.

5.6 Conclusions

The findings of this study indicate support for the grievance theory. In particular, the strands of grievance theory that emphasize the group comparison element contribute significantly to explanations of support for violent resistance. Hypothesis 1, that highly educated individuals in the lower economic segments are more likely to support violent resistance, is not supported. But the hypotheses most clearly operationalizing the mechanism of political and economic horizontal inequality are confirmed. The better an individual considers the civil and political rights situation (Hypothesis 2) and the larger the difference in economic conditions between the individual's own governorate and the closest Israeli sub-district (Hypothesis 3), the more likely he or she is to support violent resistance. When combined, the grievance variables make a small but important contribution to predictive power.

[38] There is no evidence that the choice of k affects results much as long as the subsample is large enough to calculate usual statistics (Ward et al., 2010:370). The reason I do not divide the sample into smaller part is that it would leave very few individuals in some of the governorates, thus making some individuals very influential. Repeating the procedure only five times might be a bit minimalist, but pragmatic considerations of time constraints come into play here.

Opportunity factors appear unimportant in explaining attitudinal support for violence. Neither coming from a less wealthy household (Hypothesis 4) nor a less wealthy governorate (Hypothesis 5) significantly increases support for violent resistance among Palestinians in the West Bank and the Gaza Strip, and the variables make no significant contribution to predictive power.

While my findings indicate support for group-oriented grievance theory in the Palestinian case, the attitudinal nature of the dependent variable in this study provides a very tough test for opportunity theory. Therefore, the non-finding in this study of a significant effect of regional and household level poverty on support for violent resistance does not disprove opportunity theory as such. A relationship might very well exist between poverty and actual participation in armed resistance that this study is unable to capture because of the attitudinal dependent variable. In order to solve the opportunity-grievance debate more affirmatively, good micro level data on actual participation in armed resistance is needed.

6 Validity and robustness

In this chapter I evaluate the robustness of the results and discuss the validity of the inferences reported in Chapter 5. I do this in order to consider the degree to which the statistical findings actually tell us something about the real world, not just about my specific research design. In discussing threats to the validity of my inferences, I use the distinction of Cook and Campbell (1979) between four types of validity: (i) content validity, also called construct or measurement validity, (ii) statistical validity, (iii) internal validity (causality), and (iv) external validity (generalizability) (Lund, 2002:104-123). I conclude that the validity of my construct-, statistical- and causal inferences is satisfactory, but that attempts at generalizing from the Palestinian case to other conflict cases is fraught with uncertainty and should be done with caution.

For pragmatic reasons, the robustness testing is conducted on only one of the five imputed datasets. I use the imputed dataset that produced the Model 3 estimates closest to the combined Model 3 estimates. The fact that I do not combine results across all imputed datasets means that standard errors are not adjusted to account for between-imputation variance. Significance levels should therefore be interpreted a bit more strictly. All robustness test models are compared a baseline model – the reduced two-level model previously called Model 4. Because of space constraints I only report the estimates for the dependent variable category of primary interest to me, "violence only".

6.1 Reliability

Reliability concerns issues of consistency of measures (Bryman, 2004:70). Data are reliable to the degree that random errors are kept to a minimum, increasing the chance that another researcher would get the same results if the study was replicated. Reliable data is a precondition for valid inferences. Unsatisfactory reliability is a threat to all forms of validity, in particular statistical conclusion validity and content validity (Lund, 2002:115).

Researchers from Fafo's Institute for Applied International Studies have extensive experience with planning and conducting surveys in developing countries. They have been conducting surveys in the occupied Palestinian territories since 2005. Random measurement errors may occur, but I must assume that Fafo's procedures for reducing them to a minimum are

satisfactory. I have made sure to document each stage of my analysis, to assure the replicability of the study.[39]

6.2 Content validity

The content validity of a measure is satisfactory to the degree that the operationalized variables measure the theoretical concept well. Ideally each measure should cover all aspects of the theoretical concept it operationalizes and no other aspects (Adcock & Collier, 2001:536).

An important challenge to construct validity is the danger of social desirability bias. The problem is particularly relevant for the questions about support for violent resistance and political affiliation. The nature of the interview setting may result in a tendency for subjects to "present themselves in socially acceptable terms in order to gain the approval of others" (King & Bruner, 2000:81). Such a bias may suppress or obscure relationships among variables and even produce artificial relationships and has been documented in studies of attitudes (King & Bruner, 2000:81-82). In this study the danger of a social desirability bias is reinforced by the fact that (i) interviewers were local, thus themselves embedded in the political landscape, and that (ii) it was not always possible to conduct the political attitude-part of the interview (RSI questionnaire) with the randomly selected family member without having other family members present in the room (Sønsterudbråten, 2009:38-39). The former fact is unlikely to create systematic measurement error, as the local interviewers were well trained, came from a variety of backgrounds and political affiliations and interviews were assigned randomly. But because it was not documented whether the interviews were conducted in isolation from other family members, I am unable to control for the latter potential source of bias.

Potential problems with the content validity of each specific measure in my model were discussed in some detail in Chapter 3, 4 and 5. In this section, I demonstrate the apparent robustness of the measures by introducing alternative operationalizations of the most important concepts, using the reduced two-level model as a baseline model (Model 1, Table 6.1). Results are displayed in Table 6.1. In Model 2, I introduce the wealth index as an alternative to the self-evaluated wealth measure. The effect of the index and its interaction with education is non-significant, and other results remain the same. In Model 3, I introduce a variable for the perceived status of democracy as an alternative to the perceived status of civil

[39] The Stata do-file (syntax) is made available upon request.

and political rights. The democracy status variable is highly significant, and its effect about the same size as that of the civil and political rights status variable. Other results remain unchanged. In Model 4 and Model 5, I introduce alternative operationalizations of governorate wealth. Both the governorate-level daily wage measure and the household durables index return positive but insignificant effect estimates. What is interesting to note in these models, is that the magnitude of the effects of the horizontal inequality measures differ between the models with different governorate wealth operationalizations, indicating some problems of multicollinearity between the HI variables and the different regional wealth measures. Multicollinearity is discussed further in Section 6.3.

In Model 6 through 8, I introduce alternative operationalizations of the dependent variables and corresponding alternative statistical models. In Model 6, the dependent variable is the summated scale discussed in Section 4.2, ranging from strong support for non-violence only, via support for both or neither, to strong support for violence only. Because the variable is continuous, I estimate a multilevel regression model. In Model 7, the dependent variable the measures support for rocket attacks. Because the variable has few categories, I should have estimated an ordinal two-level regression model. But for pragmatic reasons, as the model does not converge, I use a regular multilevel regression model. The results in both models reflect the baseline model well, in that the same variables (except living area refugee camp) are found significant, though somewhat less so for the governorate-level variables, and the signs are the same as in the baseline model. Model 7 is a binominal two-level regression model, using a dependent variable where the original dependent variable categories of "both" and "violence only" has been collapsed to one category for support for violence, and is compared to a category comprised of "neither" and "non-violence only". Results correspond fairly well to the baseline model in that the same variables are highly significant. The magnitudes of the effects are somewhat smaller, especially for the individual-level variables.

A potential problem with the horizontal inequality measures, discussed in Section 3.2.3, is that for geographical reasons Palestinians in Israel proper are measured on the "wrong side" of the ethnic divide. Because there are large differences in the Palestinian share of the population in each Israeli sub-district this might bias estimates. In Table 6.2, Model 2, I include a governorate-level variable measuring the share of Arabs in the neighboring Israeli sub-district to control for this. The variable is non-significant and does not alter the effects of any of the horizontal inequality measures to any significant degree.

Table 6.1: Content validity – alternative operationalizations of explanatory variables

		Alt. explanatory variables				Alt. dep. variable		
	(1) Baseline model	(2) Wealth index	(3) Status of democracy	(4) Daily wage	(5) Durables index	(6) Summated scale	(7) Rocket attacks	(8) Binominal model
	exp(b) / z	exp(b) / z	exp(b) / z	exp(b) / z	exp(b) / z	b / z	b / z	exp(b) / z
Grievances								
[1] Wealth*education	0.93		0.96	0.96	0.92	-0.04	-0.01	1.04
	(-0.26)		(-0.15)	(-0.16)	(-0.31)	(-0.50)	(-0.14)	(0.17)
[1] Wealth index*education		0.93						
		(-1.38)						
[1] Civil and political rights	0.79***	0.79***		0.79***	0.79***	-0.09***	-0.07***	0.88***
	(-3.80)	(-3.83)		(-3.85)	(-3.81)	(-4.76)	(-3.10)	(-2.59)
[1] Democracy status			0.77***					
			(-4.33)					
[2] HI durables index	1.57***	1.55***	1.55***	**1.74*** **	**1.85*** **	0.14**	0.14*	1.45***
	(4.03)	(3.89)	(3.90)	(3.62)	(3.54)	(2.29)	(1.94)	(3.52)
[2] HI household expenditure	1.76***	1.75***	1.76***	**2.01*** **	**1.64*** **	0.19**	0.21**	1.56***
	(3.80)	(3.75)	(3.75)	(3.76)	(4.01)	(2.33)	(2.09)	(3.15)
[2] HI education	0.95	0.94	0.95	0.96	0.95	-0.05	-0.07	0.91
	(-0.60)	(-0.64)	(-0.57)	(-0.43)	(-0.55)	(-1.11)	(-1.29)	(-1.12)
Opportunity								
[1] Self-evaluated wealth	1.01		0.99	0.99	1.02	0.04	0.05	0.95
	(0.05)		(-0.07)	(-0.08)	(0.11)	(0.67)	(0.63)	(-0.33)
[1] Wealth index		1.25						
		(0.95)						
[2] Regional expenditure level	1.14	1.14	1.13			0.03	0.06	1.15
	(0.95)	(0.99)	(0.93)			(0.59)	(0.77)	(1.18)
[2] Regional daily wage				1.31				
				(1.33)				
[2] Regional durables index					1.23			
					(1.28)			
Controls								
[1] Political affiliation: Hamas	4.27***	4.24***	4.26***	4.33***	4.30***	0.46***	0.44***	2.41***
	(7.26)	(7.23)	(7.24)	(7.30)	(7.30)	(7.95)	(6.10)	(5.58)
[1] Personal security: Feel safe	1.02	1.03	1.04	1.02	1.01	0.03	-0.01	0.91
	(0.15)	(0.19)	(0.26)	(0.18)	(0.09)	(0.75)	(-0.29)	(-0.82)
[1] Gender: Woman	0.92	0.91	0.93	0.92	0.92	-0.05	0.02	1.07
	(-0.70)	(-0.73)	(-0.61)	(-0.69)	(-0.70)	(-1.28)	(0.37)	(0.69)
[1] Education completed	1.01	0.97	1.00	1.00	1.02	0.00	-0.02	0.94
	(0.08)	(-0.43)	(-0.01)	(-0.02)	(0.11)	(0.08)	(-0.39)	(-0.44)
[1] Employment status: Unemployed	1.11	1.09	1.09	1.12	1.11	0.05	0.06	1.18
	(0.55)	(0.46)	(0.47)	(0.61)	(0.55)	(0.79)	(0.84)	(1.1)
[1] Living area: Urban	Ref.							
[1] Living area: Rural	1.02	1.00	1.02	0.97	1.07	-0.03	-0.05	1.03
	(0.14)	(0.01)	(0.10)	(-0.18)	(0.42)	(-0.59)	(-0.81)	(0.22)
[1] Living area: Refugee camp	1.32*	1.26	1.30*	1.29*	1.31*	0.01	0.06	1.32**
	(1.85)	(1.57)	(1.81)	(1.74)	(1.84)	(0.19)	(1.13)	(2.25)
[2] Casualty trend	1.53***	1.54***	1.50***	1.54***	1.48***	0.14**	0.15**	1.43***
	(3.96)	(4.02)	(3.77)	(3.82)	(4.05)	(2.56)	(2.16)	(3.65)
[2] Proportion of young men	0.57***	0.57***	0.57***	0.55***	0.53***	-0.22***	-0.22**	0.67***
	(-3.58)	(-3.52)	(-3.54)	(-3.59)	(-4.92)	(-2.58)	(-2.12)	(-2.7)
Observations	1805	1805	1805	1805	1805	1805	1805	1805
Log likelihood	-2184.9	-2181.2	-2181.8	-2184.1	-2174.8	-2131.6	-2526.4	-1201.037
Level 2 variance	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.03 (0.02)	0.00 (0.00)	0.02 (0.04)	0.03 (0.05)	0.03 (0.03)

Notes: Dependent variable category for models 1-5 "Violence only" with reference category "Non-violence only", exp(b) reported. z-values in parentheses. Individual and governorate level variables marked with [1] and [2], respectively. Estimates significant on the .10, .05 or .01 level marked with *, ** or ***, respectively. Level 2 variance reported in logit form with standard error in paranthesis. Models 6-7 are "xtmixed"-models, multilevel regular regression models.

