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Networks and Insurgency: How Social Relationships Shape Conflict

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by

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The dissertation of Dotan A. Haim is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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DEDICATION

To my family.

EPIGRAPH

The cow is of the bovine ilk;

One end is moo, the other, milk.

—Ogden Nash

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

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ABSTRACT OF THE DISSERTATION

Networks and Insurgency: How Social Relationships Shape Conflict

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Professor Emilie M. Hafner-Burton, Co-Chair
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This dissertation investigates how social networks impact counterinsurgency effectiveness. Drawing evidence from the Philippines, I find that counterinsurgency is more likely to succeed when civilians have social ties to other villages experiencing quality governance (Chapter 1), civilians have direct social ties to government security officers (Chapter 2) and local politicians are not members of political clan networks (Chapter 3).

Chapter 1

Civilian Social Networks and Credible Counterinsurgency

1.1 Abstract

How do civilian social networks influence the effectiveness of counterinsurgency? I posit that counterinsurgents' ability to win civilian "hearts and minds" and elicit useful information about insurgents is driven in large part by information about counterinsurgent credibility that flows through civilian social networks. Civilian perceptions of local military control, as well as the government's commitment to economic service provision, are shaped not only by what they observe in their own village, but also by the experiences of their friends and family members in the surrounding area. To test this argument, I use newly collected data on 1) family ties between over 55 million individuals in 42,000 Philippine villages, 2) village-level insurgent presence (from military intelligence reports) and 3) counterinsurgency-related development projects. I find that counterinsurgency efforts were significantly more effective at reducing insurgent presence when civilians in targeted villages had family ties to other nearby villages that received development projects. Counterinsurgency efforts were less effective when civilians in targeted villages had family ties to other nearby villages affected by insurgents.

1.2 Introduction

In 2013, the Armed Forces of the Philippines (AFP) was engaged in extensive counterinsurgency operations in Gubat Municipality of Sorsogon Province. Two of the villages targeted with these operations were Cabiguhan and Nazareno. Both had a population of about 400 and were in rural areas four kilometers outside the municipal center. In addition to their geographic similarities, military intelligence reports suggested that New People's Army (NPA) rebels were present in both villages dating back to at least 2009.[1] To win the people's trust, government troops implemented development projects in both villages over the next two years.[2] By the end of 2015, the military had successfully expelled NPA rebels from Cabiguhan but was unable to reduce NPA presence in Nazareno. Why were counterinsurgency efforts effective in one village but not the other?

In order for counterinsurgents to bring to bear their superior military capacity, they must first elicit information from civilians regarding the identities, whereabouts, and activities of the rebels. In an interview with a military intelligence officer from Gubat who regularly goes undercover to gather information about the NPA, I asked what makes civilians more or less likely to share information. He responded bluntly: "Personal connections. People form their opinions of the government because of the experiences of people they know."[3] The spread of information between civilians, through their social networks, explains why counterinsurgency efforts were successful in Cabiguhan but not in Nazareno. Because of the nature of their social ties to nearby villages, the people in these two villages likely formed very different impressions of the government's capacity to provide sustained security and economic development. Civilians in Nazareno had many family members in neighboring villages influenced by the rebels. Thus,

[1] Both Cabiguhan and Nazareno were coded as "influenced" by the NPA in 2013, meaning that rebels regularly traveled through the area and their political branch had an active civilian party organization. Further details on these reports are discussed in the empirical section of the paper.

[2] Both villages received multiple community infrastructure projects from the national PAMANA development program targeted specifically at conflict-affected areas.

[3] Interview, Sorsogon City, February 20, 2017. Interviewee's name redacted for security purposes.

information received through their social networks likely gave them the impression that the rebels had staying power in the area and would be able to retaliate even if they were expelled from Nazareno. Despite the fact that Cabiguhan was geographically proximate to these same rebel-held villages, the family ties of people there were mainly to other *government*-controlled villages, making counterinsurgent promises to ensure long-term security more believable. In addition, compared to the civilians in Nazareno, people in Cabiguhan had stronger family ties to surrounding villages that also received government development projects in the previous two years. Hearing word of these projects likely enhanced their beliefs that the government was committed to providing sustained economic development.

This paper addresses the broader research question: why are counterinsurgency efforts effective in some localities but not others? When it comes to fighting insurgency, information is king and civilians play a crucial role. In order to answer the above question, the first step is understanding the conditions that facilitate the flow of information from civilians to counterinsurgents. Without reliable, real-time information from civilians regarding insurgent operations, government troops are left groping in the dark, chasing an enemy that hides in plain sight. To combat insurgents and terrorists who depend on civilian cooperation to maintain their anonymity, counterinsurgents have invested significant resources into winning hearts and minds (commonly referred to as COIN). By this paradigm, the government must convince civilians that it can protect them from rebel retaliation and thus, that civilians face relatively low costs for sharing information with troops. In addition, the government must provide sufficient economic services to civilians to convince them that they stand to benefit from expelling insurgents. This outlook has become predominant among practitioners of counterinsurgency (US-Army, 2007) and has kickstarted a blossoming empirical literature on micro-level conflict dynamics (Berman and Matanock, 2015). Despite the heavy investment in COIN by the US and other governments around the world, the results have been inconsistent, showing promise in some areas but seeming futile or even

counterproductive in others.[4]

I argue that civilian willingness to share information *vertically* (to counterinsurgents) is driven in large part by information about counterinsurgent credibility that spreads *horizontally* between civilians, through their social networks. The value of horizontal information flows arises due to a fundamental uncertainty faced by civilians relating to both security and development. Counterinsurgents have a strong incentive to misrepresent their military strength in the surrounding area in order to convince civilians that they have staying power and can prevent violent rebel retribution. The government also has an incentive to provide short-term access to economic services while insurgents are present in order to win civilian support, even if they do not have the political will or capacity to provide sustained services after insurgents are expelled. For civilians in conflict zones, reliable information is hard to come by and taking the wrong action could be a life or death decision. How, then, do civilians in villages targeted by COIN come to a more credible assessment of counterinsurgent promises intended to win their support? I posit that counterinsurgent credibility is greatly influenced by word of mouth from other civilians in the surrounding area who can directly observe patterns of military control and development in their own villages. Information that originates in neighboring villages can either bolster or undercut the credibility of counterinsurgent promises and actions in targeted villages. Thus, in order to understand the determinants of counterinsurgency success, one must look beyond the village as the unit of analysis and consider how seeds of information about government credibility are likely to spread through a complex social terrain. The central hypotheses of this project are that counterinsurgents will be more effective when civilians in targeted villages have a greater number of social network ties to households in neighboring villages that 1) are already under government military control and 2) have received development projects themselves.

To test this argument, I investigate village-level heterogeneity in the effectiveness of

[4]For example, Berman, Shapiro and Felter (2011) and Beath, Christia and Enikolopov (2016) find that development projects reduce violence; Chou (2012) and Child (2014) find no effect; Crost, Felter and Johnston (2014) and Sexton (2016) find that projects sometimes lead to increased violence.

a large "hearts and minds" counterinsurgency program launched by the Armed Forces of the Philippines (AFP) over the 2010-2015 period. The program (PAMANA) targeted the communist New People's Army (NPA) in over 5,000 villages across the country. To guage its effectiveness, I measure year-to-year changes in village level rebel influence as reported by internal military intelligence assessments. My results indicate a number of things. First, consistent with other recent findings, development spending is associated with decreased insurgent influence in the villages where that spending is targeted. Second, the ability of counterinsurgents to win military control in any one village is highly dependent on the combination of development projects in nearby villages and the density of family ties between those villages. A village is significantly more likely to flip to government control when it has increased family ties to other nearby villages that receive development projects. This spillover of development success is driven by family ties between villages rather than by geographic proximity. Finally, counterinsurgency success in any one village is highly dependent on the security context in nearby villages with family ties to the village in question. The government is significantly less likely to be able to reduce rebel influence in a village when it has family ties to other villages with rebel presence.

These findings are important for several reasons. First, from a theoretical standpoint, they highlight that civilians in conflict zones are strategic actors who are keenly aware of counterinsurgents' incentives to win their support. This perspective raises a key puzzle under-addressed by the existing academic literature on counterinsurgency: what makes COIN *credible* in the minds of civilians? The second major contribution is empirical. Scholars have long touted the importance of social networks underpinning different mechanisms relating to civil conflict, but empirical evidence has thus far been limited mostly to qualitative case studies (Petersen, 2001; Staniland, 2014; Wood, 2003) or relatively crude quantitative measurement, such as ethnic demography or geographic distance (Schutte and Weidmann, 2011). I introduce new data on civilian social networks and counterinsurgency success that is both expansive and precise. This allows me to conduct one of the first systematic tests of how micro-level social network

mechanisms affect "big" conflict outcomes like counterinsurgency success. Third, from a practical standpoint, this paper provides important insights for how to improve counterinsurgency and counterterrorism targeting. COIN doctrine has long followed the "oil spot" logic of controlling geographically strategic areas and using them as bases from which to expand control (Thompson, 1966). The findings in this paper suggest that counterinsurgency success diffuses mainly through social terrain rather than geographic terrain. This implies that the choice of which areas to target, and the order in which they are targeted, would be improved by focusing on areas that are socially strategic.

The rest of the paper proceeds as follows. I begin by reviewing existing literature on the role of civilians in asymmetric insurgency and the strategies counterinsurgents use to win civilian support. I then address the role of social networks in civil conflict, discussing research on the spread of information between civilians. In the third section, I turn to the core puzzle of this paper, emphasizing the uncertainty civilians face when interpreting attempts by counterinsurgents to win their hearts and minds. I develop a theory about how horizontal information shared between civilians can mitigate civilians' uncertainty over expectations of future security and economic development. Finally, I detail the Philippine context and present empirical results.

1.3 Asymmetric Insurgency, COIN, and Social Networks

Powerful governments often find themselves in protracted conflicts with relatively weak, but persistent, insurgent groups. Asymmetric insurgencies, characterized by a vast imbalance in military capacity of the two sides, account for the majority of civil conflicts fought since the end of World War II, including nearly all of the conflicts in which the United States and other Western countries have been involved (Kalyvas and Balcells, 2010). In this type of conflict, the lines of territorial control are not easily drawn and insurgents often operate under a veil of secrecy in the same areas where government troops patrol. Asymmetric conflicts, ranging from protracted

guerrilla movements to international interventions and counterterrorism, are the scope of this paper.

Non-combatants play a crucial role in insurgency because they have unique access to information about who insurgents are, where they operate, and when they engage in operations. In order for government troops to expose insurgents and exploit their significant advantage in sheer firepower, counterinsurgents must play a subtle game of coaxing information from civilians who live in the areas where insurgents operate. The importance of civilian behavior has long been recognized by insurgents and counterinsurgents alike. Guerrilla leaders argue that the most important determinant of their success is the ability to build an active mass base of civilian support (Mao, 1937; Guevara, 1961; Giap, 1961; Sison, 1970). While governments have sometimes adopted heavy handed counterinsurgency tactics that alienate civilians, there also exists a long line of classic counterinsurgency doctrine that advocates for undercutting insurgencies by winning civilian collaboration (Galula, 1964; Thompson, 1966; Trinquier, 1964; Kitson, 1971; Hunt, 1998). Many of the lessons of counterinsurgency stemming from these conflicts have received renewed attention in the face of the wars in Iraq and Afghanistan. Practitioners of counterinsurgency in these conflicts place utmost value on the role of civilians and draw heavily from classical counterinsurgency techniques to fight these modern wars (Petraeus, 2006; McMaster, 2008; US-Army, 2007, 2013). As a result, a massive amount of counterinsurgent resources are devoted to winning civilian hearts and minds. In this paradigm, the question of what makes counterinsurgency efforts effective essentially boils down to: What allows counterinsurgents to effectively elicit useful information from civilians? The existing academic literature provides two main answers (Berman and Matanock, 2015). Civilians are more likely to cooperate with counterinsurgents when they believe it will improve their prospects for 1) security and 2) economic development.

Security

First and foremost, civilians must determine the degree to which sharing information with counterinsurgents puts their security at risk. Counterinsurgents attempt to convince civilians that information-sharing has low short-term security risks and high long-term security benefits. One way to do this is to prevent civilian casualties. Governments and rebels are both more likely to successfully carry out military attacks following incidents of violence against civilians caused by the other side (Condra et al., 2010; Condra and Shapiro, 2012). Shaver and Shapiro (2016) find that civilians were significantly less likely to call in "tips" to American troops in Iraq following incidents that resulted in civilian casualties. Violence against civilians may reduce information sharing to both sides, but the evidence suggests that counterinsurgents are particularly susceptible to blame. Surveys in Afghanistan suggest that American troops see a disproportionate reduction in support relative to the Taliban as a result of civilian victimization (Lyall, Blair and Imai, 2013; Blair, Imai and Lyall, 2014).

In addition to their desire to avoid violence in the short-term, civilians must determine whether their long-term security interests are best served by sharing information with government troops. As a result, civilian support in a given area often shifts towards the side with military control or the side that civilians think is likely to win (Kalyvas, 2006). As a conflict actor's military strength in an area grows, they can more credibly threaten to retaliate against civilians who defect to the other side (either through arrest or more violent means). As mentioned in the US Army's 2013 counterinsurgency manual, "the likelihood of insurgent success is based in large part on [civilian] assessments of insurgent political and military strength" (US-Army, 2013: p.II-11). Studies in Iraq and Afghanistan show that development efforts are more likely to result in reduced violence when they are implemented in areas with strong coalition military presence (Berman et al., 2013; Sexton, 2016).

Economic Development

While security is likely to be civilians' primary concern, they must also consider whether conferring control to the government is likely to serve their economic interests. As a result, counterinsurgents often devote significant resources to implementing development projects in areas threatened by rebels. The COIN doctrine suggests that economic development can mitigate the types of grievances that lead to support for rebel movements (Gurr, 1971; Collier and Hoeffler, 2004) and increase the material incentives for civilians to share information (Popkin, 1979; Humphreys and Weinstein, 2008). Berman, Shapiro and Felter (2011) provide a formal model and find empirical evidence that counterinsurgency-related development projects led to a local reduction in violence during the Iraq war. Subsequent papers find support for the Berman et al finding using evidence from Colombia (Albertus and Kaplan, 2012), the Philippines (Crost, Felter and Johnston, 2016), and Afghanistan (Beath, Christia and Enikolopov, 2016), among others. While development interventions seem to play an important role in winning civilian hearts and minds in some cases, the effects of these programs are uneven and contingent on a number of other factors. For example, the size of development projects (Berman et al., 2013), the ethnic makeup of the counterinsurgent forces (Lyall, Shiraito and Imai, 2015), and the degree of civilian access to mobile technology, (Shapiro and Siegel, 2015; Shapiro and Weidmann, 2015) all impact on counterinsurgency success. In addition, because rebels may try to undermine the counterinsurgents' efforts to win civilian support, these interventions sometimes result in increased violence (Crost, Felter and Johnston, 2014; Sexton, 2016).[5]

The above literature illuminates important dynamics relating to the information-centric model of counterinsurgency, but important puzzles remain. Despite strong investment in COIN by governments around the world, results have been inconsistent across both time and space. In

[5]Both of the above categories of civilian concerns focus on their selective incentives for cooperating with counterinsurgents (Popkin, 1979). Civilians' ideological, ethnic, and religious commitments also undoubtedly influence whether they are willing to collaborate with one side or the other. However, assuming they are motivated at least in part by their own interests, cues relating to security and development may tip whether or not they choose to share information.

many cases, rebels have been able to maintain (or even strengthen) their presence in the face of significant government investment in security and development. I argue that existing research relies too heavily on the assumption that civilians believe that conflict actors' observable actions represent those actors' true intentions and abilities. Counterinsurgents have a strong incentive to misrepresent their broader military strength and commitment to economic development. Civilians in conflict zones are acutely aware of this fact and, as a result, are generally skeptical of counterinsurgent attempts to win their hearts and minds. How, then, do civilians overcome uncertainty about the credibility of counterinsurgent signals? I posit that civilian uncertainty is significantly reduced by relying on information received through their social networks.