Table 6.2: Alternative control variables

	(1) Baseline	(2) Isr. sub-district share of Arabs	(3) Unemployment* youngmen	(4) Intensity: Israeli violence	(5) Intensity: Martyrs	(6) Refugee status
	exb(b) / z	exb(b) / z	exb(b) / z	exb(b) / z	exb(b) / z	exb(b) / z
Grievances						
[1] Wealth*education	0.93	0.93	0.93	0.95	0.96	0.93
	(-0.26)	(-0.27)	(-0.27)	(-0.19)	(-0.17)	(-0.26)
[1] Civil and political rights	0.79***	0.79***	0.79***	0.80***	0.79***	0.79***
	(-3.80)	(-3.77)	(-3.81)	(-3.74)	(-3.89)	(-3.80)
[2] HI durables index	1.57***	1.62***	1.51***	1.57***	1.61***	1.59***
	(4.03)	(4.44)	(3.71)	(4.07)	(4.25)	(4.12)
[2] HI household expenditure	1.76***	1.76***	1.82***	1.53**	1.65***	1.78***
	(3.80)	(4.05)	(4.14)	2.57	(3.26)	(3.86)
[2] HI education	0.95	0.89	0.89	0.91	0.91	0.94
	(-0.60)	(-1.18)	(-1.19)	(-0.97)	(-1.06)	(-0.66)
Opportunity						
[1] Self-evaluated wealth	1.01	1.02	1.01	1.00	0.98	1.01
	(0.05)	(0.08)	(0.07)	(0.01)	(-0.09)	(0.04)
[2] Regional expenditure level	1.14	1.07	1.08	1.24	1.06	1.11
	(0.95)	(0.52)	(0.51)	(1.60)	(0.44)	(0.81)
Controls						
[1] Political affiliation: Hamas	4.27***	4.23***	4.21***	4.20***	4.36***	4.28***
	(7.26)	(7.22)	(7.17)	(7.16)	(7.35)	(7.27)
[1] Personal security: Feel safe	1.02	1.02	1.04	1.02	1.03	1.01
	(0.15)	(0.17)	(0.29)	(0.17)	(0.22)	(0.09)
[1] Gender: Woman	0.92	0.91	0.91	0.91	0.92	0.92
	(-0.70)	(-0.73)	(-0.72)	(-0.77)	(-0.64)	(-0.68)
[1] Education completed	1.01	1.02	1.01	1.00	1.00	1.02
	(0.08)	(0.09)	(0.08)	(-0.00)	(-0.03)	(0.09)
[1] Employment status: Unemployed	1.11	1.10	1.10	1.09	1.13	1.12
	(0.55)	(0.51)	(0.51)	(0.48)	(0.65)	(0.61)
[1] Living area: Urban	Ref.					
[1] Living area: Rural	1.02	1.06	1.05	1.05	0.95	1.02
	(0.14)	(0.37)	(0.31)	(0.32)	(-0.33)	(0.11)
[1] Living area: Refugee camp	1.32*	1.31*	1.35**	1.36**	1.29*	1.41**
	(1.85)	(1.87)	(2.03)	(2.07)	(1.73)	(2.13)
[1] Refugee status						0.85
						(-1.12)
[2] Casualty trend	1.53***	1.59***	1.74***	1.64***	1.56***	1.53***
	(3.96)	(4.38)	(4.12)	(4.36)	(4.19)	(3.96)
[2] Proportion of young men	0.57***	0.52***	0.38***	0.81	0.62***	0.55***
	(-3.58)	(-3.92)	(-3.37)	(-0.82)	(-2.85)	(-3.68)
[2] Israeli sub-district share of Arabs		0.90				
		(-1.29)				
[2] Unemployment			0.01			
			(-1.61)			
[2] Prop. young men*unemployment			258.7			
			(1.63)			
[2] Intensity: Exposure to Israeli violence				0.79*		
				(-1.88)		
[2] Intensity: Martyrs					0.83	
					(-1.63)	
Observations	1805	1805	1805	1805	1805	1805
Log likelihood	-2184.9	-2182.7	-2180.6	-2179.9	-2181.0	-2184
Level 2 variance	0.02 (0.02)	0.01 (0.02)	0.01 (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)

Notes: Dependent variable category "Violence only" with reference category "Non-violence only". Exp(b) reported, with z-values in parentheses. Individual and governorate level variables marked with [1] and [2], respectively. Estimates significant on the .10, .05 or .01 level marked with *, ** or ***, respectively. Level 2 variance reported in logit form with standard error in paranthesis.

In sum, I find my results are robust across alternative operationalizations of the dependent and explanatory variables. I conclude that the content validity of the measures in the model is sufficient. Table 6.2 displays the consequences of adding alternative control variables. With the exception of exposure to Israeli violence, they are all statically insignificant. As discussed elsewhere, bringing the refugee status variable back in increases the significance of refugee status, indicating omitted variable bias if excluded. What is interesting to note is that the signs of both alternative operationalizations of conflict intensity are negative, indicating that while a positive short-term increase in the number of casualties in a governorate (the casualty trend) increases support for violence, long-term increased intensity, in particular exposure to Israeli violence, tends to *reduce* such support.

6.3 Statistical conclusion validity

An inference is statistically valid to the degree that it is statistically significant and reasonably strong (Lund, 2002:115). Only when these conditions are fulfilled can we assume that the observed relationship represents something systematic, not just coincidences or sampling error. The most important threats to such validity are (i) insufficient statistical power and (ii) unfulfilled statistical assumptions (Lund, 2002:286).

The statistical power is a function of several factors, among them sample size and significance level. The significance levels chosen (1, 5 and 10 percent) in this study should be sufficiently strict to assure sufficient statistical power. The total sample size of 1805 respondents is fairly large. For testing fixed coefficients, small samples of individuals *within* some governorates are not a problem, as long as the total sample size is sufficiently large (Snijders, 2005). The main limiting characteristic of statistical power in a multilevel design is not the total sample size but the sample size at the highest level (Snijders, 2005). In this case the number of top-level clusters – 16 governorates – is fairly low. As shown in a comprehensive Monte Carlo study by Stegmueller (forthcoming), maximum likelihood estimates for macro-level variables are likely to be biased upwards when the number of clusters is smaller than 20. More importantly, 95 percent confidence intervals become too narrow. Models with only random intercepts are the best-case scenario, however – as long as at least 15 clusters are available they are biased only to a limited extent (Stegmueller, forthcoming). Thus, while 16 governorates results in somewhat anticonservative hypothesis tests, it can still be justified, particularly when z-values are as high as those of the significant estimates in my model.

Table 6.3: Statistical validity

		Outliers excluded		Alt. imputations		Including HI variables one at a time			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Baseline	Individuals	Gover-norates	1978 imp.	Unimputed	Without HI variables	HI durables	HI expenditure	HI education
	exb(b) / z	exb(b) / z	exb(b) / z	exb(b) / z	exb(b) / z	exb(b) / z	exb(b) / z	exb(b) / z	exb(b) / z
Grievances									
[1] Wealth*education	0.93	0.93	0.85	0.69	0.64	0.92	0.91	0.95	0.92
	(-0.26)	(-0.25)	(-0.55)	(-1.48)	(-1.32)	(-0.28)	(-0.33)	(-0.18)	(-0.30)
[1] Civil and political rights	0.79***	0.78***	0.80***	0.83***	0.76***	0.80***	0.79***	0.79***	0.79***
	(-3.80)	(-3.97)	(-3.24)	(-3.27)	(-4.01)	(-3.75)	(-3.78)	(-3.76)	(-3.76)
[2] HI durables index	1.57***	1.58***	1.88***	1.51***	1.60***		**1.30***		
	(4.03)	(3.70)	(5.44)	(4.02)	(3.60)		(1.93)		
[2] HI household expenditure	1.76***	1.77***	1.91***	1.78***	1.89***			**1.44***	
	(3.80)	(3.46)	(4.02)	(4.14)	(3.52)			(1.95)	
[2] HI education	0.95	0.95	0.95	0.96	0.92				0.90
	(-0.60)	(-0.57)	(-0.34)	(-0.48)	(-0.81)				(-0.94)
Opportunity									
[1] Self-evaluated wealth	1.01	1.01	1.04	1.20	1.29	1.01	1.02	1.00	1.02
	(0.05)	(0.06)	(0.21)	(1.02)	(1.07)	(0.07)	(0.11)	(-0.01)	(0.10)
[2] Regional expenditure level	1.14	1.11	**1.38***	1.05	1.19	0.89	0.98	0.93	0.89
	(0.95)	(0.77)	(1.71)	(0.37)	(1.15)	(-0.68)	(-0.15)	(-0.45)	(-0.71)
Controls									
[1] Political affiliation: Hamas	4.27***	4.46***	4.59***	3.49***	4.87***	4.31***	4.30***	4.31***	4.29***
	(7.26)	(7.38)	(7.18)	(6.75)	(7.25)	(7.30)	(7.30)	(7.30)	(7.29)
[1] Personal security: Feel safe	1.02	0.99	1.01	0.97	1.02	0.99	0.99	0.98	0.99
	(0.15)	(-0.09)	(0.05)	(-0.26)	(0.15)	(-0.11)	(-0.04)	(-0.12)	(-0.09)
[1] Gender: Woman	0.92	0.91	0.91	0.92	0.87	0.92	0.92	0.91	0.92
	(-0.70)	(-0.73)	(-0.72)	(-0.69)	(-0.99)	(-0.68)	(-0.67)	(-0.72)	(-0.69)
[1] Education completed	1.01	1.02	1.05	1.21	1.31	1.02	1.03	1.00	1.02
	(0.08)	(0.09)	(0.28)	(1.21)	(1.33)	(0.11)	(0.16)	(0.00)	(0.12)
[1] Employment status: Unemployed	1.11	1.08	1.04	1.04	1.04	1.10	1.10	1.10	1.10
	(0.55)	(0.42)	(0.21)	(0.22)	(0.19)	(0.54)	(0.54)	(0.54)	(0.54)
[1] Living area: Urban	Ref.			Ref.		Ref.			
[1] Living area: Rural	1.02	1.00	0.94	0.87	1.06	0.97	0.98	0.98	0.98
	(0.14)	(-0.01)	(-0.37)	(-0.90)	(0.31)	(-0.17)	(-0.14)	(-0.11)	(-0.11)
[1] Living area: Refugee camp	1.32*	1.30*	1.18	1.15	1.29	1.22	1.23	1.25	1.22
	(1.85)	(1.80)	(1.04)	(1.01)	(1.52)	(1.37)	(1.43)	(1.51)	(1.37)
[2] Casualty trend	1.53***	1.55***	1.70***	1.44***	1.54***	**1.21**	1.34**	1.23*	1.27*
	(3.96)	(3.73)	(3.67)	(3.72)	(3.39)	(1.55)	(2.34)	(1.77)	(1.86)
[2] Proportion of young men	0.57***	0.56***	**0.72**	0.54***	0.53***	**0.87**	**0.85**	0.67*	**0.85**
	(-3.58)	(-3.39)	(-1.03)	(-3.99)	(-3.26)	(-0.88)	(-1.08)	(-1.95)	(-1.03)
Observations	1805	1718	1545	1978	1369	1805	1805	1805	1805
Log likelihood	-2184.9	-1897.0	-1839.6	-2447.6	-1596.3	-2196.0	-2193.3	-2193.3	-2195.1
Level 2 variance	0.02 (0.02)	0.04 (0.03)	0.00 (0.00)	0.01 (0.02)	0.03 (0.03)	0.12**(0.06)	0.09*(0.05)	0.10**(0.05)	0.11*(0.06)

Notes: Dependent variable category "Violence only" with reference category "Non-violence only". Exp(b) reported, with z-values in parentheses. Individual and governorate level variables marked with [1] and [2], respectively. Estimates significant on the .10, .05 or .01 level marked with *, ** or ***, respectively. Level 2 variance reported in logit form with standard error in paranthesis.

As discussed in Section 4.4.2, I use a multilevel model to account for the fact that individuals are nested within governorates, meaning that observations are not independent and residuals not uncorrelated. In the multilevel model standard errors are also adjusted to let the governorate-level variables be evaluated with the correct number of degrees of freedom. By combining results across the imputed datasets according to the rules of Rubin (1987), as described in Appendix 5, I make sure that standard errors are adjusted to account for between-imputation variance as well.

Statistical assumptions include the assumptions of the multinominal logistic regression model and the multilevel model. A first important statistical assumption for both types of models is exogeneity. No independent variable in the model should be correlated with the error term. Important threats to exogeneity – omitted variable bias, measurement error and simultaneity – are discussed elsewhere in this chapter.

A second assumption is linearity. The assumption is that the effect of each independent variable is correctly described by the logistic S-curve when untransformed, and thus linear when logit-transformed (Skog, 2005:380). It must hold for all partial relationships in the model. "Violating the assumption of linearity [...] implies that the model fails to capture the systematic pattern of relationship between the dependent and independent variables. […] [A] partial relationship specified to be linear may be nonlinear, or two independent variables specified to have additive partial effects may interact in determining y" (Fox, 1991:53-54). While I am unable to empirically test each partial relationship in the model, I see no theoretical reason to expect that any of the relationships in the model are U-shaped or are contingent on each other (other than the interaction term already specified in the model) and will therefore assume that the logistic curve is a sufficiently good approximation of all partial relationships. The fairly even distribution of residuals around the regression lines (Figure 6.1) strengthens this assumption.

A third important assumption for multinominal logistic models is the "independence from irrelevant alternatives" (IIA) property. The assumption is that the different odds do not depend on what other alternatives are in the alternative set (Skrondal & Rabe-Hesketh, 2003:270). Removing or adding a category on the dependent variable should not alter the odds of any of the original categories. The odds of choosing to ride a bike to work rather than take the red bus should remain the same if the alternative of taking a blue bus is introduced (McFadden, 1973:113). In this case it might be overly restrictive to assume that removing the

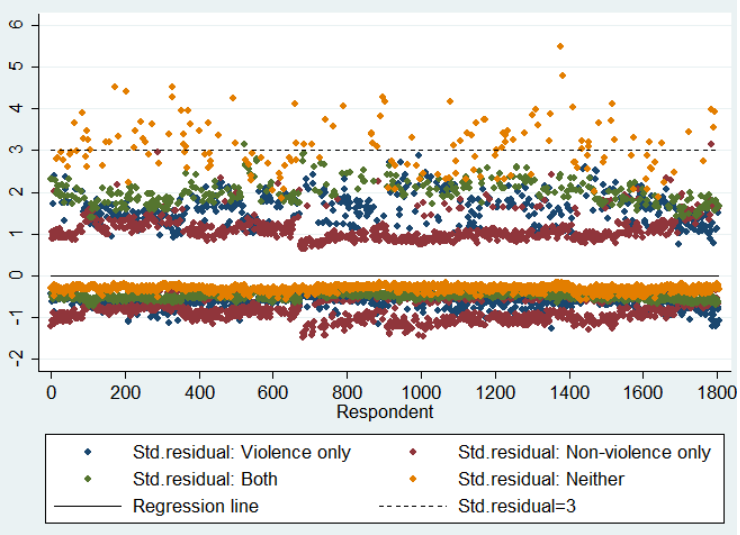
"both" category on the dependent variable would leave the odds of supporting "violence only" rather than "non-violence only" unaltered. Still I do not think the problem is serious enough to justify choosing the overly complex model that would result from attempting to accounting for possible breaches of the IIA assumption by including random effects (Skrondal & Rabe-Hesketh, 2003:271).

Collinearity, the existence of strong relationships between independent variables in the model, can make regression coefficients unstable (Fox, 1991:10-11). The relationship among the independent variables must be very strong to seriously degrade the precision of estimates, however (Ibid). The only variables in my model that might correlate that strongly are the horizontal inequality variables. In Model 7, 8 and 9 (Table 6.3), I therefore include each of the horizontal inequality variables separately, to avoid possible problems of multicollinearity between them and the related problem of overdetermination. For the economic horizontal inequality variables, both their magnitudes and z-values are reduced, indicating that they should not both have been included in the baseline model simultaneously. Still the effects are both sufficiently strong and significant that the statistical inferences made in Chapter 5 should hold. The effect estimates of the horizontal inequality variables also vary somewhat depending on which governorate-level wealth proxy is included (Model 1, 4 and 5, Table 6.1), indicating some collinearity, but the main results hold across all operationalization.

6.3.1 Outliers and influential data points

Unusual data may unduly influence results and can signal that the model fails to capture important aspects of the data. An outlier is "an observation whose dependent variable value is unusual given the value of the independent variable" (Fox, 1991:21). Such a data point is influential to the degree that excluding it and re-estimating the model would significantly alter estimates. To check for outliers on the individual level, I calculate Pearson and deviance residuals and standardize them. Individuals with standardized residuals above three qualify as outliers. Pearson residuals for all respondents on all outcomes can be graphically inspected in Figure 6.1. To make sure they do not influence the results to any undue degree, I exclude all individuals with standardized Pearson or deviance residual above three. This leads to the exclusion of 5 percent of the sample (87 individuals). Results are reported in Model 2, Table 6.3. They remain almost identical, indicating that none of these individuals influence the analysis unduly for the "violence only" outcome.

Figure 6.1: Pearson residual plot



As recommended and described by Rabe-Hesketh and Skrondal (2003), I use standardized residuals and their deletion counterparts to flag potential outliers at the governorate-level. Deletion residuals are calculated by comparing actual value on the dependent variable to the expected dependent variable value in a model estimated without the governorate in question. They are then standardized. As shown in Table 6.4, the standardized residuals and standardized deletion residuals both indicate that none of the governorates are outliers, as they do not have standardized residuals or deletion residuals above three.

To determine whether any of the governorates are influential for any particular parameter, I calculate DfBetas for the most important parameters (Table 6.4). They are estimated by calculating the difference between the effect estimate in question in a model including all governorates and a model excluding the governorate in question, then dividing the difference by the standard error or the effect estimate in the full model (Rabe-Hesketh & Skrondal, 2003). It measures how many standard deviations an effect estimate changes if a specific governorate is excluded from the estimation sample.

In this case DfBetas indicate that some governorates influence specific effect estimates to a degree that warrants closer attention. In particular, the governorates of the Central West Bank influence several effect estimates to a large degree. Ramallah has lower support for violent resistance than one would expect from its level of economic horizontal inequality, making the overall effect of these variables smaller in the full model than in a model excluding the governorate. This might be due to the "Ramallah bubble" (Ehrenreich, 2013) phenomenon. The Oslo Accords created a local elite that

> lives comfortably within the so-called "Ramallah bubble": the bright and relatively carefree world of cafes, NGO salaries and imported goods that characterize life in the West Bank's provisional capital. During the day, the clothing shops and fast-food franchises are filled. New high-rises are going up everywhere. […] [T]here are no checkpoints inside Ramallah. The I.D.F. only occasionally enters the city, and usually only at night (Ehrenreich, 2013).

Ramallah has the best prospects for social mobility in the Palestinian territories (Sønsterudbråten, 2009:75). With its low poverty rate, high educational attainment, high emigration and disproportionately high share of people educated abroad, the city is characterized by globalized urbanity and is the center of political leadership and intellectual communities (Hilal, 2006:202; Tarākī & Giacaman, 2006:31-34). Living under such conditions of apparent normalcy could make group comparison less prominent for many individuals than it is in the rest of the occupied Palestinian territories.

Table 6.4: Governorate-level residuals and DfBetas

			DfBetas			
Governorate	Standardized residuals	Standardized deletion residuals	HI durables ("Violence only")	HI expenditure ("Violence only")	HI education ("Violence only")	Regional expenditure level ("Violence only")
Jenin	0.56	0.99	0.09	0.30	0.20	0.10
Tubas	-0.42	-0.70	-0.20	0.05	0.23	0.13
Tulkarm	0.47	0.55	0.06	0.07	-0.09	0.18
Nablus	0.31	0.50	-0.06	-0.28	0.06	-0.34
Qalqilya	0.58	0.77	-0.14	-0.23	-0.42	-0.24
Salfit	-0.30	-0.35	0.01	-0.01	-0.04	-0.02
Ramallah	2.33	0.02	**-2.07**	**-1.07**	**-1.45**	-0.40
Jericho	1.20	0.10	0.23	0.90	**1.72**	**-2.07**
Jerusalem	-0.11	-0.0003	-0.64	0.62	-0.02	**-1.49**
Bethlehem	-1.22	-1.89	0.69	0.30	-0.19	0.45
Hebron	-0.92	-1.42	-0.23	-0.21	0.35	-0.16
Gaza North	0.26	0.69	0.04	0.18	-0.10	0.07
Gaza	-1.26	-2.67	0.80	-0.54	0.51	0.97
Deir al Balah	-0.38	-1.32	0.24	0.11	0.29	0.11
Khan Yunis	-1.34	-0.14	0.63	0.59	0.44	0.42
Rafah	0.80	1.26	0.44	0.10	-0.27	-0.12

Notes: Deletion residuals calculated by estimating model 4 without the governorate in question and comparing actual y to expected y in the estimated model. DfBetas are given by the difference between the effect estimate in question in a model with and a model without the governorate in question, divided by the standard error of the effect estimate in the full model.