1.3.1 Social Networks

The role of civilian social networks has been largely ignored, even by scholars who study social networks in civil conflict. To date, this literature has focused mainly on the role of social ties between combatants. For example, the social network structure between members of a rebel or terrorist group play an important role in the group's longevity and organizational capacity (Staniland, 2014; Krebs, 2002; Sageman, 2004). Social ties to existing combatants also play an important role in an individual's decision to join a rebel group (Humphreys and Weinstein, 2008; Wood, 2003; Petersen, 2001). At the macro-level, scholars have identified the role that ethnic, migration, and communication networks play in the spread of conflict across national borders (Lake and Rothchild, 1996; Salehyan and Gleditsch, 2006; Weidmann, 2015). Up until now, relatively little work connects civilian social network structures to conflict outcomes. Existing work in this area has mostly focused on how network structures and civil society institutions allow for increased collective action capacity and civilian agency (Petersen, 2001; Kaplan, 2013; Arjona, 2014; Rubin, 2016; Dorff, 2017). In this paper, I instead focus on how social networks condition the flow of information between civilians, thus affecting their assessment of conflict

actors.[6] This builds on the work of Larson and Lewis (2017*b*), who use a formal network model paired with an in-depth case study to show that variation in civilian network structures can affect perceptions of rebel group viability in the early stages of conflict. This also connects to studies by Greenhill and Oppenheim (2017) and Shesterinina (2016) who use qualitative evidence to show how the spread of information between civilians in conflict zones shapes the narratives they adopt.

1.4 Theory: Horizontal Information and Counterinsurgent Credibility

> *"For your side to win, the people do not have to like you, but they must respect you, accept that your actions benefit them, and trust your integrity and ability to deliver on promises, particularly regarding their security. In this battlefield, popular perceptions and rumor are more influential than the facts and more powerful than a hundred tanks."*
>
> – David Kilcullen (2010, p.43)

The above statement from David Kilcullen illustrates three important concepts. First, in order for counterinsurgents to persuade civilians to share information about insurgents, it is more important to convince them that sharing information is in their best *interests*. Second, in order for counterinsurgents to effectively make this appeal, they need to convince civilians that their promises are *credible*. Civilians in conflict zones are used to empty promises, and making a wrong move can be extremely costly. Finally, civilian perceptions of counterinsurgent credibility are driven in large part by word of mouth that spreads *between* civilians. These are the three core insights around which my theory is built.

[6] Other scholars have shown that civilian social networks affect information flows that have a big impact on other forms of political mobilization, such as the buildup of revolution (Lohmann, 1993; Kuran, 1991; Steinert-Threlkeld, 2017) and voter turnout (Nickerson, 2008; Bond et al., 2012)

1.4.1 The Credibility Puzzle

As outlined in the previous section, civilian information-sharing with counterinsurgents is directly related to expectations regarding future military control and levels of service provision. The basic logic of the COIN model is that government services signal to civilians that their lives will improve as a result of sharing information with counterinsurgents. However, civilians in villages targeted with counterinsurgency are keenly aware that counterinsurgents are trying to win their support with short-term improvements to security and development. Given counterinsurgents' incentive to misrepresent their willingness and ability to provide long-term, sustainable improvements, why should civilians believe that sharing information about insurgents today will actually improve their lives and address their grievances tomorrow? Because they may doubt the credibility of signals they receive directly from conflict actors in their village, civilians face a high degree of uncertainty over how their actions will impact future security and development. In more specific terms, civilians are uncertain about government *incentives to renege* on its promises after receiving information about insurgents. This problem is worsened by two additional factors. First, sharing information with counterinsurgents is an extremely high-risk behavior and the safest strategy for civilians is to simply remain silent. Second, civilians in conflict zones have often been burned before by empty promises to end the war and extend economic services.

In order to overcome some of their uncertainty, I argue that civilians rely on horizontal information flows from neighboring villages. As described in more detail in the following pages, patterns of military control and economic services in surrounding villages can reduce civilian uncertainty about the consequences of sharing information with counterinsurgents in their own village. First, regarding security, if the government already has military control of neighboring villages, cooperating with government troops is likely to help expel insurgents from the area for good, leaving insurgents without the opportunity to launch attacks from neighboring areas as retribution. Second, regarding economic services, observing development efforts beyond just one's own village, including in areas already under government control, provides a signal of

broader government commitment to development efforts.

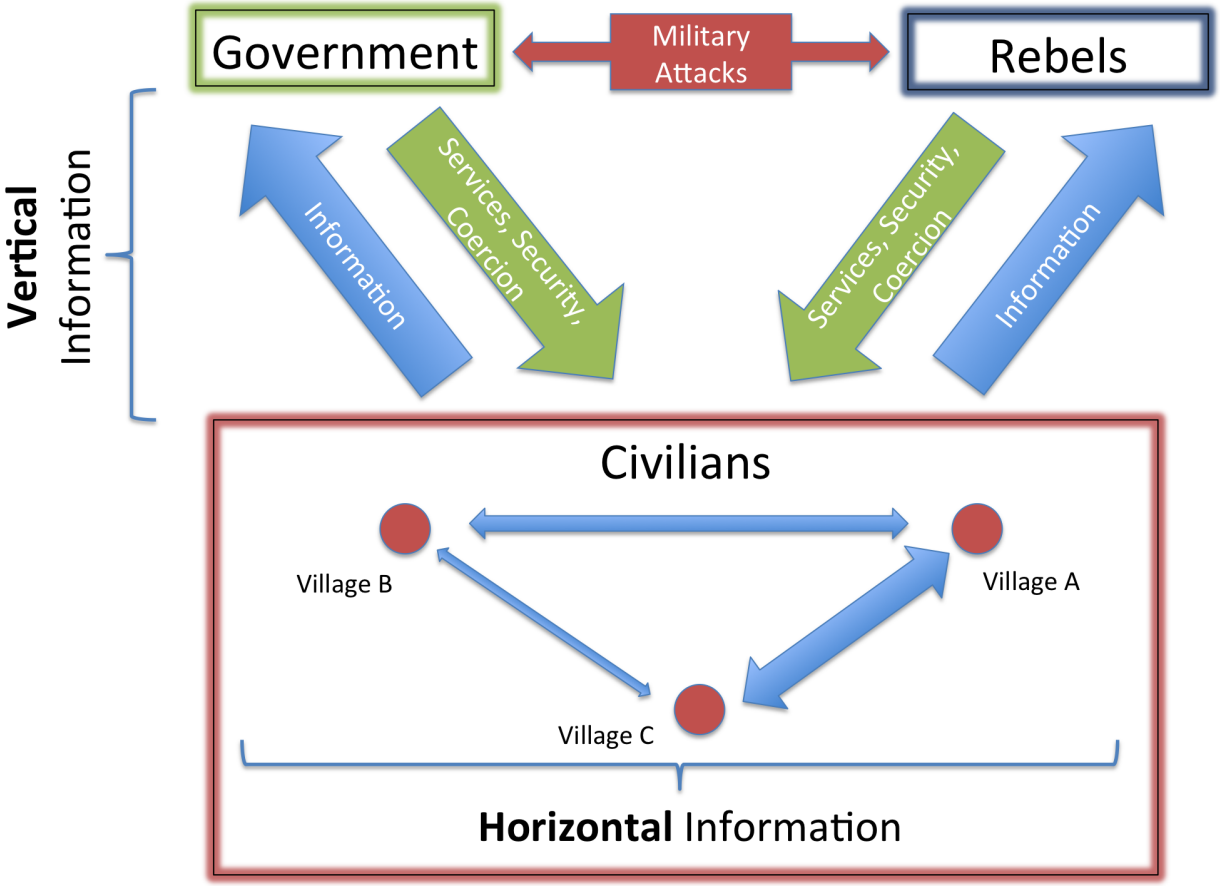


Figure 1.1: Theory Overview

By collecting information from surrounding villages, civilians get a clearer picture of the "bundle of goods" provided by counterinsurgents as part of COIN operations. Figure 1.1 represents the logic behind this model. In the traditional model of counterinsurgency, the only information available to civilians regarding the costs and benefits of sharing information with counterinsurgents is the bundle of services, security and coercion provided directly by conflict actors in their village. Based on how this bundle affects their perception of whether cooperating with troops would improve their lives, civilians decide whether to provide information vertically to conflict actors. In my conception, information about the bundle of goods provided by conflict actors spreads horizontally between villages, allowing civilians to reduce uncertainty about

whether cooperating is in their best interests. In the rest of this section, I discuss the specific role that civilian social networks play in the spread of this horizontal information between villages. I then discuss how horizontal information flows allow civilians to overcome uncertainty particularly as it relates to 1) security and 2) development.

1.4.2 Social Networks and the Spread of Credible Information

Given that horizontal information about the security and development status of neighboring villages can significantly reduce civilian uncertainty over counterinsurgent credibility, how can civilians attain this information? Government troops and rebels both "trumpet their victories and attempt to hide their defeats" in the surrounding area but civilians have to take these claims with a large grain of salt (Kalyvas, 2006: p.149). News reports received via television or the radio (if civilians even have access to these mediums) are often also controlled by conflict actors. In addition, most reputable news reports are not fine-grained enough to provide information on military control and development projects in the immediate vicinity. In this vacuum of reliable information, word of mouth that spreads through social networks is particularly valuable. This is the case for two main reasons: *availability* and *credibility*. First, because one's friends and family members are most likely to be the people that one talks with on a regular basis, they are simply the most easily available source of information.[7] Second, information relating to conflict that is received through social networks is more trustworthy because friends and family members are more likely to have one's best interests in mind. Simply discussing topics relating to insurgency with the wrong person could be dangerous, so the perception of aligned interests makes it more likely that people with close social ties will converse about sensitive topics. All of this is not to

[7] In conflict zones, and the developing context more generally, information still spreads primarily through direct personal conversations. For example, recent findings in Honduras (Kim et al., 2015) and Uganda (Larson and Lewis, 2017*a*) find that experimentally-seeded information in rural areas systematically spreads through social networks via word-of mouth.

say that information that spreads through social networks is accurate in all cases.[8] Nevertheless, because information stemming from actual observations of insurgent presence or development projects acts as a "seed" that kick-starts chains of information spread, word of mouth often carries meaningful information.

1.4.3 Horizontal Information and Security

The first core proposition of this paper is that counterinsurgency effectiveness is shaped by horizontal information about military control in surrounding villages. The foundation of this section is the idea that levels of military control shape civilian cooperation (Kalyvas, 2006).[9] However, military control in a given village cannot explain counterinsurgency success on its own. The theory in this paper aims to explain how villages starting with the same level of government military control reach divergent outcomes. In two villages, each of which has an active insurgent presence, what determines which village counterinsurgents are more likely to flip to government control? Similarly, in two villages, each currently under government control, what determines which village is likely to be held and which is susceptible to future insurgent infiltration?

The credibility of counterinsurgent promises to provide long-term security is affected by rebel presence in the surrounding area because it affects government costs of providing security to inhabitants of a village after troops gain control. Civilians might expect that tips they provide to troops will help counterinsurgents clear their own village of rebel presence, but if the rebels remained strong in the surrounding area they would still be under constant threat of retaliation. It would be very costly (and perhaps infeasible) for government troops to protect civilians around the clock, giving them a strong incentive to renege on the promise to provide sustained security.[10]

[8] As with a game of telephone, political information can be distorted as it spreads through social networks (Carlson, 2017).

[9] For Kalyvas, military control signals the credibility of retaliatory threats and long-term security promises much in the way I discuss them in this paper: "Control signals credibility – both the short-term credibility of immediate sanctions, as well as the long-term credibility of benefits and sanctions based on expectations about the outcome of the war. Civilians would rather side with the (expected) winner than the loser" (p.148-149).

[10] On the flip side, civilians may be hesitant to collaborate with rebels if there is strong government military control

Civilians face an even greater threat if rebels are able to regain an active presence in their own village. Having friends or family members in a nearby village also lowers the costs of rebel retaliation (and increases the costs for the government to protect cooperators) by allowing rebels to directly retaliate against one's loved ones in areas where they retain presence. On the other hand, if rebels are weak in the surrounding area, it would be take little work for troops to hold and secure a village where they gained military control. Civilians are unlikely to be able to accurately assess broader military strength on their own, and thus rely on information from other civilians who directly experience the level of government control in areas where they live.

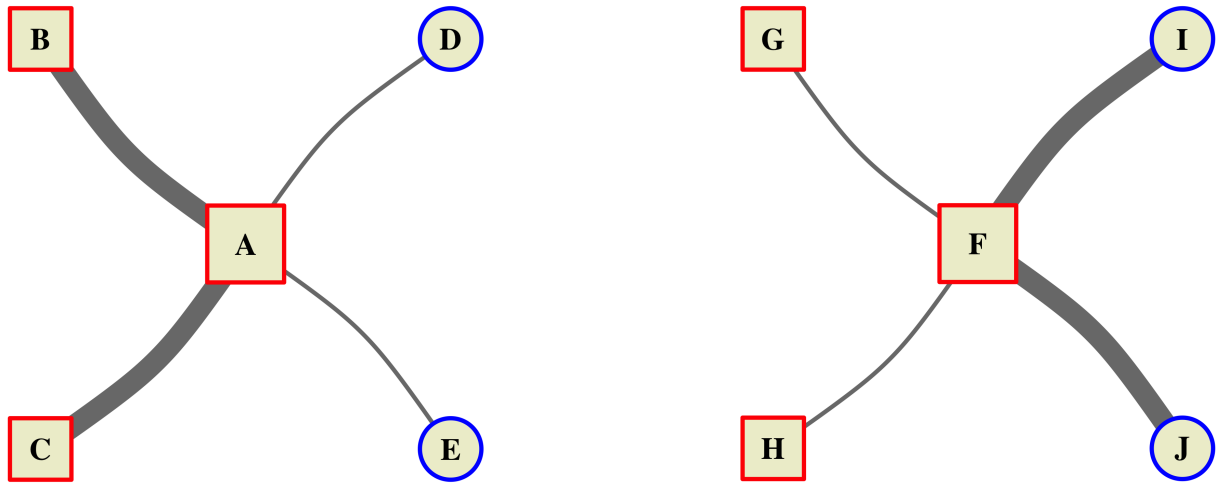
To illustrate this dynamic, consider the positions of villages *A* and *F* in Figure 1.2. Rebels are currently present in both villages (red squares). Both villages also have four neighboring villages, two of which have rebel presence and two of which are under government control (blue circles). Finally, both villages have strong social ties to two of the villages in their vicinity (thick lines) and weak ties to the other two villages. The only difference between villages *A* and *F* is the level of government military control in the villages to which they have strong social network ties. Civilians in village *A* are less likely to receive information about rebel presence in villages *D* and *E* compared to villages *B* and *C*, where they have many friends and family members. As a result, civilians in village *A* are more likely than civilians in village *F* to estimate that insurgents will maintain a strong presence in the area, even if they choose to share information with counterinsurgents in the present period.[11]

One might argue that what really matters to civilian security is the level of military control in areas that are *geographically* proximate to a given village.[12] Previous research finding

in the surrounding area. Elliot (2003) hints at this dynamic using the example of two neighboring villages in Vietnam: "Once Vinh Kim fell under the control of the Front, Ban Long's security would be assured and the tasks of motivating the people (meetings, celebrations, labor recruiting) would be carried out freely and easily. On the other hand, if Vinh Kim was under GVN control, Ban Long would have to pay a lot of attention to safeguarding itself from traitors, keeping secrets, and defending itself" (p. 268). Quoted in Kalyvas (2006).