Other deviations are more difficult to explain. Jericho makes the effect of the educational horizontal inequality measure non-significant in the full model, if the governorate is excluded the effect is negative and significant. Ramallah pulls in the other direction, however, if it is excluded the effect gets a positive sign, but is non-significant. Jerusalem and Jericho are both suppressing the effect of the governorate expenditure level. If either is excluded, the effect becomes significant and positive, indicating some support for the Sønsterudbråten (2009) argument that the higher the level of regional wealth the more likely an individual is to be able to afford to take the risk of supporting violent resistance.

Because of their high DfBetas, the three governorates of the Central West Bank are excluded in Model 3, Table 6.3. As discussed in Section 5.2.1, this increases the estimated effect of the economic horizontal inequality variables on the probability of supporting violent resistance only. The most interesting change in results is that the effect of regional wealth becomes significant on the 10 percent level, with a positive sign. This might indicate that the rejection of the regional argument of Sønsterudbråten (2009) was premature. With a z-value of 1.71 the effect is only just significant, however, and it might not have been if the robustness analysis was extended across the five imputed datasets and standard errors were adjusted for between-imputation variance. Thus this is unlikely to threaten the validity of the previous discussion to any substantial degree.

6.4 Internal validity: Causality

An inference is internally valid to the degree that we can be sure that the statistically valid relationship in question is causal in nature (Lund, 2002:105). In non-experimental designs there are two main threats to such validity. First, omitted variable bias threatens causal inference. The model is designed minimize the risk, however, by including as controls variables there are theoretical reasons to expect to affect both the dependent variable and one or more of the explanatory variables. As discussed in Chapter 5, Model 6 in Table 6.2 indicates that excluding refugee status produces some omitted variable bias with regards to the effect of refugee camp. The effects of the explanatory variables remain the same, however.

Second, which variable is the cause and which is the effect in a statistical relationship is not always clear-cut. This is the problem of directionality (Lund, 2002:117). The fact that my dependent variable is attitudinal makes reversed causality unlikely for the significant

explanatory relationships in the model. If the dependent variable was participation in resistance, one might imagine that such participation could affect how an individual perceived the civil and political rights status of the occupied territories, through experiences with government crackdowns. It seems intuitively unlikely, however, that an individual's attitudinal support for violent or other resistance should affect his or her perception of the status of civil and political rights. Neither does it seem particularly likely that an individual's attitudinal support for violent resistance would affect the objective wealth or economic horizontal inequality of his or her governorate of residence.

Directionality is not clear-cut for all the significant control variables either. In particular, the causality of the effect of political affiliation on support for resistance could be questioned. First, some might argue that affiliation with Hamas necessarily implies support for their strategy of armed resistance. If so, political affiliation with Hamas does not explain support for rocket attacks. Instead the two are alternative measures of the same underlying concept – "a disposition to favor armed resistance" (Sønsterudbråten, 2009:66). I argue that this is not the case. Hamas has come to represent much more than a strategy of armed resistance. Reportedly, many people voted for Hamas in 2006 because of the organization's widespread social and charity work or because of disillusion with the patrimonial and corrupt Fatah-run Palestinian Authorities and the failure of the peace process (Mishal & Sela, 2006:xiii-xv; Tamimi, 2007:219-221). Comparing Model 3 in Table 6.5 to the baseline model shows that support for Hamas rather than Fatah is not determined by the same factors as support for violent resistance rather than non-violent resistance. Thus, political affiliation and support for rocket attacks appear to be two distinct concepts with different determinants.

Second, Sønsterudbråten (2009:67-70) found that political affiliation was an intervening variable for many of the causal relationships she investigated. The results reported in Table 6.5 indicate that this is not the case for any of the relevant relationships in my model. Other effects remain almost identical to the baseline model in a model excluding the political affiliation variable (Model 2). Also, the variables that significantly affect support for Hamas are not the same variables that affect support for violent resistance (Model 3).

Table 6.5: Political affiliation

			Dependent var. pol.affiliation
	(1) Baseline model	(2) Excl. political affiliation	(3) Outcome: Hamas vs. Fatah
Grievances			
[1] Wealth*education	0.93	0.88	0.73
	(-0.26)	(-0.46)	(-0.85)
[1] Civil and political rights	0.79***	0.83***	1.11
	(-3.80)	(-3.08)	(1.28)
[2] HI durables index	1.57***	1.58***	1.40**
	(4.03)	(4.20)	(2.53)
[2] HI household expenditure	1.76***	1.75***	1.19
	(3.80)	(3.85)	(1.00)
[2] HI education	0.95	0.94	1.00
	(-0.60)	(-0.74)	(-0.00)
Opportunity			
[1] Self-evaluated wealth	1.01	1.05	1.20
	(0.05)	(0.26)	(0.69)
[2] Regional expenditure level	1.14	1.11	1.00
	(0.95)	(0.82)	(-0.03)
Controls			
[1] Political affiliation: Hamas	4.27***		
	(7.26)		
[1] Personal security: Feel safe	1.02	1.12	2.38***
	(0.15)	(0.85)	(4.39)
[1] Gender: Woman	0.92	0.98	2.03***
	(-0.70)	(-0.20)	(4.04)
[1] Education completed	1.01	1.04	1.12
	(0.08)	(0.23)	(0.50)
[1] Employment status: Unemployed	1.11	1.08	0.98
	(0.55)	(0.44)	(-0.06)
[1] Living area: Urban	Ref.		
[1] Living area: Rural	1.02	0.96	0.53***
	(0.14)	(-0.28)	(-2.77)
[1] Living area: Refugee camp	1.32*	1.29*	0.71*
	(1.85)	(1.80)	(-1.76)
[2] Casualty trend	1.53***	1.51***	0.98
	(3.96)	(3.92)	(-0.12)
[2] Proportion of young men	0.57***	0.58***	0.93
	(-3.58)	(-3.45)	(-0.32)
Observations	1805	1805	1805
Log likelihood	-2184.9	-2218.6	-2497.5
Level 2 variance	0.02 (0.02)	0.02 (0.02)	0.00 (0.00)

Notes: Dependent variable for models 1-2 category "Violence only" with reference category "Non-violence only". Exp(b) reported, with z-values in parentheses. Individual and governorate level variables marked with [1] and [2], respectively. Estimates significant on the .10, .05 or .01 level marked with *, ** or ***, respectively. Level 2 variance reported in logit form with standard error in paranthesis.

Third, some might argue that party affiliation is determined by prior attitudes rather than the other way around, or that the causality goes both ways. According to Dancey and Goren (2010:687) the classic conceptualization of the relationship between party identification and issue attitudes in the American context holds that partisanship can be expected to shape political attitudes and beliefs. This is in line with my operationalization of political affiliation as affecting attitudes towards resistance. Newer research indicates, however, that when the issues in question are viewed as personally important (Carsey & Layman, 2006) or the issue is central in political debate and media coverage (Dancey & Goren, 2010), individuals *simultaneously* update party ties and issue preferences. Still, consistent with the classic model, they found that the effects of party identification on issue attitudes typically outweigh those of the reverse causal chain (Carsey & Layman, 2006:474). The issue of resistance is undoubtedly central and personally important to many Palestinians, so there is a possibility that the statistical assumption of exogeneity is violated for the political affiliation variable. But since political affiliation is only a control variable in my model, and excluding the variable from the model does not change results significantly (Model 2, Table 6.5), I do not consider this a serious problem.

6.5 External validity: Generalizability

6.5.1 Within-case generalizability

The first form of generalization concerns generalizing *within* the case, from the sample to the specific population, situation and point in time the research question covers (Lund, 2002:105). The main threat to such validity is a non-representative sample due to either non-random sampling or non-response. Non-response comes in two forms. Item non-response is when a respondent does not answer one or more of the relevant survey questions. Respondent non-response is when a respondent targeted by the sampling design does not answer any questions at all. If listwise deletion is applied, both forms of non-response may threaten within-case generalizability by resulting in a non-representative sample.

As discussed in Section 4.1.1, Fafo's sampling procedure seems sufficiently random not to threaten within-case generalizability. To minimize the risk of bias from item non-response, I used multiple imputation of missing data, as discussed in Section 4.1.3. I used adjusted probability weights in the one-level model to account for design effects and minimize the risk of bias associated with respondent non-response, as discussed in Section 4.1.2. In the

multilevel models, I am unable to include weights. To minimize the risk that respondent non-response should bias the results in these models, I run the baseline model on a dataset where I include the respondents that did not complete their interviews and impute the missing data, resulting in a dataset with 1978 respondents. By including these respondents I am trying to make the sample as representative as possible by reducing the respondent non-response rate and making use of the information I have about the respondents with incomplete interviews. As shown in Model 4, Table 6.3, results from the baseline model remain fairly robust across the two datasets. The only difference is that the magnitude of some of the effects is slightly reduced in the larger dataset.[40]

I cannot be sure that the 18 respondents who were targeted by Fafo but refused to participate do not deviate from the other respondents in some way that would change results if they were included. Still, in light of the precautions I have taken to limit potential bias and the result of the robustness test just outlined, I would argue that results are generalizable to the population and time in question, namely all Palestinians above the age of 18 in the Gaza Strip and the West Bank in the first months of 2011.

6.5.2 Across-case generalizability: Representativeness

The second form of generalization concerns generalizing *across* populations, situations and time periods (Lund, 2002:122). This form of generalization is more clearly non-statistical. When considering to what degree the results of a single case study are relevant for other populations and historical circumstances, researcher discretion is required (Skog, 2005:114). The central question is to what degree each relationship the analysis has uncovered could be contingent on individuals, sub-groups, situations or time periods (Lund, 2002:121-123).

Generalizing from a single case cannot be done with any specified degree of (un)certainty. But techniques exist that can aid the researcher in identifying cases that mirror the relevant causal features of a larger population of cases (Gerring, 2007:88). In this study the choice of the Palestinian case was informed mainly by pragmatic, rather than strategic and theoretical, considerations. Obtaining good micro data to underpin the opportunity and grievance arguments is a difficult task, given that conflict situations often create complex and dangerous environments where the collection of representative survey data difficult and expensive. The existence and availability of good and relevant micro data on Palestinians in the West Bank

[40] Model 5, Table 6.3, shows that the results from the baseline model remain approximately the same when the model is estimated in the unimputed dataset as well.

and the Gaza Strip provides a good reason for choosing this case. Still, when a case is chosen for pragmatic reasons, there is always a chance that the availability comes at the cost of representativeness, thereby jeopardizing the generalizability of findings across cases.

The purpose of the following discussion is to consider to what degree the case under study is representative of the larger universe or population of civil war cases.[41] By considering how the case is situated within this population, I will be able to draw some tentative conclusions about the generalizability or non-generalizability of the results across cases and thus how large a theoretical contribution the study makes to the grievance-opportunity debate. In considering the representativeness of the Palestinian case, I draw on the discussion of Gerring (2007:86-97) on strategic selection of cases. The strategy of most relevance here is the selection of a *typical case*. A case that is a typical example of some cross-case relationship(s) is per definition representative (Gerring, 2007:91). The ideal method for maximizing the probability of finding a typical case is to perform regression analysis on the larger sample of cases and choose a case with a small residual, one that lies close to the regression line (Gerring, 2007:93-96). I am unable to conduct a large-N cross-case study to evaluate how close to the regression line the Palestine-Israeli conflict falls for the relevant relationships. In the following discussion, I will argue instead that the case is not *atypical* for the causal relationships under evaluation, and thus it is to some limited degree representative.

The class of cases I want my study to shed light on is internal conflicts. But not all scholars would agree that the Palestinian-Israeli conflict fits this category. Before discussing the representativeness of the Palestinian-Israeli case, I will therefore briefly review and challenge three reasons not to classify the conflict as internal.[42] First, the conflict could historically be considered an inter-state conflict as much as an internal conflict, because it has involved

[41] It is important to keep in mind that I refer to "populations" on two different levels. In the previous discussion the population I referred to was the Palestinian population in the West Bank and the Gaza Strip. This is my target population *within* the case of Palestine and the population my research question specifies. It is the object of the within-case generalizations discussed the previous section. In the following discussion I refer instead to a *population of cases*, of which Palestinians in the West Bank and the Gaza Strip is the one case selected for study. The question is to what degree the findings from the Palestinian case are generalizable to this larger population of civil conflict cases. This study makes a theoretical contribution to the grievance-opportunity debate to the degree that its findings can be reasonably assumed to transfer to other cases of conflict.

[42] As acknowledged by Bhavnani et al. (2011:154), the Palestinias-Israeli conflict has been classified differently in different cross-national datasets. Much of the diversion in coding is due to the application of different battle-death thresholds in different datasets, however. While in most periods the coders agree that the conflict does not amount to a civil *war* (the most common battle-death threshold being 1000 per year), the UCDP/PRIO armed conflict dataset, version 4, 2008 (Gleditsch, Wallensteen, Eriksson, Sollenberg, & Strand, 2002) categorizes the Palestinian-Israeli conflict as an intermediate internal conflict (Bhavnani et al., 2011:154).

several wars between Israel and various Arab states. The last inter-state war was in 1973[43], however. After peace agreements were brokered with Egypt and Jordan in the 1970s and 1990s the inter-state conflict elements became less pronounced, while the two Intifadas brought the internal conflict elements to the fore.

Second, the Palestinian-Israeli conflict is formally and legally special in that there is an illegal occupation involved. But even if the territories are formally occupied, in practice "Israeli military control, financing and maintenance of civic institutions, conduct of municipal elections in the 1970s and 1980s and issuance of travel documents to Palestinians all serve as indicators of Israel's ''quasi-sovereignty'' over the Occupied Territories since 1967" (Bhavnani et al., 2011:154). With the Oslo Accords the occupied territories were more formally classified as quasi-sovereign zones with the division into A-, B- and C-areas. The building of illegal settlements on occupied West Bank soil, vocally and legally contested but tacitly accepted by the international community, serve to reinforce the picture of the West Bank as *de facto* part of Israeli territory. And even if Israel has formally withdrawn from Gaza after 2005, its economic and military control remains intact. The Israeli quasi-sovereignty was challenged in the Intifadas (Ibid) and later by continued rocket launches. In practice there is nothing exceptional about this sort of insurgency challenging the sovereignty of a state in parts of its (*de facto*) territory.

Third, after Hamas' electoral victory in Gaza in 2006, clashes between Fatah and Hamas added another layer to the internal conflict. But this is not a unique phenomenon. It should be considered an instance of triadic civil war (Bhavnani et al., 2011:136) or inter-rebel violence (Fjelde & Nilsson, 2012), fighting between groups on the non-state side during a civil conflict. Other examples include conflicts in Sudan, Myanmar and Afghanistan (Fjelde & Nilsson, 2012:604). The new conflict layer should not affect the mechanism of group comparison much. The strong ethnic and historical elements of the civil conflict should mean that Israelis remain the principal reference group for Palestinians in both the West Bank and Gaza. The new situation might have affected individual economic incentives. But the worst inter-rebel fighting was over and territorial control consolidated by the time the Fafo data were collected in 2011.

In sum, there is little reason not to classify the Israeli-Palestinian conflict as an internal conflict. But the extent of the theoretical contribution made by this study also depends on the

[43] Except for the 2006 war between Israel and Hezbollah.

degree to which the conflict is representative of the relationships on question. I will therefore outline the most important reasons why some researchers consider the conflict exceptional, while arguing that none of them make the Palestinian case atypical for the causal relationships in question – horizontal inequality (relative group deprivation) and opportunity costs. For the proposed opportunity cost mechanism, representativeness has already been discussed in some detail in Section 5.3.

First, some scholars might argue that its mere duration makes the Palestinian-Israeli conflict atypical. The conflict is one of the longest-running in the modern era (Yehoshua, 2011). I will argue that this fact in itself does not make the Palestinian case atypical for the grievance and opportunity mechanisms, however. The theories under study are developed to explain conflict onset rather than conflict duration, but I find this distinction less relevant for micro level testing than in macro level research. In macro-level research the dependent variable is usually conflict versus no conflict in a given country-year. Both the macro theories under study propose that for conflict to occur a certain number of people must be available for mobilization due to the incentives stemming either from opportunity cost or some form of relative deprivation. These proposed mechanisms conceptually rest on the micro level, but are aggregated to the macro level via the mobilization of a number of combatants deemed sufficient to start an insurgency amounting to an internal conflict. Micro level tests concern whether the proposed mechanisms whereby individual incentives are turned into actual participation, or in this case support for such participation, hold. The opportunity cost and relative group deprivation mechanisms both hinge on the individual's incentives to support or participate in resistance. While one specific individual's incentives might change over time if the conflict situation changes the economic situation of the household or individual or the political or economic position relative to the adversary, the hypothesized *mechanisms* should remain logically unaltered despite a conflict's prolonged duration.

Second, the specific incompatibilies involved, in particular the centrality of the refugee question and the importance of Jerusalem to three world religions, may lead some researchers to argue that the conflict is exceptional. But there are incomparable and seemingly insolvable issues involved in most internal conflicts. The mere presence of such issues does not make the Palestinian-Israeli conflict exceptional. The strong feelings involved might contribute to making the case an easier test for the grievance arguments, however.

Demonstrating that the Palestinian-Israeli conflict is not atypical does not guarantee its representativeness. Generalizing to the entire population of internal conflicts must still be done with extreme caution. Generalizing to a well-defined sub-group of internal conflicts might be a little less risky, however. It can be argued that the Palestinian-Israeli conflict belongs to a sub-group often referred to as protracted social conflicts (Rouhana & Bar-Tal, 1998)[44]. Such conflicts are characterized by their totality (touching on wider aspects of cultural and political life and including institutions as well as leaders and publics in the conflict), protractedness (duration of at least a generation means deep-rooted animosity and prejudice develops), centrality (reflected in the saliency of the conflict issues on the public and group agendas and historical narratives), violence, and a perception of irreconcilability (the conflict is seen as zero-sum by both sides) (Rouhana & Bar-Tal, 1998:761-762). According to Kelman (1997:212) and Rouhana and Bar-Tal (1998:762), the Israeli-Palestinian conflict is a typical case of this kind of ethno-nationalist conflict. If so, we can say with a little more certainty that the conflict could be representative for the causal processes in this sub-group than across other sub-groups. In line with the typological theory of (George & Bennett, 2005:110), I therefore argue that the results of the study can be generalized with some limited (though unspecified) degree of certainty to the sub-category of protracted ethno-nationalist conflict.[45]

I believe the results can be tentatively extended to other sub-groups of internal conflict as well. As I have attempted to demonstrate, the Palestinian-Israeli conflict is not atypical in any respects relevant to the causal mechanisms in question. But in the absence of global micro-level data, the only way to generalize across types of cases with any kind of certainty is to conduct case studies similar to this study on other internal conflicts. External validity across cases could be enhanced by choosing most similar or most different cases (Gerring, 2007:131-150) or by deliberately sampling for heterogeneity (Gerring, 2007:97-101), defining classes of persons, settings and times to ensure that "a wide range of instances from within each class is represented in the design" (Cook & Campbell, 1979:75).

[44] Also called intractable conflicts, deep-rooted conflicts or enduring rivalry (Rouhana & Bar-Tal, 1998).
[45] Examples of protracted social conflict mentioned by Rouhana and Bar-Tal (1998) are Northern Ireland, Sri Lanka, Rwanda and Bosnia.

6.6 Conclusions

In this chapter I have evaluated the validity of the inferences made in Chapter 5. I conclude that the validity of the content-, statistical-, and causal inferences is sufficient. I can also with a reasonable level of certainty generalize to the specified population of interest, Palestinians over 18 in the West Bank and Gaza. The Palestinian-Israeli conflict is not an atypical case when it comes to the causal relationships under investigation, and I will argue that tentative generalization of results across cases is possible. Such generalization to other times and other conflicts must nonetheless be treated with extreme caution, as it cannot be conducted with any specified degree of certainty.

7 Conclusions

This study has aimed to uncover how grievance and opportunity factors affect attitudinal support for violent and non-violent resistance among Palestinians in the West Bank and Gaza. To that end survey data has been applied to operationalize the mechanisms proposed in the traditionally macro-oriented theories of the opportunity-grievance debate on the micro level. On the grievance side of the debate, I hypothesized that the poorer a highly educated individual is (Hypothesis 1), the better an individual considers the civil and political rights situation (Hypothesis 2) and the larger the difference in economic conditions between the individual's own governorate and the closest Israeli sub-district is (Hypothesis 3), the more likely he or she is to support violent resistance. On the opportunity side, I hypothesized that coming from a less wealthy household (Hypothesis 4) or a less wealthy governorate (Hypothesis 5) would significantly reduce support for violent resistance.

Results indicate support for the economic element in Hypothesis 3. Individuals are more likely to support violent resistance the larger the difference in economic conditions between their own governorate and the closest Israeli sub-district. This points to the centrality of the ethnic group element, and is in line with the horizontal inequality mechanism proposed by Cederman et al. (2011) – group identities become more salient the higher the horizontal inequality, as the psychological process of group comparison intensifies. Thus objective horizontal inequality leads to a subjective state of relative group deprivation (cf. Gurr, 1970), creating frustration and anger that increases the probability of supporting violent resistance.

Hypothesis 2 was also supported. Higher perceived status of civil and political rights is associated with lower levels of support for violent resistance. The hypothesized mechanism, as conceptualized by Gurr (1970), is that frustration arises when people feel there is a discrepancy between the amount of freedom and political participation they are allowed, and the amount they feel entitled to. The political reality in the occupied Palestinian territories is that decisions vital for the present and future of Palestinians (e.g. settlements and economic closure) are made by Israeli authorities that Palestinians in the West Bank and Gaza have no access to. I have argued that the reference point against which this situation of powerlessness is likely to be measured for most Palestinians is Israeli Jews as a group. If so, Hypothesis 2 implicitly captures the group comparison element sufficiently well that support for this hypothesis can be interpreted as indicating support for the mechanism of political horizontal inequality.

I found no support for Hypothesis 1 – highly educated individuals in the poorer segments of the population are no more likely to support violent resistance than others. The reason could be that this hypothesis captures vertical inequality better than it captures group comparison. While I cannot discard the possibility that for some highly educated Palestinians have as their primary point of reference the economic situation of Israelis with comparable levels of education, the main mechanism of the operationalization is one of comparison to an ideal situation of better economic conditions that higher education makes an individual entitled to. Thus the element of group comparison might not be as explicit as it is in the domain of civil and political rights, where the rights in question are granted or denied to groups as such.

The opportunity cost argument for Hypothesis 4 – that individuals from less wealthy households are more likely to support violent resistance than others – found no statistical support. Thus the pure opportunity cost mechanism of Collier and Hoeffler (2004) – the less and individual can expect to earn, the less he has to lose by joining a rebel force – is not supported. Neither is the modified mechanism of Justino (2009) – that poverty should increase support for insurgents because it increases both the risks associated with non-support and benefits of supporting relative to the costs of non-support of insurgents. The opportunity cost argument did not hold on the governorate level either. No relationship between governorate-level wealth and support for violent resistance is evident in the data.