[11] While in the hypothetical example outlined above each village is only connected to a small number of other villages, in reality there are likely to be dozens or even hundreds of villages within the vicinity of any one village. The more complex the actual social terrain, the more people become dependent on information they receive from the specific social contacts that they are likely to talk to and trust.

[12] By this argument, having an active presence in areas that directly neighbor a village targeted with counterinsur-



(a) Strong Family Ties to NPA Villages

(b) Strong Family Ties to Gov't Villages

Figure 1.2: Toy Example - Security

Squares (outlined in red) represent rebel-held villages and circles (outlined in blue) represent government-held villages. Edges represent family ties between villages and are weighted by the density of ties. Because of information flows about rebel presence, I predict that counterinsurgency operations are more likely to be effective in Village *F* than in Village *A*

the geographic clustering of rebel control supports this understanding (Weidmann and Ward, 2010; Schutte and Weidmann, 2011). The theory I put forth in this paper does not exclude the possibility that mechanisms driven by geographical proximity are also at play. Instead, I argue that controlling for the geographical distance between a pair of villages, levels of military control in one village are more likely to have an effect on counterinsurgency operations in the other village when those villages are connected by strong social network ties. Following this discussion, I put forth the following hypotheses:

H1: All else equal, counterinsurgents will be more effective at gaining (or maintaining) military control of a village as the proportion of nearby villages already under government military control increases.

H2: All else equal, counterinsurgents will be more effective at gaining (or maintaining) military

gency allows rebels to more credibly threaten that they will regain military control or retaliate against civilians. At the same time, counterinsurgents may be able to use geographically proximate villages already under their control as a base from which to launch military operations. Civilians may also have greater access to information about patterns of military control in nearby villages, regardless of the number of friends or family members who live there.

control of a village when civilians in that village have a greater density of social network ties to specific villages under government control.[13]

The key variable driving counterinsurgency effectiveness in these hypotheses is the *interaction* between social ties to a nearby village and the level of military control in that village. Higher levels of rebel presence in the vicinity of counterinsurgency operations influence their effectiveness (H1), but the degree to which this rebel presence matters is driven by whether individuals in targeted villages have social ties to the specific areas where rebels are present (H2). In addition, these hypotheses suggest that the nature of military control in surrounding villages (and the nature of social ties to those villages) can either bolster OR undercut counterinsurgent success. Compared to a village that is completely isolated, a village with strong rebel presence in the surrounding villages (and strong social ties to those villages) would experience *less* effective counterinsurgency. Meanwhile, a village with strong government presence in the surrounding villages (and strong social ties to those villages) would experience *more* effective counterinsurgency compared to an isolated village.

1.4.4 Horizontal Information and Development

The second core proposition of this paper is that counterinsurgency effectiveness is shaped by horizontal information about development outcomes in surrounding villages. To boil this idea down to a highly simplified version, civilians are uncertain about the government's true preference for long-term development, which I refer to as the government's *type*. The government may be the "good" type that has a genuine concern for poverty alleviation, is motivated by incentives to continue long-term development, and has the capacity to overcome local corruption. On the other hand, the government may be the "bad" type that cares about defeating insurgents but is only concerned about development as an immediate means to that end. This latter type faces higher

[13]The analog of this hypothesis is that rebels will be more effective at gaining (or maintaining) military presence in a village when civilians in that village have a greater density of social ties to nearby villages with rebel presence.

costs for continuing to provide extensive economic services after it accomplishes its primary goal of defeating insurgents, giving it a strong incentive to renege on development promises once it gains military control. However, because even the "bad" type still needs civilian support to defeat insurgents, both types of government are willing to pay at least some costs towards development efforts while rebels are present. This leaves civilians in rebel-held villages unable to distinguish government type based on the observation of several small-scale development projects. In reality, government type is certainly not a black and white concept, but the basic logic holds even if government type is more nuanced. Factors that lead citizens to believe that the government is closer to one of the ideal types could tip the scales towards or against them cooperating with counterinsurgents.

Because credible information regarding government type is difficult to attain directly from the actions of counterinsurgents in one's own village, I argue that civilians again rely on horizontal information coming from social contacts in neighboring villages. When civilians hear from their friends and family members in neighboring villages that they are also receiving the benefits of government services, they are more likely to accept that the counterinsurgency efforts are a genuine representation of government type. The more places where development efforts are being successfully implemented, the more costly it is for the government to invest in these programs and the more likely it is that these programs can overcome local corruption on a broad scale. This is especially true when projects are also directed at villages under government military control, giving civilians a window into what life might be like if insurgents are expelled. On the other hand, if civilians in a rebel-affected village are under the impression that their village is the only one in the area receiving a development project, they will be less likely to accept that the government is the type that will invest in economic services after the rebels are defeated. In short, civilians' perception of broader development patterns, driven by the experiences of those in their social network, allows them to "separate" the good and bad government types.

One might argue that because it wants to maintain control of at-risk villages, even a

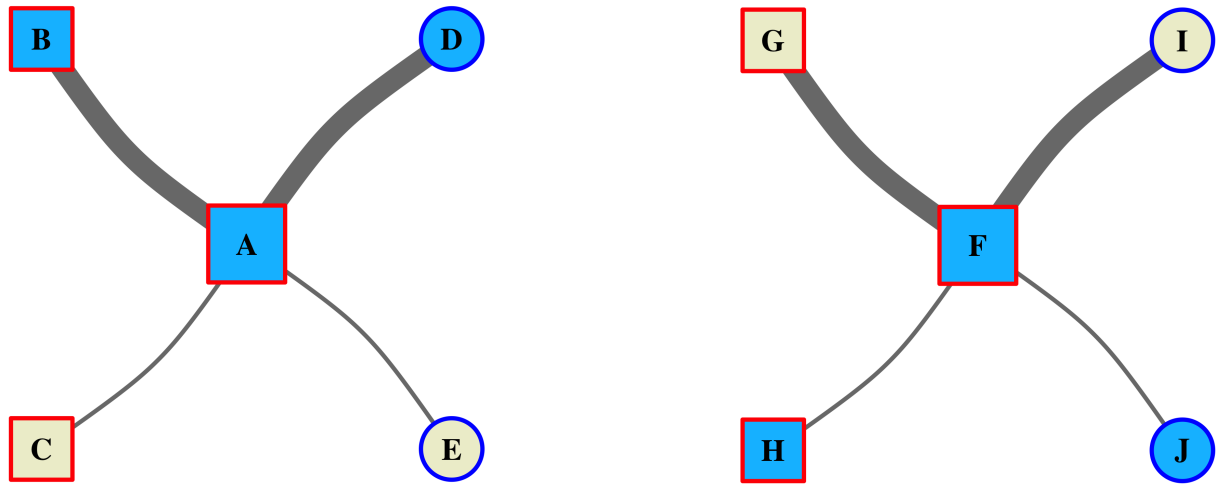
government that cares only about defeating the rebels has incentives to provide economic services after establishing military control. This may be true to a certain extent, but I argue that the government's incentive to continue providing costly economic services is indeed reduced after gaining control of a village.[14] This is due to the high cost to civilians associated with returning to rebel rule. If civilians choose to take the risky step of sharing information with counterinsurgents and the rebels are expelled, the village enters a new equilibrium. If the rebels return, they will likely retaliate against the community for cooperating with troops.[15] In other words, civilians have a strong status quo bias. It is difficult for counterinsurgents to convince civilians that sharing information with troops is worth the risk in the first place, but it is also extremely costly for civilians to go back to how life was before. Knowing this, the government can safely pull back on the level of services without risking that civilians will throw their support back to the rebels.

To illustrate the dynamic described above, consider the hypothetical example in Figure 1.3. Villages *A* and *F* are in very similar situations except for the strength of social ties to other villages in the vicinity where development projects are implemented. In both villages, rebels are present (red square) and development projects are implemented (blue shading). In addition, both villages have four neighboring villages, two of which are influenced by rebels and two of which are under government control (blue circles).[16] In this case, the only difference between the two villages is that village *A* has strong social network ties to the two other villages (*B* and *D*) that also receive development projects. Meanwhile, village *D* has strong ties to the two villages that do NOT receive development projects (*G* and *I*). As a result, I predict that civilians living in

[14] One might also question whether it is really costly for the government to provide basic services to these post-conflict areas. I argue that this is in fact the case. For example, the US Congress appropriated $104 billion towards infrastructure development in Afghanistan between 2002 and 2014 (DOD, Special Inspector General for Afghanistan Reconstruction (SIGAR) Report, 2015). Perhaps more important than the actual cost of the projects is the bureaucratic structure needed to organize their implementation. Local governments are often highly corrupt, meaning that the national government needs to invest heavily in monitoring to ensure effective implementation.

[15] As Kalyvas (2006) notes, "because switching sides is a dramatic and consequential act, the harshest punishment appears to be reserved for those who switch at crucial junctures in the conflict – especially for village leaders or even entire villages" (p.128).

[16] Unlike in Figure 1.2, both villages are also similar in that they have one strong tie to a rebel-influenced village and one strong tie to a government-controlled village.



(a) Strong Family Ties to Development

(b) Weak Family Ties to Development

Figure 1.3: Toy Example - Development

Squares (outlined in red) represent rebel-held villages and circles (outlined in blue) represent government-held villages. Edges represent family ties between villages and are weighted by the density of ties. Nodes shaded in blue represent villages receiving development projects. Because of information flows about development, I predict that counterinsurgency operations are more likely to be effective in Village *A* than in Village *F*.

village *A* would be more likely to find the projects implemented in their own village as a credible representation of the government's type and, as a result, counterinsurgents would be more likely to win control of village *A* relative to village *F*. In more general terms:

H3: All else equal, counterinsurgents will be more effective at gaining (or maintaining) military control of a village as the proportion of nearby villages receiving development projects increases.

H4: All else equal, counterinsurgents will be more effective at gaining (or maintaining) military control of a village when civilians in that village have a greater density of social ties to nearby villages receiving development projects.

Similar to the hypotheses regarding security, the key variable driving counterinsurgency effectiveness is the *interaction* between social ties to a nearby village and the implementation of development projects in that village. One might argue that experiencing repeated projects over time is a more credible signal of government type than concurrent projects taking place in

surrounding villages. While this may be true to some extent, memories fade, and the effects of projects that occurred in previous years are likely to suffer from a certain degree of time decay. Thus, I expect that earlier projects (both in one's own village and in other nearby villages) are likely to have a weaker effect on civilian perceptions than more recent projects. I account for this possibility using different lag structures on the key independent variables in the empirical section. These results can be found in the Appendix.

1.4.5 Alternative Explanations

Before turning to the empirical section of this paper, a few issues undiscussed up to this point are worth mentioning. First, while this paper has focused primarily on the perspective of counterinsurgents, rebels also have important strategies they can employ to shape civilian behavior. Similar to counterinsurgents, rebels have an incentive to display military strength. The same hypotheses regarding security could be phrased from the rebel perspective, where rebel effectiveness to hold or gain territory is driven by civilian perceptions of their strength shaped by observations of individuals in their social networks who live in nearby villages. Rebels also often provide a suite of services to civilians living in areas where they operate, many of which resemble something similar to the development services provided by the government. However, because of the nature of asymmetric conflict, the government can often "outbid" rebels in this realm. The question of whether government services can win civilian hearts and minds thus essentially boils down to whether civilians trust that these higher-capacity government services are actually likely to benefit them. If not, they may still prefer the more rudimentary rebel services.[17]

Second, though I focus primarily on civilian social networks, other factors certainly shape whether counterinsurgency is successful. For example, the ruggedness of geographic terrain and forest cover improve rebels' capacity to stay hidden, even without substantial civilian

[17]These government and rebel services may also benefit different people. However, assuming some overlap, as long as government services convince *enough* people with knowledge of the rebels that their interests are best served by sharing information, the logic of the argument holds.

support (Fearon and Laitin, 2003; Tollefsen and Buhaug, 2015). Increased access to natural resources can strengthen insurgent capacity, allowing them to better control certain territory (Ross, 2004; Berman et al., 2014; Dube and Vargas, 2013). Factors that shape civilian grievances or capacity for rebellion, including ethnic or religious divides (Cederman, Weidmann and Gleditsch, 2011), unemployment (Berman et al., 2011), or economic marginalization (Collier and Hoeffler, 2004) could affect propensity to collaborate with counterinsurgents. Similar to explanations of geographic diffusion, any or all or these factors could play a role in patterns of military control. My hypotheses are ceteris paribus claims about how social network structures can influence counterinsurgency given these geographic, economic, and identity-based features of an area. Many of the existing alternatives rely on relatively static explanations that cannot on their own describe fluid changes to counterinsurgency success. The hypotheses outlined above better account for dynamic shifts to patterns of local security and development.

1.5 Research Context: Rebellion in the Philippines

The empirical section of this paper examines how civilian social networks impact counterinsurgency in the Philippines. The Philippines has experienced two separate simmering conflicts since the late 1960s. Both conflicts claim hundreds of lives per year on average, and thousands of villages across the country continue to be influenced by insurgents. The first major insurgency is composed of the Communist Party of the Philippines and its military wing, the New People's Army (NPA). The second is composed of various Muslim separatist groups concentrated in the Moro provinces of western Mindanao, the southernmost major island of the Philippines.[18] Due to data availability considerations, this paper focuses specifically on the communist NPA. During the first fifteen years of this century, the NPA conflict has been responsible for more than two-thirds of the insurgent-related violence in the Philippines (Crost, Felter and Johnston, 2014;

[18]These groups include the now-dominant MILF, MNLF, Abu Sayyaf, BIFF, and the Maute Group.

ConflictAlert, 2016).

Details of the NPA Conflict

The NPA was founded by Jose Maria Sison, a teaching assistant at the University of the Philippines, in 1969. This movement had roots in previous instances of peasant resistance, such as the Hukbalahap Rebellion of the 1940s and 1950s (Kerkvliet, 1977) and resistance to periods of Spanish and American colonial rule. Despite the implementation of martial law by the Ferdinand Marcos regime in 1972, Sison's movement slowly grew through the 1970s and took off in the 1980s. The central political focus of the movement was economic grievances of rural peasants. By the end of Marcos' tenure in the 1986, the Armed Forces of the Philippines (AFP) estimated that insurgents reached 25,000 active fighters and were present in over 8,000 of the approximately 42,000 villages (*barangays*) nationwide (Felter, 2006). In the decade following the overthrow of Marcos in 1986, insurgent strength dipped sharply. A number of factors contributed to waning communist influence. With a democratic alternative, the end of the Cold War, and the continuing refusal of rebel leadership to negotiate with the regime, civilian support for the communists dropped substantially and the NPA began a brutal internal purge. In addition, the end of the Marcos era saw the military adapt its counterinsurgency tactics from heavy handed "search and destroy" missions to an approach that more closely resembled COIN (Corpus, 1989).[19] Though their influence continued to dip through the 1990s (at its low point in 1995, the NPA retained its presence in only a few hundred villages), the rebels made a comeback during the 2000s, regaining influence in over 5,000 villages by 2011. Geographically, the conflict is widespread (Figure 1.5) and, recently, the most active areas of the conflict have been in Eastern Mindanao (International-Crisis-Group, 2011).

[19] A new counterinsurgency manual, written by general Victor Corpus, outlined the strategy of *Lambat Bitog*, focusing on first gaining civilian support before initiating military operations. Corpus, a former NPA rebel and one of Sison's original followers, became disillusioned with the communist movement after over six years of fighting, and turned himself in to the government in 1976. After spending a decade in a government prison, Corpus joined the AFP, rose to the rank of Brigadier General, and implemented his philosophy of fighting the communists using the same social organization tactics used by the NPA.

For the duration of the conflict, the balance of military power has been highly asymmetric in favor of the government and the rebels have operated primarily in areas that are poor and rural. During its heyday, the NPA maintained a high degree of ideological cohesion and received high levels of civilian support, especially among poor farmers. The main grievances claimed by the rebels and their supporters were inequality, exploitation by landowners, and government failure to implement meaningful land reform.[20] The rebels provided a variety of services in villages where they operated, including forced land redistribution, dispute resolution, and basic medical care. During this period, the NPA maintained legitimacy with little need for coercion (Jones, 1989). However, due to improving economic conditions, reduced agricultural-sector employment, and reduced international legitimacy of the communist philosophy, rebels have since lost much of their ideological roots. They still provide some basic services in villages where they operate, but the NPA is less centralized and relies more heavily on "revolutionary taxes" extracted from large businesses and mining companies. They also display an increasing reliance on the threat of coercion.[21]

Why the Philippines?

The Philippines is a good case with which to test broader COIN doctrine for a number of reasons. First, the military's strategy used in the fight against the NPA is highly aligned with the model of counterinsurgency used to fight insurgents and terrorists in places like Afghanistan, Iraq, India, Pakistan, and Colombia, among others. In addition to the inspiration that Philippine military leadership has taken from these contexts, American military advisors have been actively involved in assisting the AFP to fight extreme Islamist groups as well as the NPA. The AFP uses similar counterinsurgency tactics in its fight against these groups, including Abu Sayyaf,

[20]For example, much of the land that was promised to be redistributed as part of the massive Comprehensive Agrarian Reform Program (CARP) ended up back in the hands of the powerful landowners through a variety of means Borras Jr (2001).

[21]Details in this paragraph were gathered during three months of fieldwork in Sorsogon Province, an area of the country with a highly active NPA presence. I conducted semi-structured interviews with civilians, military personnel, and former rebels.

the Maute Group, and BIFF, all of which have declared support for ISIS and are rumored to receive strategic and operational support from members of its organization. Because the tactics used in the fight against the NPA are tightly aligned with those used in other policy-relevant contexts, the lessons learned from this study are likely to be applicable to counterinsurgency and counterterrorism more broadly.

Further, the Philippines presents a truly unique data opportunity to test the relationship between social networks and counterinsurgency. Reliable, large-scale social network data is hard to come by in most contexts, let alone a context with contemporaneous conflict data. As described below, I combine data on individual-level family ties between over 55 million civilians with very fine-grain, village-level panel data on military control. In the rural areas of the Philippines where the NPA operates, social and political structures are centered specifically around families. A rich history of anthropological work in the Philippines illuminates the importance of family ties for political mobilization (McCoy, 2009). This is supported by a growing empirical literature on the impact that family network structures have on political phenomena such as dynastic politics (Querubin, 2016), clientelism (Davidson, Hicken and Ravanilla, 2016; Cruz, Labonne and Querubin, 2017; Ravanilla, Haim and Hicken, 2018), patronage (Fafchamps and Labonne, 2017*b*) and the quality of policing (Haim, Davidson & Nanes, 2017; Haim, Nanes & Ravanilla 2017). It is these same family ties that are likely to carry the information with the biggest impact on outcomes related to insurgency. During fieldwork I conducted in Sorsogon Province from January-March 2017, I asked many civilians what areas were most affected by the NPA. When I asked civilians where they came by the information they relayed to me, nearly every individual mentioned a sibling, cousin, or other family member in the area.

Finally, in areas of the Philippines affected by the NPA conflict, traditional identity divides like religion and ethnicity are not particularly salient. Thus, unlike in places where family relationships would be hard to distinguish from ethnic or religious ties, the Philippine context allows for a detailed examination specifically of social network mechanisms. Lessons from this

case can illuminate some of the micro-level mechanisms underlying processes that might be falsely attributed to ethnicity or religion in these other contexts.

1.6 Data and Methods

To test the hypotheses in the previous section, I investigate village-level heterogeneity in the effectiveness of counterinsurgency efforts against the NPA over the 2010-2015 period. I begin by describing the dependent variable (counterinsurgency effectiveness) before turning to data on economic development programs and family ties. I conclude this section with a description of the empirical research design.

1.6.1 Dependent Variable: Counterinsurgency Effectiveness

To measure the effectiveness of counterinsurgency efforts (my key dependent variable), I use village-level data on rebel influence as coded by year-end military intelligence reports. Each village in the country is coded on a three-point scale (0-2) by military intelligence officers, where 0 indicates a "clear" village, 1 indicates a "threatened" village and 2 indicates an "influenced" village.[22] "Influenced" villages are ones in which the rebels regularly operate and their political branch is considered to have an active party organization. If rebels regularly travel through the village and interact with civilians but do not have an active party organization, the village is considered "threatened."[23] As seen in Figures 1.4 and 1.5, the military made significant progress in reducing NPA presence over the 2011-2015 period. At its peak in 2011, the NPA regularly operated in 5,354 of 42,036 villages (12.7%) nationwide, including 1,162 villages where it had established an active party organization. Over the subsequent four years, the military was able to

[22]The AFP produces a 4-point version of this scale that separates "influenced" and "less influenced" villages. These data are incomplete for multiple years of the 2010-2015 panel so I use the 3-point version.

[23]The details of this coding were described to me by Paul Escobar, Area Coordinator for the Bicol-Quezon-Mindoro region of PAMANA. Interview conducted on March 7, 2017.

clear rebel presence in nearly two-thirds of these villages, down to a low of 1,913 in 2015. The majority of this progress occurred among previously "threatened" villages.

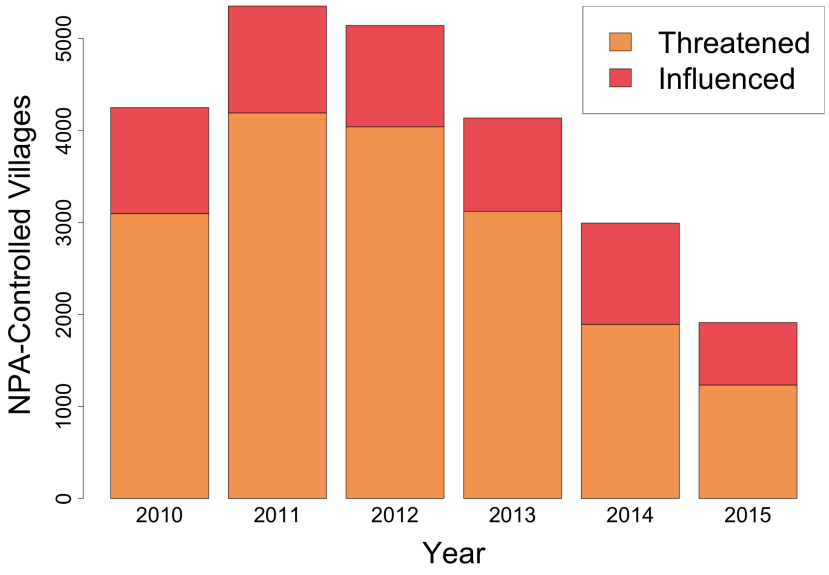


Figure 1.4: Number of Rebel-Influenced Villages, 2010-2015

The y-axis represents the raw number of villages that are either "influenced" or "threatened" by NPA rebels in a given year. The total number of villages in the Philippines is 42,036.

Figure 1.4 displays aggregate trends, but my key dependent variable is measured at the village-level. I operationalize counterinsurgency effectiveness in a given village based on the level of NPA presence relative to the previous year by controlling for a lagged measure of NPA presence.[24] While the overall trend suggests largely successful counterinsurgency operations, there were also areas of the country where the NPA gained ground. Of the 1,913 villages affected by the NPA in 2015, 417 (21.7%) were newly-affected villages where the rebels were not present in 2011. In addition, several hundred villages were cleared and then re-affected. I define overall counterinsurgency success as the government's ability to both gain AND maintain military control of villages.

[24]Because most observations do not experience a change in NPA influence relative to the previous year, I also include a model run only on the subset that did experience a change and all results hold.

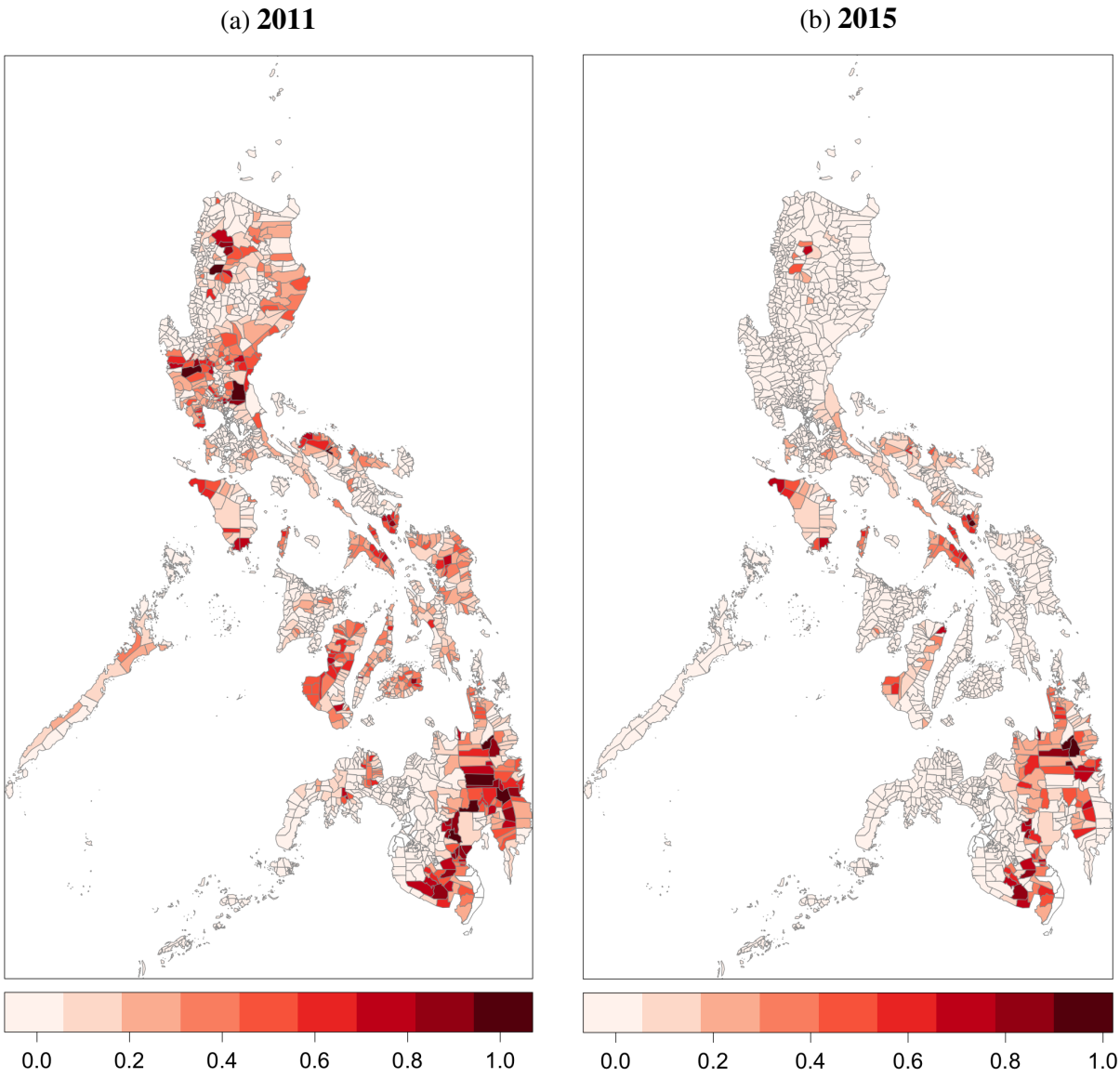


Figure 1.5: National NPA Presence, 2011-2015

Geographic units in the maps are municipalities and cities. On average, these encompass 26 villages. Shading represents the proportion of villages in each municipality that is either influenced or threatened by the NPA.

It is important to note that using changes in rebel *presence* to operationalize counterinsurgency effectiveness diverges from most other papers on this topic. Most papers investigating empirical patterns of counterinsurgency use changes in *violence* as the dependent variable.[25] While this is certainly an important outcome in its own right, governments may be willing to sacrifice some violence in exchange for removing rebel influence. In addition, defining the success of counterinsurgency by levels of violence is problematic due to the highly non-linear relationship between control and violence (Kalyvas, 2006). Because eliminating rebel presence is the ultimate goal of counterinsurgency practitioners, using rebel presence as the dependent variable also has increased policy relevance. Finally, these fine-grain data on rebel presence allow me to operationalize military control in surrounding areas, which is a key independent variable in this study.

One potential concern of using military-coded levels of NPA presence is that the data may be manipulated for political purposes. As noted in the theory section, the military has an incentive to show they are "winning" the conflict in order to persuade more civilians to cooperate. However, this concern is mitigated for two reasons. First, because these intelligence assessments are internal to the military and not intended for public dissemination, there is less risk that these numbers are intentionally manipulated to shape public perceptions of military strength.[26] Second, while the study period of this paper shows a significant reduction in rebel influence, the military has been collecting these data since at least the 1970s. From the period from 1995-2010, the number of rebel-affected villages steadily increased according to these same intelligence assessments (Felter, 2006).