Results remain robust across a range of alternative operationalizations and specifications of the model. The finding that grievance variables affect support for violent resistance while opportunity variables do not is also confirmed by in-sample and out-of-sample tests of predictive power. When combined, the significant grievance variables make a small but significant contribution to the predictive power of the model. The opportunity variables have no such effect.

When evaluating the theoretical contribution the study makes to the opportunity-grievance debate, the nature of the dependent variable must be emphasized. Using an attitudinal dependent variable to test macro theories that make assumptions about micro level mechanisms of actual participation is a design with important limitations. First, studying support for violence rather than participation in it provides a somewhat *easy* test for the horizontal inequality theory. I am unable to test the second part of the Cederman et al. (2011) mechanism – how group mobilization overcomes the collective action problem and turns grievances into actual participation in violent resistance. Second, the attitudinal dependent

variable provides a very *tough* test for opportunity theory. Collective action can be considered a process consisting of a sequence of steps: (i) becoming a sympathizer, (ii) being targeted for mobilization, (iii) becoming motivated to participate, and (iv) moving from intention to actual participation (Klandermans, 1997:208). Opportunity considerations are more likely to come into play in the later stages of mobilization than in first stage of attitude formation. Therefore, the non-finding of any effect of regional and household level poverty on support for violent resistance does not disprove opportunity theory as such. A relationship may well exist between poverty and actual participation in insurgency that the attitudinal dependent variable makes this study unable to capture. To solve the opportunity-grievance debate, micro data on actual participation or intention to participate must be collected.

Generalizing from the Palestinian-Israeli conflict to a larger universe of conflict cases is fraught with uncertainty and must be done with caution. While I have argued that the conflict is not *a*typical in any respect relevant for the causal mechanisms under study, this does not guarantee its representativeness for the universe of cases. Such representativeness is most likely for the sub-group of conflict cases often referred to as protracted social conflicts, as the Palestinian-Israeli conflict is often considered typical for this sub-group, and I have argued that the results of this study can be generalized with some limited (though unspecified) degree of certainty to other cases of this kind. Whether results are non-generalizable across other sub-groups because of interaction between characteristics of the sub-group in question and one or more of the independent variables in the theories under evaluation, is a matter that cannot be tested without conducting cross-country large-N research or more than one case study. In the absence of global micro-level data, the only way to generalize across types of cases with any kind of certainty is to conduct case studies similar to this study on civil conflicts belonging to other sub-groups. External validity across cases could be enhanced by choosing most similar or most different cases (Gerring, 2007:131-150) or by deliberately sampling for heterogeneity (Gerring, 2007:97-101), defining classes of persons, settings and times to ensure that "a wide range of instances from within each class is represented in the design" (Cook & Campbell, 1979:75).

By way of policy implications, the results of the study suggest that raising the relative living standard, political participation and civil freedom of marginalized groups is one way to go to reduce public support for violent strategies of resistance. Reduced public support for violence in key constituencies might then influence public opinion sensitive rebel groups like Hamas to shift their modus operandi towards increased use of non-violent strategies. The relatively

modest predictive power contribution of the grievance variables and potentially limited generalizability from one case study should be kept in mind, however. To be able to ascertain whether the suggested policies are likely to reduce actual participation in violent resistance, comprehensive data gathering efforts are necessary. To resolve the opportunity-grievance debate, survey data on actual participation or intentions to participate in violent resistance from a wide range of conflict cases is needed. If a sufficient number of conflict cases are included, an additional level might be added to the multilevel analysis, permitting the inclusion of state capacity measures as well as group-level and individual-level grievance and opportunity measures.

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Appendix 1: Descriptive statistics

Table A.1: Descriptives, unstandardized individual-level variables

	Obs	Std. dev.	Min	Max	Mean
Explanatory					
Self-evaluated wealth	1805	.757	1	4	2.10
Civil and political rights	1805	.776	1	4	2.04
Controls					
Political affiliation: Fatah	1805	.464	0	1	.314
Political affiliation: Hamas	1805	.327	0	1	.122
Political affiliation: Other	1805	.280	0	1	.086
Political affiliation: Will not participate	1805	.478	0	1	.353
Political affiliation: Don't know	1805	.331	0	1	.125
Personal security: Feel safe	1805	.465	0	1	.684
Gender: Woman	1805	.498	0	1	.541
Age	1805	14.4	18	92	36.0
Education completed	1805	1.36	1	6	4.33
Employment status: Working	1805	.439	0	1	.260
Employment status: Attending school	1805	.326	0	1	.121
Employment status: Housewife	1805	.491	0	1	.407
Employment status: Unemployed	1805	.341	0	1	.134
Employment status: Other	1805	.267	0	1	.077
Living area: Urban	1805	.491	0	1	.408
Living area: Rural	1805	.440	0	1	.262
Living area: Refugee camp	1805	.470	0	1	.330
Refugee	1805	.492	0	1	.590
Robustness tests					
Support for rocket attacks	1805	.990	1	4	2.49
Resistance attitude index	1805	.809	.131	5.11	2.39
Wealth index	1805	.932	-2.44	3.63	-.009
Human rights situation	1805	.774	1	4	1.95

Table A.2: Descriptives, unstandardized governorate-level variables

	Obs	Std. dev.	Min	Max	Mean
Explanatory					
HI durables index	1805	.0679	.318	.543	.442
HI household expenditure	1805	.0885	.354	.699	.601
HI education	1805	.0481	.570	.802	.681
Regional expenditure level	1805	49.4	97.7	284.3	138.0
Controls					
Per capita casualties	1805	.0000273	0	.000102	.000288
Casualty trend	1805	1.95	-6	2	-.369
Proportion of young men	1805	.00639	.124	.148	.141
Robustness tests					
Household durables index	1805	5.01	46.6	64.1	54.0
Wage level	1805	16.8	50.2	113.6	71.7
Exposure to Israeli violence	1805	7.94	23.3	60.0	48.4
Per capita martyrs	1805	.00156	.000237	.00535	.00230

Table A.3: Descriptives, individual-level variables before imputation

	Obs	Std. dev.	Min	Max	Mean
Explanatory					
Self-evaluated wealth	1794	.756	1	4	2.10
Civil and political rights	1633	.753	1	4	2.04
Controls					
Political affiliation: Fatah	1725	.466	0	1	.319
Political affiliation: Hamas	1725	.325	0	1	.120
Political affiliation: Other	1725	.274	0	1	.082
Political affiliation: Will not participate	1725	.480	0	1	.359
Political affiliation: Don't know	1725	.324	0	1	.119
Personal security: Feel safe	1756	.464	0	1	.687
Gender: Woman	1805	.498	0	1	.541
Age	1805	14.4	18	92	36.0
Education completed	1804	1.37	1	6	4.33
Employment status: Working	1803	.439	0	1	.261
Employment status: Attending school	1803	.326	0	1	.121
Employment status: Housewife	1803	.491	0	1	.407
Employment status: Unemployed	1803	.341	0	1	.134
Employment status: Other	1803	.267	0	1	.077
Living area: Urban	1805	.492	0	1	.408
Living area: Rural	1805	.440	0	1	.262
Living area: Refugee camp	1805	.470	0	1	.330
Refugee	1802	.492	0	1	.590
Robustness tests					
Support for rocket attacks	1616	.976	1	4	2.49
Resistance attitude index	1565	.816	1	4	2.39
Wealth index	1752	.932	-1.84	3.63	-.011
Human rights situation	1607	.748	1	4	1.95

Table A.4: Descriptives, governorate-level variables before imputation

	Obs	Std. dev.	Min	Max	Mean
Explanatory					
HI durables index	1805	.068	.318	.543	.442
HI household expenditure	1805	.0885	.354	.699	.601
HI education	1805	.048	.570	.802	.681
Regional expenditure level	1805	49.4	97.7	284.3	138.0
Controls					
Per capita casualties	1805	.0000273	0	.0001022	.000029
Casualty trend	1805	1.95	-6	2	-.369
Proportion of young men	1805	.0064	.124	.148	.141
Robustness tests					
Household durables index	1805	5.01	46.6	64.1	54.0
Wage level	1805	16.78	50.2	113.6	71.7
Exposure to Israeli violence	1805	7.94	23.3	60	48.4
Per capita martyrs	1805	.0016	.00024	.00535	.0023

Table A.5: Descriptives, individual-level variables, 1978 respondent imputation

	Obs	Std. dev.	Min	Max	Mean
Explanatory					
Self-evaluated wealth	1978	.756	1	4	2.10
Civil and political rights	1978	.795	1	4	2.04
Controls					
Political affiliation: Fatah	1978	.463	0	1	.311
Political affiliation: Hamas	1978	.332	0	1	.126
Political affiliation: Other	1978	.291	0	1	.093
Political affiliation: Will not participate	1978	.473	0	1	.339
Political affiliation: Don't know	1978	.337	0	1	.131
Personal security: Feel safe	1978	.466	0	1	.681
Gender: Woman	1978	.500	0	1	.522
Age	1978	14.6	18	92	36.2
Education completed	1978	1.39	1	6	4.31
Employment status: Working	1978	.447	0	1	.276
Employment status: Attending school	1978	.324	0	1	.119
Employment status: Housewife	1978	.487	0	1	.387
Employment status: Unemployed	1978	.344	0	1	.137
Employment status: Other	1978	.271	0	1	.080
Living area: Urban	1978	.493	0	1	.415
Living area: Rural	1978	.437	0	1	.256
Living area: Refugee camp	1978	.470	0	1	.328
Refugee	1978	.492	0	1	.588

Table A.6: Descriptives, governorate-level variables, 1978 respondent imputation

	Obs	Std. dev.	Min	Max	Mean
Explanatory					
HI durables index	1978	.068	.318	.543	.441
HI household expenditure	1978	.089	.354	.699	.601
HI education	1978	.047	.570	.802	.680
Regional expenditure level	1978	49.4	97.7	284.3	138.0
Controls					
Per capita casualties	1978	.0000271	0	.000102	.0000285
Casualty trend	1978	1.92	-6	2	-.350
Proportion of young men	1978	.00641	.124	.148	.141

Appendix 2: Weights calculation[46]

The sampling process was executed in two stages. First, in August 2010, a sub-sample of clusters was drawn and the number of households to draw from each cluster decided on. Then, in January 2011, it was decided that the sample be expanded by drawing more households from some of the clusters. This second stage included weights calculation, and was described as follows by the Fafo researcher responsible:

Gaza, increasing the number of households in the sample:

First, adjusted the number of household take in clusters according to the weight ratio between weight of subsample from August 2010 and mean weight. Then we get a sample with 883 households. The target sample size is 1000 households. Then we add two households for each cluster. Impute 15 to household take for the cluster with no household detected in 2009. The final sample size for Gaza is 1048.

Weight equation:

$$p = \frac{N_{hc} * m}{N_h} * \frac{a}{m} * \frac{n}{N_{hr}}$$

$$w = 1/p$$

N_h	number of households in strata
N_{hc}	number of households in cluster according to the 1997 census
m	number of clusters selected in strata in the 2009 sample
a	number of clusters selected in strata in the new subsample
n	number of households selected in cluster in the new subsample
N_{hr}	number of households in cluster relisted in the 2009 sample

Adjusting weights:

1. Household expansion weight is calculated according to the formula:

$$p_{exp} = \frac{N_{hc} * m}{N_h} * \frac{a}{m} * \frac{n}{N_{hr}}$$

$$w_{exp} = 1/p_{exp}$$

[46] This information is retrieved from internal Fafo documents and e-mail correspondence with the person that calculated the weights.