[25]This includes studies in Iraq (Berman, Shapiro and Felter, 2011; Shapiro and Weidmann, 2015), Afghanistan (Beath, Christia and Enikolopov, 2016; Sexton, 2016), the Philippines (Crost, Felter and Johnston, 2014, 2016), and Colombia (Albertus and Kaplan, 2012; Kaplan, 2013), among others. The most prominent exception is Crost, Felter and Johnston (2016), who use data on rebel presence, but at more highly aggregated units.

[26]These data were shared with me by the Presidential Advisor on the Peace Process (OPAPP).

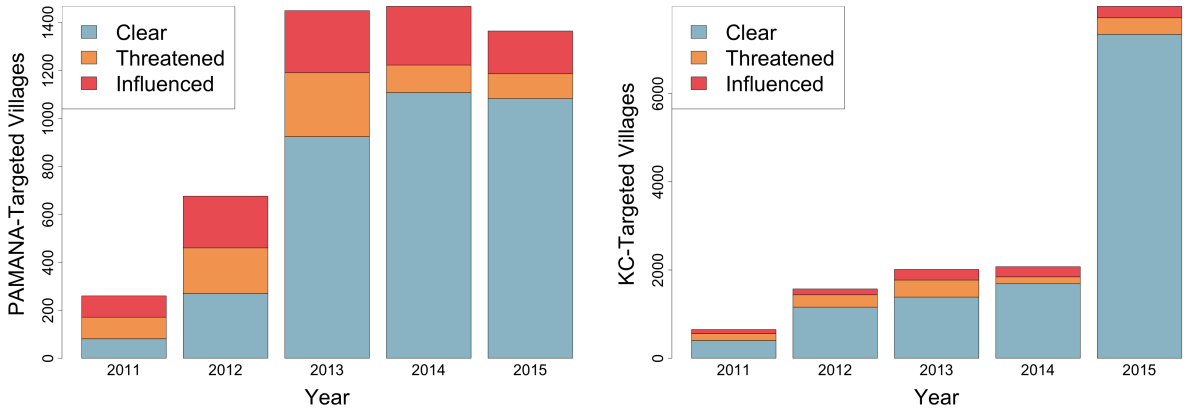
1.7 Economic Development Programs

In order to assess the effectiveness of economic service provision on counterinsurgency efforts, I introduce two project-level datasets on development spending by the Philippine government. The first program, PAMANA, constitutes development spending that is specifically earmarked for the purpose of improving government legitimacy in conflict zones. The second, KALAHI-CIDDS (henceforth KALAHI), is the Philippine government's flagship community-driven-development program aimed at poverty alleviation.

1.7.1 Counterinsurgency-Specific Development (PAMANA)

In 2010, the newly elected administration of Benigno "Noynoy" Aquino came in with a goal of reversing negative trends in the NPA conflict. In order to do this, they attempted to consolidate and coordinate a variety of types of development spending with the explicit purpose of reducing conflict - a project they called PAMANA (which is an acronym for a phrase that translates to "peaceful and resilient communities"). The project was inspired by the counterinsurgency tactics employed by the US military in Iraq and Afghanistan. Money for the program is first allocated to the Office of the Presidential Advisor on the Peace Process (OPAPP) and then distributed to a variety of implementing government agencies. The types of projects funded by PAMANA fall under three broad "pillars," all aimed at connecting hard-to-reach communities to basic government services. The allocation process is as follows: First, OPAPP representatives, military officers, and elected Provincial officials coordinate to select municipalities that are affected by conflict. OPAPP and the military then confer with municipal leadership to select critical villages and coordinate with the village leadership to determine the types of projects that are most needed in their community. Finally, OPAPP channels funds to one of 13 government agencies that implement the projects in collaboration with local contractors, military personnel,

and members of the community.[27]



(a) PAMANA (b) KALAHI

Figure 1.6: PAMANA and KALAHI Targeting Based on NPA Affectation

The above figures show the distribution of PAMANA and KALAHI project targeting as a function of the level of NPA affectation (by year). For PAMANA, approximately 66% of all projects were targeted at villages that were "clear" of NPA presence.

Even though the types of projects implemented by PAMANA may seem relatively small, they constitute, on average, around 10-20% of the annual village budget. Over the 2011-2015 period, 5,847 projects were targeted at 2,185 villages (2.7 projects per selected village) and most projects were implemented in less than a year. Importantly, only about one-third of projects were implemented in villages with concurrent rebel presence (see Figure 1.6, left panel), though more than 90% of projects were targeted at *municipalities* with rebel presence. Of villages that were either threatened or influenced by the rebels and targeted directly by projects, 23% experienced reduced NPA presence in the following year.

[27]The most common implementing agencies are the Department of Social Welfare and Development (DSWD), the Department of Interior and Local Government (DILG), the Department of Agriculture (DA), and the Department of Agrarian Reform (DAR).

1.7.2 Community-Driven Development (KALAHI)

In addition to the PAMANA program, which is explicitly targeted at conflict-prone areas, I also investigate the KALAHI community-driven development program implemented by the Philippine Department of Social Welfare and Development (DWSD). While the process of involving the community in decisions about project type and the subcontracting process for the two programs is similar, there is one key difference in the targeting of the projects. Instead of being targeted explicitly for the purpose of counterinsurgency, KALAHI is targeted primarily for the purpose of poverty alleviation. In order to be eligible for KALAHI projects, a villages must be in a municipality that is in upper quartile of poverty as estimated by national census data. While the types of projects implemented by KALAHI are relatively similar to PAMANA (See Table 1.3 in the Appendix), their targeting profile is quite different. Only 10.7% of KALAHI projects are targeted directly at villages with NPA presence.

1.8 Family Networks

The last key piece of data necessary to test my hypotheses is a measure of social network connections between villages. To measure these inter-village ties, I adapt the methods pioneered by Cruz, Labonne and Querubin (2017) to identify family relationships between individuals in neighboring villages from the names of over 55 million individuals on voter registration lists.[28] This is possible because of the structure of the Spanish naming convention, along with the fact that Spanish colonizers in the 1800s assigned surnames to families across the Philippines in a highly arbitrary manner. Colonial leadership in each Province assigned each village priest a set of surnames from the Spanish 'Catalogo Alfabetico de Apellidos' (the Alphabetical Catalogue of Surnames) to distribute to family heads in the village. Each village was assigned a different set of

[28]Cruz, Labonne and Querubin (2017) use marriage times between *families* that make up their nodes. I use a variation on this method that calculates ties at the individual level Davidson, Hicken and Ravanilla (2016). Voter registration rates in the Philippines are over 80% in the vast majority of villages, which allows for a fairly representative picture of the full network.

names, making it so that even more than a century later, one can very accurately determine who is related to whom by kinship and marriage ties based purely on shared middle and last names.

Using this method, I calculate a measure of family network *density* connecting pairs of villages. I start at the individual level by denoting a family tie between any pair of individuals who share a surname. These individual ties are then aggregated to the village level. For each pair of villages (i and j), I calculate the raw number of cross-village family relationships ($ties_{ij}$) between individuals and then standardize this value by the number of possible family ties between that pair of villages. Because any pair of individuals could theoretically share a family tie, this is just the product of the population (N_i and N_j) of the two villages.

$$FamilyTieDensity_{ij} = \frac{ties_{ij}}{N_i * N_j}$$

While, in theory, this measure could be created for any pair of villages in the whole country (creating a 42,000 by 42,000 village adjacency matrix), I limit this variable to villages within 10 kilometers of each other for the main specifications. Cruz, Labonne and Querubin (2017) show that the family network measure is highly accurate for villages within the same municipality. As the distance between villages increases, there is a reduced likelihood that any pair of individuals sharing a last or middle name is actually related.[29] After creating this dyadic measure of family network density for each pair of villages, I aggregate these ties into a full network of inter-village family ties where each village is a "node" and the density of family ties between them is represented as a weighted "edge." Development projects and patterns of military control act as "seeds" of information that spread through the network and influence the success of counterinsurgency efforts in other connected villages. Figure 1.12 (in the Appendix) shows a

[29] As the radius around a village increases, the number of villages within that radius also increases at a very high rate. This results in highly computationally intensive empirical analysis. To test whether the results are robust to increasing the distance and including more nearby villages, I conduct the spatial lag analysis (described in a future robustness check) using a 30km and 50km radius, and results hold.

representation of what this inter-village network looks like for a single municipality.

1.9 Estimating Equation

To evaluate the association between counterinsurgency success and influences from nearby villages that spread through the family network, I estimate the following regression via OLS. For simplicity, I start by presenting the equation for the hypotheses relating to development and build from there.[30]

$$\begin{aligned} NPA_{i,t} = \alpha &+ \beta_1 NPA_{i,t-1} + \beta_2 Project_{i,t} + \beta_3 Project_{j,t} \\ &+ \beta_4 FamilyTies_{ij} + \beta_5 Project_{j,t} * FamilyTies_{ij} \\ &+ \delta_i + \delta_j + \delta_t + \varepsilon_{ij,t} \end{aligned}$$

Each observation is an undirected dyad. The dependent variable ($NPA_{i,t}$) represents the year-end level of NPA insurgent presence (on the scale ranging from 0-2) in village i and year t. The first non-constant term in the regression ($NPA_{i,t-1}$) is the lagged dependent variable, and accounts for NPA presence in the previous year. $Project_{i,t}$ is an indicator of whether at least one PAMANA or KALAHI project was implemented in village i and year t.[31] Importantly, this variable includes development projects *leading up* to the year-end assessment of NPA presence, even though they have the same year indicator (t).[32] A traditional "hearts and minds" model would consider β_2 to be the value of interest. $Project_{j,t}$ is an indicator of whether the *alter* village in a dyad (j) received a project in a given year. The coefficient on this variable (β_3) indicates whether a development project implemented in any nearby village is associated with counterinsurgency effectiveness

[30] The raw relationship between a village's total "social exposure" to development projects and NPA presence in neighboring villages is shown in the Appendix (Figure 1.9).

[31] This dummy variable is the simplest operationalization, but I also run the model using the *number* of projects, the total *cost* of projects and the number of *beneficiaries* and all results hold.

[32] To allay concerns that the NPA assessment is conducted based on information not actually collected at year's end, I run the model using different lag specifications (in the Appendix) and results hold.

(Hypothesis 3). $FamilyTies_{ij}$ represents the density of family ties between villages *i* and *j* in the dyad. For the hypothesis regarding whether social network influences condition the effects of development projects in surrounding areas, the key parameters of interest are β_4 and β_5. The coefficient β_5 represents the marginal effect of increased family ties to a neighboring village *j* that DOES receive a development project. Meanwhile, β_4 represents the marginal effect of stronger family ties to a village *j* NOT experiencing a development project. Hypothesis 4 predicts that β_5 will be negative and significant, while β_4 will be positive and significant.

To test Hypotheses 1 and 2 (regarding security), I estimate the same equation, but also include the interaction between family ties and NPA influence in village *j*. Importantly, in all model specifications, I include fixed effects for village *i* (δ_i), village *j* (δ_j), and year (δ_t). This accounts for general time trends in year-by-year NPA influence as well as static, village-specific characteristics that might affect counterinsurgency effectiveness (for example, mountainous terrain).[33] By including these fixed effects, the types of omitted variables that remain threats to inference are either 1) unobserved relational characteristics between pairs of villages or 2) unobserved time-varying variables correlated both with development project implementation and a change in rebel presence. Standard errors are clustered on municipalities (which are constituted of 28 villages, on average) and year. As an alternative to the hypothesized effect of inter-village rumors that spread specifically through family ties, one might posit that what matters is simply the geographical *distance* between villages. To account for this method of diffusion, I include corollaries of the main interaction terms, but replace family ties with the inverse of the geographical distance ($Distance_{ij}$ - in kilometers) between the centroid GPS coordinates of villages *i* and *j*. One might expect geographical distance to be highly correlated with family ties but, in the context of this project, the Pearson correlation between distance and family network tie density is only 0.26.

[33] As a robustness check, I also run the model using standard controls from the 2010 Philippines Census and all results hold.

1.10 Results

Table 1.1: Main Results

	Dependent Variable: NPA Control (*i*)		
	Security	Development	Combined
	(1)	(2)	(3)
Project (*i*)	$-.024^{***}$ (.003)	$-.015^{***}$ (.003)	$-.010^{***}$ (.002)
Family Ties (*i-j*)	$-.129^{***}$ (.039)	$.280^{**}$ (.097)	.044 (.078)
NPA Control (*j*)	$.194^{***}$ (.009)		$.168^{***}$ (.009)
NPA (*j*) * Fam (*i-j*)	1.719^{***} (.197)		1.372^{***} (.207)
Project (*j*)		$-.030^{***}$ (.004)	$-.034^{***}$ (.003)
Project (*j*) * Fam (*i-j*)		$-.806^{*}$ (.371)	$-.529^{*}$ (.257)
Distance (*i-j*)			$-.001^{***}$ (.0002)
NPA (*j*) * Dist (*i-j*)			$.008^{***}$ (.001)
Project (*j*) * Dist (*i-j*)			$.002^{***}$ (.0004)
NPA Control (lag)	$.702^{***}$ (.010)	$.706^{***}$ (.010)	$.701^{***}$ (.010)
Constant	$-.004^{***}$ (.001)	$-.020^{***}$ (.001)	$-.010^{***}$ (.001)
FE (Year, V_i, V_j)	Yes	Yes	Yes
Observations	13,012,220	13,012,220	13,012,220
R^2	.563	.547	.564

*p<0.05; **p<0.01; ***p<0.001

The results relating to all four main hypotheses are shown in Table 1.1. Because counterinsurgency success is defined as a *reduction* in NPA insurgent presence, negative coefficients indicate variables that are associated with more effective counterinsurgency efforts. Begin by considering Model 1, which shows strong support for both security hypotheses (H1 and H2). Starting with Hypothesis 1, having a nearby village where NPA rebels are present - *NPA Control (j)* - is associated with counterinsurgency efforts that are significantly less effective. Hypothesis 2 also finds strong support. A nearby village where rebels are present can undercut counterinsurgency effectiveness, but this effect is magnified substantially when civilians in the target village have strong family ties to that rebel-affected village - *NPA (j) * Fam (i-j)*. At the same time, counterinsurgency effectiveness is *improved* when a village has strong social ties to a nearby village under government military control. Because of the inclusion of the interaction term in the model, an increase in the base family ties variable - *Family Ties (i-j)* - represents stronger family

ties to a village without NPA presence. As expected, this variable is significantly associated with improved counterinsurgency effectiveness. Social influence from nearby villages can either undercut or bolster counterinsurgency success. Figure 1.7 shows how the relationship between family ties to another village and counterinsurgency success is conditional on the nature of military control in that village.