N_h number of households in strata

N_{hc} number of households in cluster according to the 1997 census

m number of clusters selected in strata in the 2009 sample

a number of clusters selected in strata in the new subsample

n number of households selected in cluster in the new subsample

N_{hr} number of households in cluster relisted in the 2009 sample

If household expansion weight is larger than 3 times the median weight, then household expansion weight is adjusted to 3 times the median weight.

RSI weight is calculated according to the formula:

$$w_{rsi} = w_{exp} * n_{rsi}$$

n_{rsi} number of household members eligible as RSI

2. Within each governorate, expansion weight and RSI weight are adjusted according to the ratio of mid-year population estimated by Palestinian Central Bureau of Statistics[47] to population size in sample.

   Household expansion weight is adjusted according to the formula:

$$w_{expadj} = w_{exp} * \frac{pop_{2010,g}}{pop_g}$$

$pop_{2010,g}$ mid-year population size in a governorate estimated by Palestinian central Bureau

pop_g population size in a governorate from the sample

   RSI weight is adjusted according to the formula:

$$w_{rsiadj1} = w_{expadj} * n_{rsi}$$

n_{rsi} number of household members eligible as RSI

If RSI expansion weight is larger than 3 times the median weight, then RSI weight is adjusted to 3 times the median weight.

3. Within each age[48]-gender group, RSI weight is adjusted according to the ratio of population size estimated from the roster data and the population size estimated from the RSI data.

[47] Mid-Year Estimated Population in the Palestinian Territory by Governorate. 1997-2010, link: http://www.pcbs.gov.ps/Portals/_pcbs/populati/GOVER1997-2010E.htm

[48] Age in five years group.

RSI weight is adjusted according to the formula:

$$w_{rsiadj} = w_{rsiadj1} * \frac{pop_{ros,a,g}}{pop_{rsi,a,g}}$$

$pop_{ros,a,g}$	population size estimated from roster data
$pop_{rsi,a,g}$	population size estimated from RSI data

4. w_{expadj} and w_{rsiadj} are the final weights used. No non-response correction is conducted.

West Bank

The sample size in file got in August 2010 is 905.

First, add 1 household for each cluster, then the sample size is 987;

Second, for the clusters whose household take is still less than 10, increase household taking number to 10;

The final sample size for West Bank is 1002.

The usual weight equation of West Bank sample, such as for the 2009/2010 survey is

$$p = \frac{N_{hc} * m}{N_h} * \frac{a}{m} * \frac{b}{B_{hcb}} * \frac{n}{N_{hcb}}$$

$$w = 1/p$$

N_h	number of households in strata
N_{hc}	number of households in cluster according to the 1997 census
m	number of clusters selected in strata in the old whole sample of West Bank
a	number of clusters selected in strata in the 2009 subsample
b	number of buildings selected in cluster in the 2009 subsample
B_{hcb}	number of buildings in cluster in the 2009 subsample
n	number of households selected in building in the 2009 subsample
N_{hcb}	number of households in building in the 2009 subsample

But as we are going to use random walk for this survey but not draw buildings, the weight equation of the new subsample is

$$p = \frac{N_{hc} * m}{N_h} * \frac{a}{m} * \frac{n}{N_{hc}}$$

$$w = 1/p$$

N_h number of households in strata

N_{hc} number of households in cluster according to the 1997 census

m number of clusters selected in strata in the old whole sample of West Bank

a number of clusters selected in strata in the new subsample

n number of households selected in cluster in the new subsample

Adjusting weights:

West Bank

1. Household expansion weight is calculated according to the formula:

$$p_{exp} = \frac{N_{hc} * m}{N_h} * \frac{a}{m} * \frac{n}{N_{hc}}$$

$$w_{exp} = 1/p_{exp}$$

N_h number of households in strata

N_{hc} number of households in cluster according to the 1997 census

m number of clusters selected in strata in the old whole sample of West Bank

a number of clusters selected in strata in the new subsample

n number of households selected in cluster in the new subsample

If household expansion weight is larger than 3 times the median weight, then household expansion weight is adjusted to 3 times the median weight.

RSI weight is calculated according to the formula:

$$w_{rsi} = w_{exp} * n_{rsi}$$

n_{rsi} number of household members eligible as RSI

2. Within each governorate, expansion weight and RSI weight are adjusted according to the ratio of mid-year population estimated by Palestinian Central Bureau of Statistics[49] to population size in sample.

   Household expansion weight is adjusted according to the formula:

$$w_{expadj} = w_{exp} * \frac{pop_{2010,g}}{pop_g}$$

   $pop_{2010,g}$ mid-year population size in a governorate estimated by Palestinian central Bureau

   pop_g population size in a governorate from the sample

   RSI weight is adjusted according to the formula:

$$w_{rsiadj1} = w_{expadj} * n_{rsi}$$

   n_{rsi} number of household members eligible as RSI

If RSI expansion weight is larger than 3 times the median weight, then RSI weight is adjusted to 3 times the median weight.

3. Within each age[50]-gender group, RSI weight is adjusted according to the ratio of population size estimated from the roster data and the population size estimated from the RSI data.

   RSI weight is adjusted according to the formula:

$$w_{rsiadj} = w_{rsiadj1} * \frac{pop_{ros,a,g}}{pop_{rsi,a,g}}$$

   $pop_{ros,a,g}$ population size estimated from roster data

   $pop_{rsi,a,g}$ population size estimated from RSI data

4. w_{expadj} and w_{rsiadj} are the final weights used. No non-response correction is conducted.

[49] Mid-Year Estimated Population in the Palestinian Territory by Governorate. 1997-2010, link: http://www.pcbs.gov.ps/Portals/_pcbs/populati/GOVER1997-2010E.htm

[50] Age in five years group.

Appendix 3: The Wealth Index

There are several reasons why one might want to use an asset index to measure wealth, particularly in developing countries. Measuring income in developing countries is fraught with difficulties – including seasonal variability of earnings and that large shares of often income stem from self-employment (Sahn & Stifel, 2003:464). Because of short reference periods for the income questions and frequently changing labor market conditions, we should use other questions than employment-related ones to measure the long-term economic situation of households (Øvensen, 2006:7). Income data are prone to systematic measurement error, usually due to underreporting and that they tend to fluctuate (Øvensen, 2006:9). The occupied Palestinian territories are particularly prone to income fluctuations due to Israeli blockades. Using instead an asset index in to measure long-term wealth in developing countries has the main advantages that assets in developing countries are fewer and easy to measure, and that problems connected to recall period and other forms of reporting bias are minimized (Sahn & Stifel, 2003:466).

Different variable combinations have been used and validated for the construction of asset indexes (Filmer & Pritchett, 2001; Sahn & Stifel, 2003). The indexes are often constructed using variables from the Demographic and Health Surveys (DHS). The DHS manual recommends using all asset and utility service variables available when constructing the index (Rutstein & Johnson, 2004:8). I would argue than one should decide which variables are relevant from an understanding of the local context.

Like Filmer and Pritchett (2001:115) and Sahn and Stifel (2003:468), I use data on housing characteristics[51] and household ownership of consumer durables[52] to construct the index.[53]

[51] H04: *What is the total number of rooms in the housing unit?*; H05 *Are all or some of the rooms in the residence, including the corridors, the kitchen, and the bathroom, characterized by any of the following: Humidity(wet walls, ceiling, etc.); Cold and difficult to heat in winter; Uncomfortably hot in summer; Poor ventilation; Dark and gloomy* (Fafo, 2011a).

[52] H07 asks whether the household members own any of a series of 26 consumer durables. For some items the respondent is also asked how many of the item the household members own. In my final index I include variables for how many tvs, mobile phones, cars and personal computers members of a household own as well as dummies for whether they own a refrigerator, gas or electric oven (heating), washing machine (for clothes), vacuum cleaner, mix-master/electric blender, video player, DVD player, photo camera, video camera, ordinary telephone, internet connection, or a solar heater. As in Sahn and Stifel (2000:2128) the four numeral asset variables are calculated on a per household basis instead of per capita. Sahn and Stifel (2000:2128) found validation results were robust to choice of such equivalence scales.

[53] Sahn and Stifel (2003:468) included human capital (years of education of the household head) in their index. I think education measures a different concept, and will therefore not include it in my index. Sahn and Stifel (2003:468) reported that excluding this variable from their index made no substantial difference in their analysis for validation of the index.

This should cover the concept of long-term wealth fairly well, as the validity of both indexes (using different combinations of the two groups of indicators) were thoroughly validated (Filmer & Pritchett, 2001; Sahn & Stifel, 2003; Sahn & Stifel, 2000).

There is one potential problem with the content validity of the index, however. Filmer and Pritchett (2001:115) include variables measuring land ownership, but data restrictions prevent me from doing so. According to Øvensen (2006:5-6) this is likely to give the index an urban bias, because it "rewards" owning items associated with modern society and urban life rather than traditional rural items like land.

Factor analysis assumptions

The purpose of constructing an index is data reduction and reducing random measurement error. Factor analysis provides a method for calculating weights for the index that are less arbitrary than for example giving them equal weight in a simple summated scale. Not all assets are similarly important for the wealth concept. So when data on quality or quantity of all assets, or their process, is lacking, the best option is to let the data determine the weights directly (Sahn & Stifel, 2003:467). Weights are calculated that reflect the relative importance of the different items to the concept, based on each item's factor loading.

Unlike Filmer and Pritchett (2001) and Rutstein and Johnson (2004) I use common factor analysis instead of principal components analysis. This is because I do not want to force the components to explain the entire covariance matrix. Common factor analysis allows for asset-specific influences to explain the remaining variance (Sahn & Stifel, 2003:467). Still the two methods produce very similar results when few factors are involved (Filmer & Pritchett, 2001; Sahn & Stifel, 2003).

I run a few tests to ascertain that the assumptions of factor analysis hold for the variable set in question. Significant correlations, many fairly close to or above .30, low or insignificant partial correlations, KMO (MSA) of .89 (above .80 for all variables except three, and none below .50) and a significant Bartlett's test of sphericity, all point to the data being suitable for factor analysis (Hair, Anderson, Tatham, & Black, 1998:99-100).

The crucial assumption when using factor analysis to extract only one factor to represent wealth, is that that such long-term household wealth represents the maximum variance in the variables included (Filmer & Pritchett, 2001:117; Sahn & Stifel, 2003:467). This assumption cannot be tested directly (Filmer & Pritchett, 2001:117). In my case early factor analysis revealed that based on the common eigenvalue > 1 criterion, ideally 3 factors should have

been extracted from the variables included in my analysis. There are several reasons why I still think I can justify extracting a single factor. First, the three factors produced by the initial analysis were highly correlated. Second, judging from the factors loading highly on each dimension in an obliquely rotated solution, it is unclear how the factors can be interpreted to signify clearly separable concepts or dimension. Third, in an unrotated solution, almost all items are shown to load highly on the first factor. It therefore seems reasonable to argue that this one factor represents all the variables pretty well. Intuitively, it seems plausible that the variance the variables have in common should be associated with the concept long-term wealth. Fourth, for pragmatic reasons I prefer to have one variable to include in the model rather than three.

Index construction, reliability and validity

First, I ran the factor analysis including all the items on variables H04, H05 and H07. Second, I removed the items that either loaded under .30 (no practical significance) or had communalities below .20.[54] Ideally I would want to use a higher criterion for communality, but the decision to use one instead of 3 factors means communalities become lower and excluding all variables with communality below .30 produces a variable with a heavily skewed distribution. Third, I ran a new factor analysis for the remaining items and constructed an index with weights based on the factor loadings of each item. I compared the distribution of this reduced index to the distribution of a similar index where all items were included (to ensure that I had not artificially reduced or fitted the set) and found that the distribution was similar enough to justify using the reduced index.