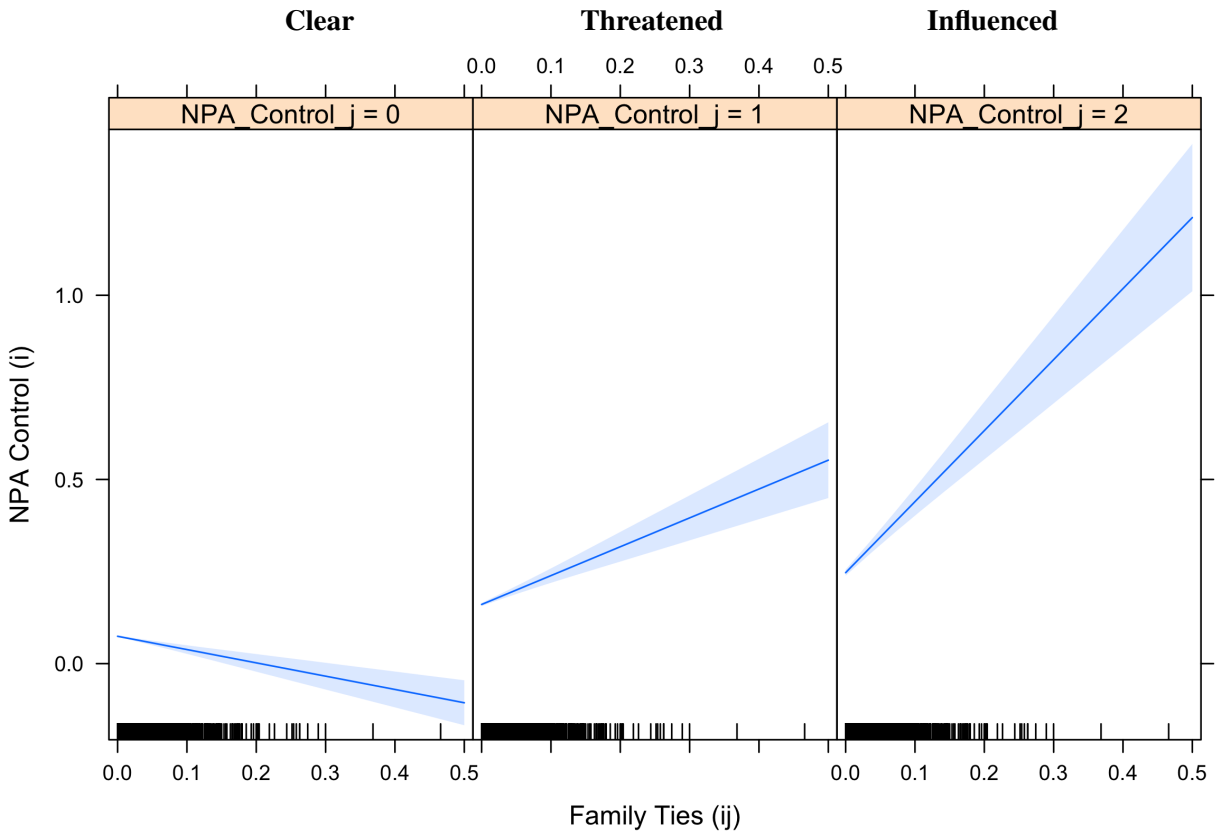


Figure 1.7: Interaction of Family Ties and Military Control in Other Villages

The left panel shows the relationship between NPA presence in a given village *i* with family ties to another village *j* that is *clear* of NPA presence. The middle and right panels show the same for family ties to another village *j* that is *threatened* or *influenced* by the NPA.

Moving to Model 2, the data display similarly strong support for both development hypotheses (H3 and H4). First, consistent with other findings in the literature, development projects implemented directly in a village - *Project (i)* - are associated with a significant decrease in rebel presence by the end of the year across all models. Supporting Hypothesis 3, counterinsurgency

efforts are also more effective when a development project is implemented in a nearby village - *Project (j)*. The link between the development status of nearby villages and counterinsurgency success is amplified significantly by social network ties. Strong family ties to a village where a development project is implemented - *Project (j) * Fam (i-j)* - can fortify counterinsurgency efforts, while strong family ties to a village that fails to receive a development project - *Family Ties (i-j)* - can subvert these efforts. The interaction plot for this model is presented in Figure 1.10 in the Appendix.

Model 3 combines all the variables relating to security and development from the first two models while also accounting for geographic spillover. There are a few things worth noting in this model. Most importantly, all variables operationalizing the four main hypotheses remain statistically significant and in the expected direction. However, because the base family ties term - *Family Ties (i-j)* - is interacted both with projects in neighboring villages (which bolster counterinsurgency) and rebel presence in neighboring villages (which undercut counterinsurgency), the coefficient on this term is no longer significant. This highlights an important concept: social network ties *on their own* are not associated with counterinsurgency effectiveness. Rather, social networks are a vehicle by which patterns of security and development in surrounding villages impact counterinsurgency in a targeted village.

This model also suggests that social networks, rather than geographic proximity, are driving the relationships described above. After accounting for the same type of inter-village influence that may occur due to geographic distance, the sign and significance of all relationships described in the previous paragraph remain consistent and the magnitudes of the main results are not substantially reduced. In addition, the model presents a curious pattern of geographic spillover. Consistent with what one might expect, NPA presence in a geographically proximate village can reduce counterinsurgency effectiveness. However, counter-intuitively, development projects implemented in a geographically proximate village can result in *increased* rebel presence. While initially puzzling, this result is consistent with the findings of Berman, Downey and

Felter (2016). The authors of that paper find that a large hearts and minds counterinsurgency program implemented by the Philippine military between 2002-2010 reduced child mortality rates in targeted villages but increased mortality rates in geographically proximate villages. The authors attribute this effect to insurgent displacement. My results suggest that while economic development projects may have a geographic displacement effect, rebels are less likely to be able to escape to nearby villages with strong social network ties linked to the villages they originally occupied.

While the number of villages in the sample allows for very precise estimates, the social network effects described above are also substantively important predictors of counterinsurgency success. Figure 1.8 shows how the predicted probability of an NPA-affected village flipping to government control in the following year depends on the nature of civilian social exposure to military control and development in other villages. Holding all other variables at their mean, a village in the 10th percentile of social ties to other villages where the NPA are present is predicted to have nearly a 25% chance of flipping to government control in the following year. This probability drops consistently as a village has increased social ties to other NPA-held villages. A village in the 90th percentile of social ties to other NPA-held villages has only about a 2% chance of being won by the government in the following year. Social exposure to development projects in other villages has the opposite effect. A village in the 10th percentile of social ties to other villages receiving development projects has a 21% chance of being won by the government. Meanwhile, a village in the 90th percentile has a 32% chance of flipping to government control.

One might be concerned that the number of development projects or rebel-held villages in an area is correlated with the degree to which military operations directly target that area. While this is a serious concern, it is mitigated for several reasons. First, current military targeting in the Philippines appears to be conducted *geographically*. Berman, Downey and Felter (2016) find that counterinsurgency projects followed consistent geographic patterns. By controlling for the geographic distance between a particular village and other nearby villages experiencing rebel

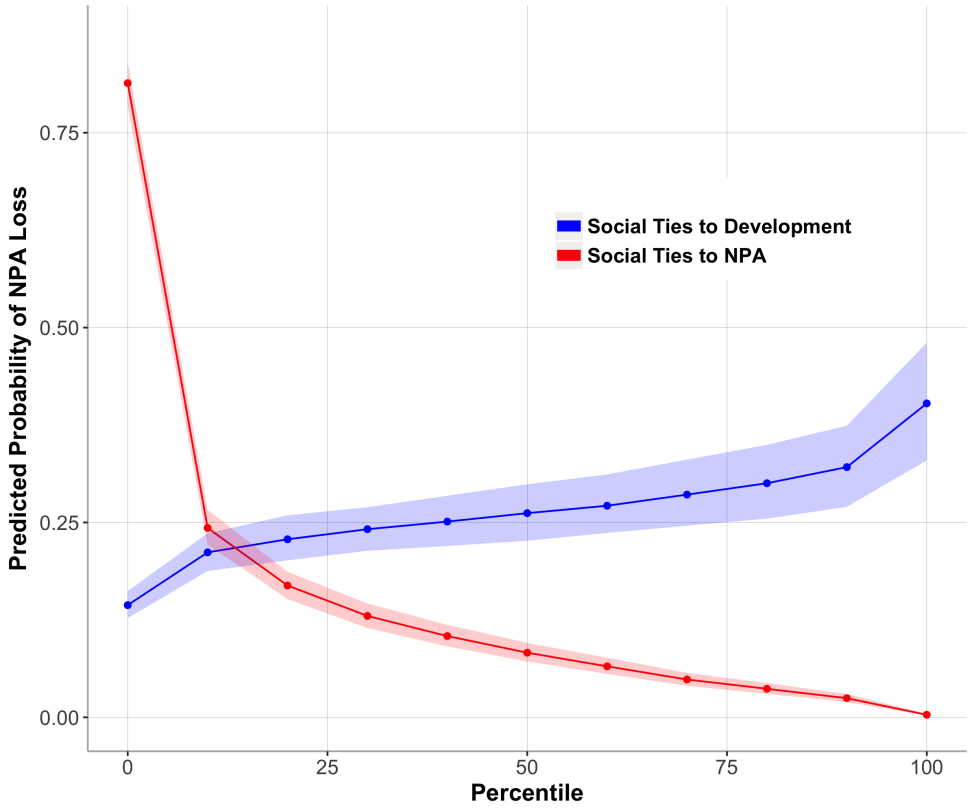


Figure 1.8: Interaction of Family Ties and Military Control in Other Villages

The y-axis represents the predicted probability that a village sees a reduction in NPA presence in a year *t* (among villages where the NPA was present in year *t-1*). The shaded regions represent the 95% confidence interval of this predicted probability based on a village's percentile (relative to other villages) of social ties to nearby villages experiencing development projects (blue) or affected by the NPA (red). All other variables are held at their mean.

control or development projects, I am likely to capture most of the unobserved variation driven by military targeting. This is especially true since I am only looking at villages within a relatively small geographic radius, where military targeting is unlikely to vary as much.[34] Year fixed effects account for national trends in targeting intensity.

Thus far, counterinsurgency effectiveness has been defined by the government's ability to either gain OR maintain military control of a village. While it is important for the government troops to be able to win control of villages held by the rebels, it is perhaps equally important

[34]I also run models among only villages that were directly targeted by development projects and villages NOT directly targeted by development projects. The results are highly similar across both models (found in the Appendix).

to be able to hold villages already under government control. To explore whether different mechanisms are driving these two varieties of counterinsurgency success, I separate the main sample and independently investigate the determinants of NPA *loss* and NPA *gain*.[35] These results are presented in Table 1.2. In Model 4, I subset the sample only to villages where NPA rebels were present during the previous year.[36] The results suggest that the social network influences mediating the incidents of development projects in neighboring villages had a significant effect on the ability of counterinsurgents to gain territory. While the raw proportion of nearby villages affected by the NPA reduced the ability of the government to establish control, the social ties to these rebel-affected villages were less meaningful. On the other hand, when it comes to the ability of the NPA to *gain* control of villages (Model 5),[37] the social network ties to villages already influenced by rebels had a much stronger effect. Network ties to other villages experiencing development projects were less influential when it came to preventing the NPA from gaining presence.

An additional concern is that the dyadic nature of the models arbitrarily increases the number of observations, making it more likely to observe statistically significant coefficients. While the highly restrictive fixed-effects and clustering specifications are meant to deal with this issue, as a robustness check, I run models where all the dyadic relationships of a village are boiled down to a single spatial lag variable (Buhaug and Gleditsch, 2008).[38] The results are shown in the Appendix, and are consistent with the findings in the dyadic models described above.

[35] In the Appendix, I also include model specifications that separately test the removal of NPA threat and NPA influence. The results for both models look similar to the main specification.

[36] In addition, I exclude observations in which the NPA transitioned from "threatening" a village to "influencing" that village.

[37] In this model, I subset the sample to observations where the NPA was not present in the previous year.

[38] The unit of analysis in this model is the village-year and the key independent variable for each village *i* is constructed by multiplying the family ties between village *i* and a given village *j* by the security or development status of that village *j*, and then summing across all *j*'s. While this specification in more concise, it does not allow one to disaggregate whether the effects are driven by social ties to government or rebel-held villages like the interactions terms in the main models. In addition, because the spatial lag variable is driven strongly by the raw number of projects (or villages under rebel control) occurring in the surrounding area, it becomes highly correlated with the same variable constructed using geographical proximity (correlation = .94) despite the fact that proximity and family tie strength on their own are not highly correlated (correlation = .26).

Table 1.2: Types of Counterinsurgency: Gain vs. Loss

	DV: NPA Control (*i*)	
	NPA Loss	NPA Gain
	(4)	(5)
Project (*i*)	.034 (.020)	$-.016^{***}$ (.002)
Family Ties (*i-j*)	.006 (.476)	.077 (.059)
NPA Control (*j*)	$.407^{***}$ (.031)	$.101^{***}$ (.008)
NPA (*j*) * Fam (*i-j*)	.167 (.322)	1.960^{***} (.347)
Project (*j*)	$-.097^{*}$ (.040)	$-.029^{***}$ (.003)
Project (*j*) * Fam (*i-j*)	-2.289^{*} (.904)	$-.254$ (.206)
Distance (*i-j*)	$-.009^{***}$ (.002)	$-.001^{***}$ (.0001)
NPA (*j*) * Dist (*i-j*)	$.011^{***}$ (.001)	$.006^{***}$ (.001)
Project (*j*) * Dist (*i-j*)	$.022^{***}$ (.003)	$.001^{*}$ (.0004)
NPA Control (lag)	$.684^{***}$ (.026)	$.761^{***}$ (.010)
Constant	$-.016$ (.017)	$-.004^{*}$ (.001)
FE (Year, V_i, V_j)	Yes	Yes
Observations	916,881	12,095,339
R^2	.288	.382

*p<0.05; **p<0.01; ***p<0.001

1.11 Discussion

Civil conflicts famously suffer from significant commitment problems that prevent governments and insurgents from coming to lasting peace agreements. In this paper, I highlight another, previously underappreciated, commitment problem that governments and rebels face with *civilians* that is similarly important. In order to peacefully end a conflict, combatants need to credibly signal to civilians that they will follow through on promises to protect their security and economic interests, even when they no longer depend on civilian cooperation to win the conflict. This strategic dynamic between conflict actors and civilians is particularly important in asymmetric insurgencies, where civilians play a crucial role in determining military outcomes.

In these conflicts, the COIN model has become the paradigmatic approach to understanding counterinsurgency and counterterrorism success among practitioners and scholars alike. The shift in focus to the role of civilian behavior entailed by this model has led to significant advances in the understanding conflict dynamics such as patterns of violence and military control. Despite

these advances, the current understanding of how civilians interpret the behavior of conflict actors underestimates civilians' strategic capacity. My paper challenges this conventional wisdom by arguing that civilians "look down the game tree" and are acutely aware of conflict actors' incentives to win their support by any means necessary. As a result, civilians are highly skeptical of counterinsurgent promises and often doubt whether directly observable counterinsurgent behavior is genuine. This insight calls into question the traditional understanding of what makes civilians likely to cooperate with counterinsurgents and opens the door to new perspectives on the determinants of counterinsurgent success.