Reliability testing returned a Cronbach's Alpha of .83, indicating sufficient internal consistency (Hair et al., 1998:117-118). The convergent validity of the index was tested by correlating it with other wealth measures. I found significant and fairly strong correlations with self-reported wealth and last month's income, and with alternative indexes constructed slightly differently, e.g. larger or smaller variable sets, simple summated scale and one index per dimension in the factor analysis. Due to time and scope limitations I did not run further validity tests on this index, as it is only meant for use as a robustness check. The convergent and nomological validity of similarly constructed indexes has been thoroughly tested with good results (Filmer & Pritchett, 2001; Sahn & Stifel, 2003).

[54] The consumer durable items removed in this process included ownership of a gas or electric stove, kerosene or diesel oven, electric fan, dishwasher, sewing machine, radio, freezer, satellite dish, air conditioner and motorbike.

Appendix 4: Governorate distributions

Figure A.1 through A.4 help visualize the distribution of central independent variables. Each color in the figures represents a quartile. In Figure A.1 through A.3, the darker the shade, the larger the horizontal inequality in a governorate. In Figure A.4, the darker the shade, the poorer the governorate.

Figure A.1: HI household durables

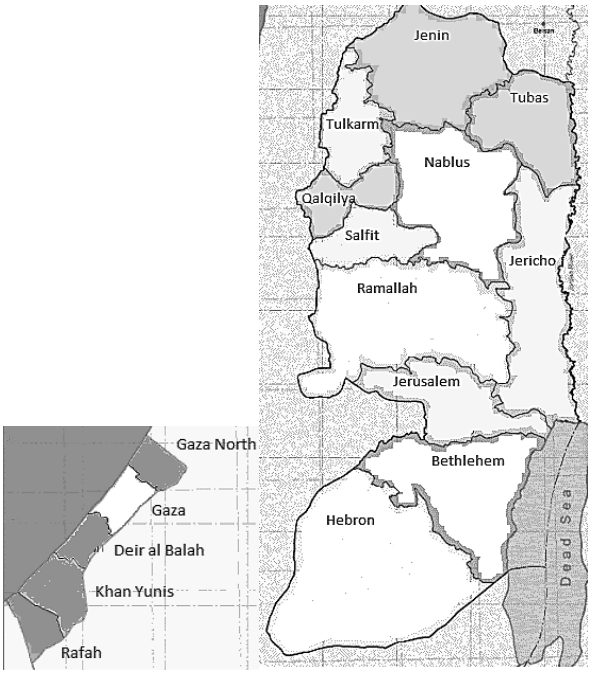
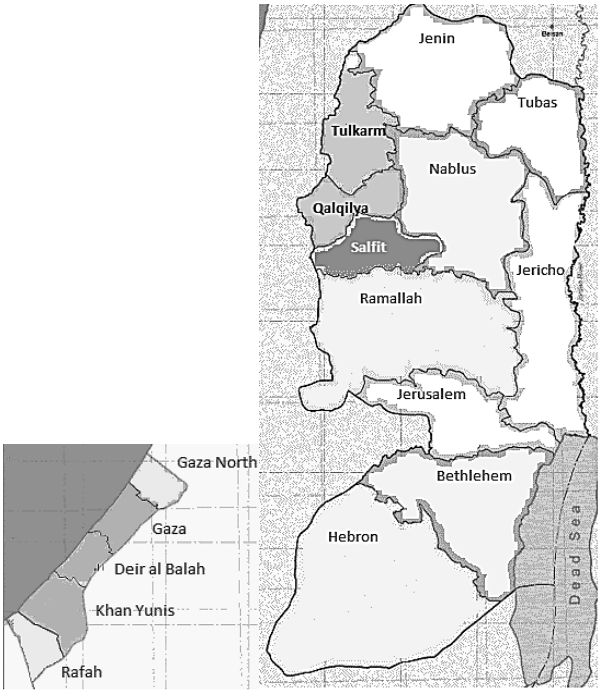
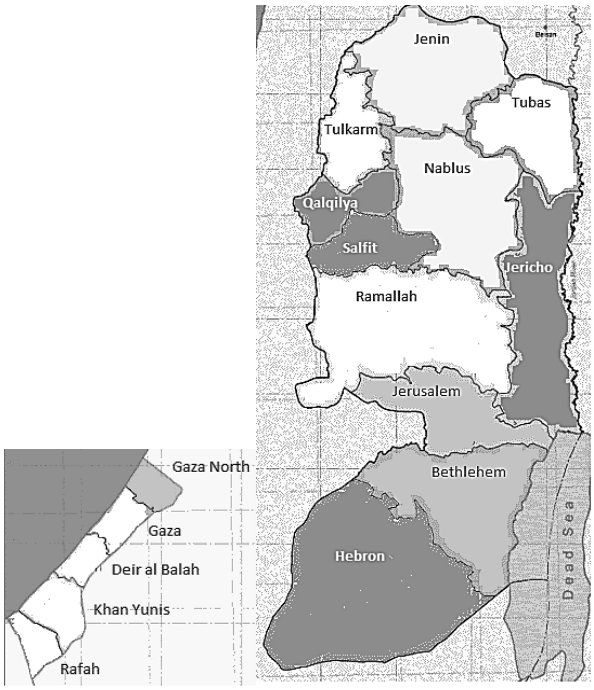


Figure A.2: HI expenditures



The difference in distribution observed between the two economic horizontal inequality measures probably has to do with the difference in time horizon between the two measures. Household durables represent a fairly stable and thus long-term measure of the concept, while household expenditure is much more vulnerable to short- and medium-term fluctuations due to for example closures and blockade.

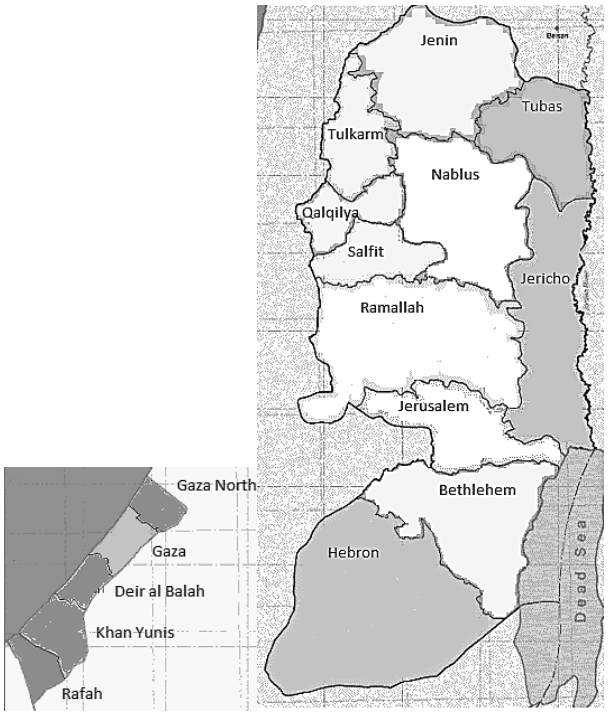
Figure A.3: HI education



Comparing the educational horizontal inequality measure to the economic measures clearly show that in the case of Palestine the educational aspect of horizontal inequality does not overlap much with the economic aspects, geographically speaking. In fact the two are negatively correlated.

Figure A.4 helps visualize the distribution of governorates when it comes to absolute level of governorate wealth. To be more easily comparable with the horizontal inequality measures, the expenditure level variable has been reversed so that the darkest color marks governorates in the poorest quartile while the governorates in the richest quadrant are white – the darker the color, the poorer the governorate.

Figure A.4: Expenditure level (reversed)



Comparing Figure A.4 to Figures A.1 and A.2 helps visually demonstrate that while the horizontal inequality measures are obviously correlated with the absolute level of wealth, they also capture something more by bringing in the relative element of group comparison.

Appendix 5: Combining results

When manually combining the results for the two-level model across the five imputed datasets, I apply the pooling criteria of Rubin (1987:76). This method is widely accepted and is the method used by Stata in the "mi estimate" command (Stata 11).

Let the *m* imputed datasets be indexed by *j* = (1, ... , m). For any point estimate Q (in this case the regression coefficients and level 2 variances in logit form and the log likelihoods), results are combined into $\bar{Q}_m$ by simply calculating the average of Q_j across the *m* (in this case five) imputed datasets.

For variance estimates it is necessary to take into account both within-imputation variance and between-imputation variance to get the correctly adjusted estimates. The within-imputation variance $\bar{U}_m$ is given by the average of variance estimates U_j across the five datasets.[55] The between-imputation variance B_m is given by

$$B_m = 1/(m-1) \sum_{j=1}^{m} (Q_j - \bar{Q}_m)^2 \quad \text{(A.1)}$$

The standard error of $\bar{Q}_j$ is given by the square root of the total variance T_m, which is specified as

$$T_m = \bar{U}_m + (1 + 1/m) B_m \quad \text{(A.2)}$$

The combined equation for the standard error of Q is thus given by

$$SE = \sqrt{T}$$
$$= \sqrt{(\bar{U}_m + (1 + 1/m)(1/(m-1) \sum_{j=1}^{m} (Q_j - \bar{Q}_m)^2)} \quad \text{(A.3)}$$

I use an Excel worksheet to combine the estimates, calculate 95 percent confidence intervals and translate the estimates into odds and odds ratio form.

[55] To find each U_j, I square the standard errors reported in each of the five imputed datasets *j*.

Appendix 6: Governorate dummies

Table A.7: Governorate dummies from the one-level model (Model 1)

	Violence only		Both		Neither	
Governorate	exp(b)	z	exp(b)	z	exp(b)	z
Jenin	Ref.		Ref.		Ref.	
Tubas	2.10	(0.89)	0.30***	(-2.70)	2.07	(1.22)
Tulkarm	3.20**	(2.17)	0.52	(-0.97)	0.63	(-0.88)
Nablus	1.90	(0.91)	0.92	(-0.19)	0.73	(-0.61)
Qalqilya	0.90	(-0.16)	0.55	(-1.17)	2.22	(1.06)
Salfit	2.16	(0.92)	0.41	(-1.50)	0.45*	(-1.73)
Ramallah	2.87	(1.59)	0.68	(-0.77)	0.74	(-0.37)
Jericho	3.50**	(2.11)	1.39	(0.52)	2.01	(0.99)
Jerusalem	1.19	(0.24)	0.30**	(-2.34)	0.85	(-0.32)
Bethlehem	0.51	(-0.84)	0.22**	(-2.13)	0.27	(-1.03)
Hebron	2.90	(1.60)	0.20***	(-2.88)	0.43	(-1.43)
Gaza North	0.91	(-0.14)	0.36**	(-2.57)	0.55	(-1.42)
Gaza	1.64	(0.81)	0.41**	(-2.21)	0.67	(-0.85)
Deir al Balah	1.11	(0.16)	0.29***	(-3.19)	0.37	(-1.51)
Khan Yunis	2.58*	(1.68)	0.78	(-0.65)	0.62	(-0.81)
Rafah	6.07***	(2.81)	1.20	(0.37)	0.45	(-1.56)

Notes: Dependent variable refence category "Non-violence only". z-values reported in parentheses. Estimates significant on the .10, .05 or .01 level marked with *, ** or ***, respectively.