In addition to highlighting the core uncertainty about government credibility faced by civilians in conflict zones, this paper provides an answer to how civilians overcome this uncertainty: information they receive through their *social networks*. Civilians in conflict zones, who are confronted with a life-or-death choice about whether to cooperate with combatants, face a dearth of reliable information when making this fateful choice. I contend that word of mouth from family and friends, who have direct experiences – good or bad – with the government in other villages, becomes the most readily available and trustworthy source of information in this context. The counterinsurgency literature has thus far focused almost exclusively on the *vertical* flow of information from civilians to counterinsurgents, but I show that the *horizontal* spread of information between civilians is equally as important. The spread of information through civilian social networks is an inherently micro-level process. However, understanding how larger network structures influence patterns of horizontal information flows in areas where insurgencies and terrorists operate has important macro-level implications. The aggregation of individual social relationships into networks that connect many villages illuminates how seemingly small development projects and shifts in military control can impact much larger conflict trends.

Finally, this paper has important implications for the development of more effective counterinsurgency and counterterrorism policy. Counterinsurgents cannot treat villages as isolated units. The spread of information between civilians follows consistent, predictable patterns that are

driven by social network structures. Thus, when trying to win civilian support, it is important for counterinsurgents not only to recognize that their actions in a village can affect civilian perceptions in a number of other villages, but also understand *where* this information is likely to spread. Understanding how social networks affect the spread of information between civilians has vital implications for which villages are best targeted with development projects and military security. In other work, I explore this question directly, using simulations to examine how local network structures impact optimal strategies for which villages are targeted with counterinsurgency, and in what order.

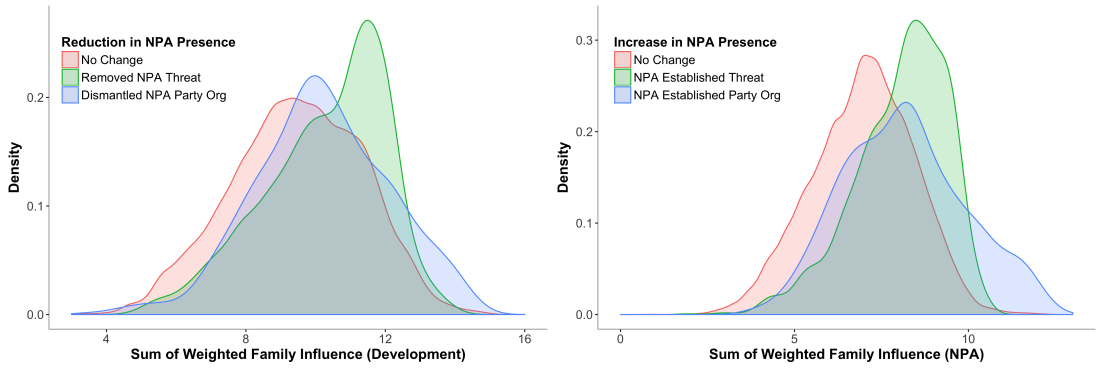
This study also highlights the importance of coordination between government units across geographic space and policy domains. For example, consider the Commander's Emergency Response Program (CERP) implemented by the US military in Iraq and Afghanistan, which makes up the bulk of reconstruction spending aimed at winning civilian hearts and minds (Berman, Shapiro and Felter, 2011). Allocation of these funds is determined in large part by requests made by individual unit commanders. As Sexton (2016) shows, the process by which these requests are approved results in project implementation timing that is as-if random and uncorrelated with projects in surrounding areas. My work suggests that this lack of coordination between nearby military units could have highly detrimental effects on the program's overall effectiveness. Whether the types of projects implemented by CERP actually shape civilians' future expectations is highly dependent on the experiences of people they know in surrounding areas. This also has important implications for the "clear, hold, build" philosophy that is central to COIN. In this model, units first attempt to gain military control to ensure civilians' security in a village, at which point the expansion of economic services is far more effective at winning civilian support. But the results in this paper suggest that civilians' perceptions of security is highly dependent on which other villages in the area are also currently cleared of insurgent presence and held by government troops. In order for the "build" aspect of COIN to be effective, it is essential that insurgents are not only expelled from a single target village, but also expelled from surrounding

villages where civilians in the target village have social ties.

Insurgent groups and terrorist movements are at the forefront of current international security issues. After decades of war in Afghanistan, the Taliban is once again gaining ground. In addition, nascent radical organizations, many of which have associated themselves with ISIS, Al Qaeda, or other global extremist groups, are emerging in places such as Afghanistan, Pakistan, Libya, Bangladesh, and the Philippines. Understanding the micro-level dynamics that drive 1) when these groups are able to take hold and spread their influence and 2) how government troops can reduce civilian collaboration with these groups, is crucial to preventing significant violence moving forward.

1.12 Appendix

Figure 1.9 shows the raw relationship between the sum of a village's social exposure to development or NPA presence in other villages (x-axis) and counterinsurgency success.



(a) NPA Loss and Development (b) NPA Gain and Security

Figure 1.9: Density Plots

The x-axis of both plots represents the sum of all social exposure to development (in the lefthand panel) or insurgent presence (in the righthand panel) in other villages. The different colored regions represent the distribution of this social exposure variable among villages that experienced no change in NPA influence (red), villages that experienced the removal/establishment of an NPA threat (a 1 on the NPA presence scale) or the dismantling/establishment of an NPA party organization (a 2 on the scale).

The "Sum of Weighted Family Influence" variables on the x-axis are calculated as follows. First, for a given village *i*, the density of family ties connecting that village to a village *j* is multiplied by an indicator of whether the village *j* had rebel presence or received a development project. These dyad-level products are then summed for each village *j* within 10km radius of village *i*. This results in a variable indicating the sum of "social exposure" to development or NPA presence in nearby villages. This is the same village-level variable used in Table 1.8 below. In the left panel of Figure 1.9, one can see that small changes in social exposure to other villages experiencing development (the x-axis) is associated with a much higher likelihood that troops will be able to remove an NPA threat (moving from a 1 to a 0 on the NPA presence variable). While these small deviations are less strongly associated with troops being able to dismantle a

fully formed NPA party organization (a move from a 2 to a 0 or 1), the "fat" righthand tail of this distribution suggests that very high levels social exposure to development can move the needle. A similar pattern emerges in the righthand panel, where a small shift from the mean in terms of social exposure to other rebel-held villages is associated with a much higher likelihood that the NPA will *establish* a threat in the following year (0 to 1), but it takes higher levels social exposure to increase the likelihood that the NPA will establish a full party organization (0 or 1 to 2).

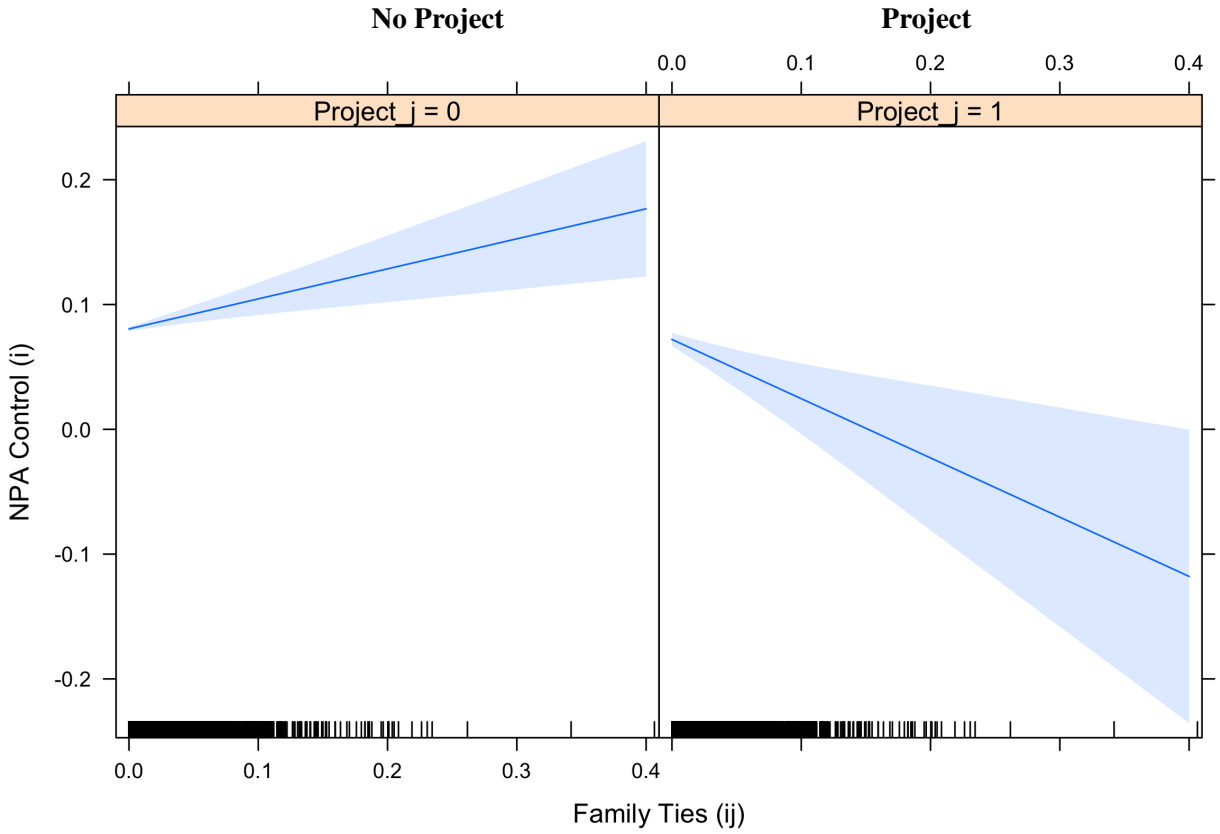


Figure 1.10: Interaction of Family Ties and Development Projects in Other Villages

The left panel shows the relationship between family ties of a given village *i* to another village *j* that *did not* receive any development projects as part of PAMANA or KALAHI. The right panel show the same for family ties to another village *j* that *did* receive a project. Displayed results are from Model 2 in Table 1.1.

Table 1.3: PAMANA and KALAHI Project Types

(a) PAMANA

	Count	%
Infrastructure	1,619	25.23
Agriculture	1,287	20.06
Road	1,038	16.18
Water	547	8.53
Electricity	524	8.17
Training Programs	128	2.00
Other	1,273	19.84

(b) KALAHI

	Count	%
Social Services	4,044	37.20
Access Infrastructure	3,874	35.63
Environment Protection	1,766	16.24
Support and Service	970	8.92
Skills Training	100	0.92
Other	118	1.09

The above tables show the types of development projects implemented by PAMANA and KALAHI over the 2010-2015 period.

Table 1.4: Removal of Influence vs. Threat

	DV: NPA Control (*i*)	
	Removing Threat	Removing Influence
	(1)	(2)
Project (*i*)	.006 (.016)	.077* (.038)
Project (*j*)	−.099*** (.016)	−.028 (.036)
NPA Control (*j*)	.465*** (.014)	.310*** (.024)
Family Ties (*i-j*)	.030 (.258)	−1.637** (.596)
Distance (*i-j*)	−.004*** (.001)	−.007 (.004)
Project (*j*) * Fam (*i-j*)	−1.810** (.554)	−2.197** (.768)
NPA (*j*) * Fam (*i-j*)	−.182 (.306)	.773* (.319)
Project (*j*) * Dist (*i-j*)	.021*** (.002)	.010* (.004)
NPA (*j*) * Dist (*i-j*)	.005*** (.001)	.011*** (.002)
NPA Control (lag)	.570*** (.012)	.505*** (.030)
Constant	.078*** (.009)	.353*** (.044)
FE (Year, V_i, V_j)	Yes	Yes
Observations	716,715	195,141
R^2	.163	.093

*p<0.05; **p<0.01; ***p<0.001

The above models examine whether different factors drive counterinsurgents' ability to remove rebel "threat" and rebel "influence." The models are subset to village years in which the NPA either threatened (left panel) or influenced (right panel) the village in the previous year. The results show similar patterns, although NPA presence in socially connected villages only appears to drive the removal of NPA influence, not threat.

Table 1.5: Directly Targeted vs. Influence Only

	DV: NPA Control (*i*)	
	Received Project	Did NOT Receive Project
	(1)	(2)
Project (*j*)	−.015** (.005)	−.044*** (.004)
NPA Control (*j*)	.177*** (.019)	.164*** (.008)
Family Ties (*i-j*)	.352 (.197)	−.043 (.063)
Distance (*i-j*)	−.001 (.001)	−.001*** (.0002)
Project (*j*) * Fam (*i-j*)	−.661** (.256)	−.752 (.410)
NPA (*j*) * Fam (*i-j*)	.705* (.335)	1.660*** (.201)
Project (*j*) * Dist (*i-j*)	.001* (.001)	.0003 (.001)
NPA (*j*) * Dist (*i-j*)	.009*** (.002)	.007*** (.001)
NPA Control (lag)	.555*** (.017)	.729*** (.012)
Constant	.003 (.004)	−.002* (.001)
FE (Year, V_i, V_j)	Yes	Yes
Observations	1,585,805	11,426,415
R^2	.457	.585

*p<0.05; **p<0.01; ***p<0.001

Table 1.6: Time Decay and Different Lag Structures

	DV: NPA Control (*i*)	
	Lagged Variables Only	Lagged Variables Added
	(1)	(2)
NPA Control (lag)	.682*** (.005)	.677*** (.005)
Project (*i*)		−.014*** (.002)
Project lag (*i*)	.003 (.002)	.005* (.002)
Project (*j*)		−.036*** (.002)
Project lag (*i*)	−.006** (.002)	−.017*** (.002)
NPA lag (*j*)	−.088*** (.004)	
Family Ties (*ij*)	.017 (.031)	.096* (.045)
Project (*j*) * Fam (*i-j*)		−.172 (.103)
Project lag (*j*) * Fam (*i-j*)	−.331** (.119)	−.120 (.112)
NPA lag (*j*) * Fam (*i-j*)	.291* (.135)	
Project lag (*j*) * Dist (*i-j*)	.0003 (.0002)	
NPA lag (*j*) * Dist (*i-j*)	.001** (.0003)	
Constant	−.016*** (.001)	−.017*** (.001)
FE (Year, V_i, V_j)	Yes	Yes
Observations	10,409,776	10,409,776
R^2	.561	.561

*p<0.05; **p<0.01; ***p<0.001

Table 1.7: KALAHI vs. PAMANA

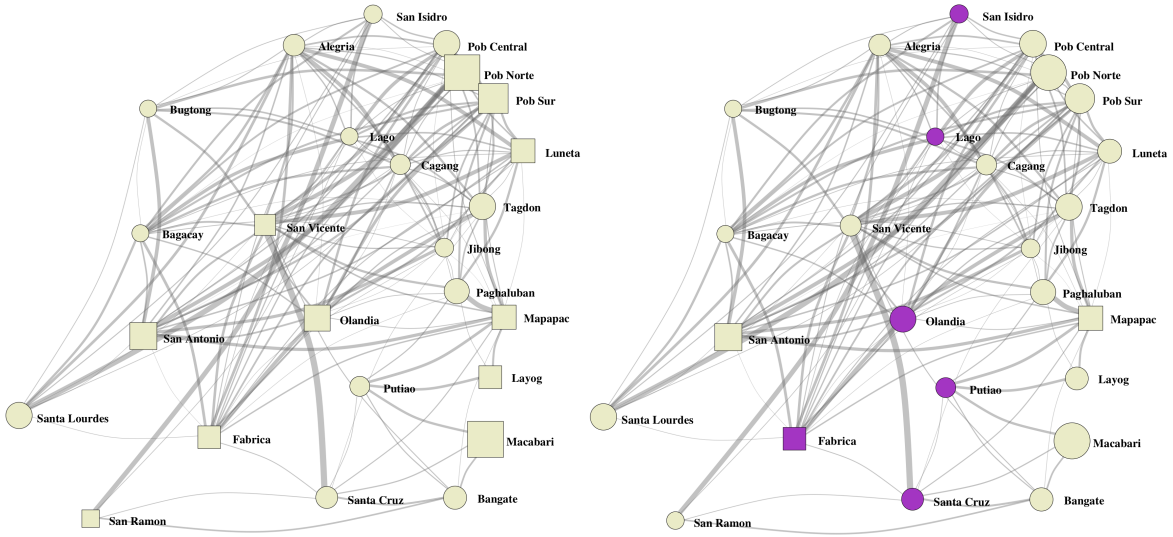
	DV: NPA Control (*i*)	
	(1)	(2)
NPA Control (lag)	.706*** (.005)	.701*** (.005)
KALAHI (*i*)	−.025*** (.002)	−.018*** (.002)
PAMANA (*i*)	.004 (.003)	.004 (.003)
KALAHI (*j*)	−.044*** (.002)	−.044*** (.002)
PAMANA (*j*)	−.003 (.003)	−.007** (.002)
NPA Control (*j*)		.166*** (.004)
Family Ties (*i-j*)	.279*** (.042)	.013 (.033)
Distance (*i-j*)		−.001*** (.0001)
PAMANA (*j*) * Fam (*i-j*)	−.972*** (.201)	−.585*** (.163)
KALAHI (*j*) * Fam (*i-j*)	−.527*** (.139)	−.238 (.123)
NPA (*j*) * Fam (*i-j*)		1.358*** (.173)
PAMANA (*j*) * Dist (*i-j*)		.001*** (.0002)
KALAHI (*j*) * Dist (*i-j*)		.002*** (.0003)
NPA (*j*) * Dist (*i-j*)		.008*** (.0004)
Constant	−.020*** (.001)	−.001 (.001)
FE (Year, V_i, V_j)	Yes	Yes
Observations	13,012,220	13,012,220
R^2	.548	.564

*p<0.05; **p<0.01; ***p<0.001

Table 1.8: Spatial Regression

	DV: NPA Control (*i*)	
	(1)	(2)
Project	−.0003 (.004)	
PAMANA		−.004 (.009)
KALAHI		−.005 (.006)
Sum of Weighted Influence (NPA)	.018*** (.001)	.033*** (.001)
Sum of Weighted Influence (Projects)	−.001*** (.0003)	
Sum of Weighted Influence (PAMANA)		−.003* (.001)
Sum of Weighted Influence (KALAHI)		.00004 (.0005)
NPA Control (lag)	.722*** (.010)	.226*** (.017)
Constant	−.132*** (.033)	
Controls	Yes	No
FE (V_i)	No	Yes
FE (Year)	Yes	Yes
Observations	186,445	200,770
R^2	.675	.777

*p<0.05; **p<0.01; ***p<0.001



(a) Barcelona 2010 *Pre-PAMANA* (b) Barcelona 2014 *Post-PAMANA*

Figure 1.11: Example of Inter-Village Family Networks and PAMANA Implementation

The figures above represent the inter-village social network structure of Barcelona Municipality in Sorsogon Province. Nodes represent villages that are placed according to the GPS coordinates and sized by population. Ties between pairs of villages represent the density of family connections between individuals in those villages (only the top 50% of ties are shown). Square nodes represent villages that are either influenced or threatened by the NPA. Purple nodes in the righthand panel represent villages that were targeted with at least one PAMANA project over the 2011-2014 period.

Chapter 2

Family Matters: Police Social Embeddedness and Citizen Buy-In Under Contested Legitimacy

2.1 Abstract

States suffering from low legitimacy face a challenge in providing public services: bureaucratic service providers depend on citizen engagement to allocate their limited resources efficiently, but low legitimacy reduces citizens' willingness to engage with state institutions. We argue that states can break this cycle by recruiting bureaucrats who have personal ties with the citizens they serve. Personal ties reduce citizens' search costs and increase their expectations of bureaucrat effort, increasing their willingness to engage with bureaucrats. We test this argument on law enforcement in the Philippines. We construct family networks in 298 villages and locate public safety officers within those networks. We then survey nearly 5,000 citizens to test the effects of citizen-officer social ties on trust, information provision, and crime victimization. Consistent with our argument, citizens exhibit greater trust in, perceive as fairer, and are more likely to report a crime to officers who are more socially proximate to them, even after controlling for respondent and officer characteristics. We then find evidence that this citizen buy-in reduces certain types of crime. This evidence reveals the importance of citizen-state information flows in fostering public goods provision and state legitimacy, and speaks to the specific mechanisms through which bureaucrats' embeddedness affects these important outcomes.

2.2 Introduction

States suffering from low legitimacy face a challenge in providing public goods and services. Institutions that implement policies and distribute services like education, healthcare, and security rely on information from citizens about the communities they serve to determine what services to provide and how to provide them (Akerlof and Yellen, 1994; Scott, 1998; Lee and Zhang, 2017). The more citizens are willing to engage with street-level service providers, the more efficiently those service providers can develop and target programs. Conversely, when citizens do not trust state institutions and are unwilling to engage with service providers, the state lacks the information it needs to allocate personnel and resources efficiently. The resulting cycle, with citizens refusing to engage with state institutions because they do not expect bureaucrats to provide services effectively, and bureaucrats remaining ineffective because of a lack of citizen engagement, can be difficult to break. The negative effects of this spiral cut directly to the heart of state legitimacy, which rests on a transactional relationship in which citizens delegate authority to the government in return for public goods (Lake, 2016). Nowhere is the importance of citizen buy-in more acute than in law enforcement. Rank-and-file officers rely on information from citizens about problems in the community to distribute a key public good, safety (Weitzer and Tuch, 2006; Skolnick and Bayley, 1988; Nanes, 2017*b*). Officers use information about the nature and location of criminal activity or suspicious behavior to determine patterns, identify hot spots, and distribute police resources to prevent future crimes. How can states enhance citizen willingness to "buy in" and engage with state institutions?

We argue that citizen buy-in to state security institutions increases when individual service providers have many personal connections in the communities they serve and are thus more socially "embedded." In areas of contested state legitimacy, politics are commonly structured by informal networks that facilitate patronage and allow citizens to gain access to social services even in the absence of an efficient formal state apparatus (Stokes et al 2013). By selecting official

representatives that allow citizens to engage with the state through informal networks that they already know and trust, the state can strengthen buy-in to its formal institutions, resulting in improved state legitimacy and higher capacity to provide effective public goods.

A large body of existing research debates whether bureaucratic embeddedness is associated with superior public goods provision (Evans, 1995; Tsai, 2007; Bhavnani and Lee, 2018). The bulk of this research deals with the effects of embeddedness on bureaucrats themselves, including their level of effort, accountability to citizens, and susceptibility to elite capture. In a departure from existing research, we explore the effects of embeddedness on citizens' behavior. We argue that citizen-bureaucrat personal connections increase citizen willingness to engage with bureacrats by reducing search costs and increasing expectations of bureaucratic effort. Given the importance of citizen-provided information in service delivery, this increased engagement should improve service provision. Applied to the police, increased citizen engagement generated by officer-citizen linkages provides an important impetus for community policing initiatives around the globe. For instance, efforts to improve service provision in Israel (Weisburd, Shalev and Amir, 2002), the United States (Skogan and Hartnett, 1997), and Northern Ireland (Bayley, 2008) involved delegating greater authority to embedded local or "community" police officers with the expectation that doing so would increase citizen cooperation with the police (Skolnick and Bayley, 1988).

Despite the intuitive appeal of our argument, it is far from obvious that police officers embedded in their jurisdiction will provide superior services. An alternative hypothesis suggests that close connections between officers and citizens may increase officers' susceptibility to cooptation by certain members of the community, leading to corruption or favoritism. Officers who are highly embedded in local social structures may be more susceptible to bribes, extortion, or pressure to look the other way when crimes are committed by a friend or relative (Weitzer and Hasisi, 2008), decreasing trust and buy-in among negatively-affected citizens. Real-world policy choices reveal the extent of the uncertainty surrounding the expected effects of officer

embeddedness. The Mexican government has attempted to tackle police corruption on multiple occasions by replacing local police forces with less-embedded officers from the state and national police departments.[1] These conflicting strategies, with officials in some cases pursuing community policing by embedded officers and in others removing authority from local police, illustrate a lack of certainty about the precise mechanisms at play and motivates our analysis.

We explore the effects of bureaucrat-citizen connections on citizen buy-in by examining family networks in Sorsogon Province of the Philippines. We test whether family relationships between citizens and tanods, semi-professional public safety officers, increase citizen buy-in. Naming conventions in the Philippines allow us to identify individuals' kinship and marriage relationships with one another through shared surnames (Cruz, Labonne and Querubin, 2017; Davidson, Hicken and Ravanilla, 2016; Cruz, 2018). By matching names on voter registration lists, we create a social network within each village and use several measures of network centrality to capture how "embedded" tanods are in this network, as well as their social distance from each individual civilian. We then conduct two original surveys of citizens to measure outcomes like trust in the police, willingness to report a crime, frequency of citizen-police interactions, and perceptions about police favoritism and corruption. Our identification strategy isolates the effect of tanod-citizen social ties on citizen buy-in: First, we measure dyadic citizen-tanod outcomes by showing each survey respondent the photo and name of a tanod assigned to their village, and asking the respondent several questions about their willingness to engage with the tanod. The procedure is repeated with three different tanods for each respondent. We then regress respondent-tanod social distance on the outcomes of interest, using fixed effects for both the respondent and the tanod to isolate the effect of the family tie. We find that citizens who are more closely related to a tanod report greater trust in that tanod, perceive him or her as fairer, and are

[1] Pickrell, Emily (2015), "Mexico's Police Overhaul May Not Curtail Violence, Corruption." *Al-Jazeera America.* 14 December. http://america.aljazeera.com/articles/2014/12/14/mexico-s-police-overhaulmaynotcurtailviolencecorruption.html; Marosi, Richard (2008), "500 Police Officers Replaced in Tijuana." *Los Angeles Times.* 19 November. http://www.latimes.com/world/la-fg-tijuana19-2008nov19-story.html; Mexico News Daily (2014), "Federal Forces Replace Local Police." 20 October. http://mexiconewsdaily.com/news/federal-forces-replace-local-police/

more likely to report crimes to him or her.

Next, we test the alternative hypothesis that bureaucrats who are *too* embedded are susceptible to corruption. We find no evidence that tanods engage in favoritism or use their position for personal gain. On the contrary, respondents with closer family ties to tanods say, on average, that they would be punished *more* harshly if they were caught committing a crime. Similarly, in villages where tanods have closer family ties to citizens, respondents perceive that tanods use their authority for personal gain less frequently. While we cannot distinguish whether this outcome is the result of an actual decrease in corruption or changes in citizens' *perceptions*, there is no evidence that embeddedness increases corruption.

Citizen buy-in is important in its own right because of its contribution to state legitimacy, but buy-in is especially valuable for governance if it contributes to more efficient government service provision. Does tanod embeddedness affect crime prevention? We measure the probability of an individual experiencing a crime in the preceding six month period using a survey of nearly 3,000 civilians. We focus on minor crimes that tanods deal with most commonly: family feuds, disputes between neighbors, juvenile delinquency, and petty thefts. Results are mixed. Consistent with the argument that embeddedness improves service provision, juvenile delinquency is less common in communities where tanods are more embedded. However, there is no significant effect on petty thefts, and family feuds and neighbor disputes are *more* common in villages where tanods are most embedded. We speculate that issues requiring intervention in an ongoing dispute between two parties may be more effectively solved by an unconnected, impartial mediator. When addressing dispute-type crimes, tanods' connections to the community may undermine claims of impartiality and hinder their ability to provide a solution that is accepted by both sides. In contrast, citizen-provided information is more likely to help tanods investigate, solve, and deter typical perpetrator-victim crimes.

Our findings contribute to the broader understanding of how the makeup of bureaucratic institutions affects government service provision. Particularly where state capacity is weak or

legitimacy low, citizens may be unwilling to incur the costs of engaging with the state if they do not believe their efforts will lead to substantial payoffs in the form of service provision. The results of a breakdown in citizen buy-in can be catastrophic, including a decline in state legitimacy, a deterioration in citizens' welfare thanks to poor goods and services delivery, the opening of space for rebellion, and an increased probability of state failure (Lake, 2016). Recruiting embedded bureaucrats reverses this trend by reducing the costs of engagement and increasing the expected benefits of citizens' engagement. In addition, we shed light on the specific mechanisms through which bureaucratic embeddedness affects government service provision. Prior studies deal almost exclusively with group-based representation on shared ethnic, religious, or regional identity, and draw conclusions solely from aggregate community-level outcomes. They provide little evidence for *why* group-based representation affects service provision. We suggest that what matters is not necessarily shared group identity but personal connections, though the two factors are frequently correlated. By more precisely measuring bureaucrats' individual-level ties to the community they serve, and using surveys to tease out how citizens' ties to service providers affect particular aspects of citizen buy-in, we illuminate the micro-foundations driving the effects of bureaucratic embeddedness. Finally, the implications of our findings reach beyond bureaucratic service delivery to other areas of governance which depend on citizen-state information flows. For example, modern counterinsurgency (COIN) strategy heavily emphasizes the importance of citizens providing counterinsurgent forces with information about rebels' locations and plans. Consistent with existing evidence (Lyall, 2010; Lyall, Shiraito and Imai, 2015) our findings imply that counterinsurgents with personal ties to civilians may be more effective specifically because those connections reduce civilians' expected costs and increase their expected benefits of engaging with government forces.

2.3 Bureaucratic Embeddedness, Citizen Buy-In, and Government Service Provision

Bureaucratic institutions responsible for service provision need local knowledge to identify problems and develop appropriate solutions. The public works department needs to know where street lights are out, the fire department needs to know when a building is burning, and the police need to know which street corners host illegal activities. In other words, state capacity depends on "legibility" (Scott, 1998; Lee and Zhang, 2017), or knowledge by government officials about local-level issues, to govern effectively. This knowledge is developed most efficiently when citizens provide such information voluntarily. The state can maintain more streets with fewer resources when citizens monitor the quality of roads and report potholes than if it were to send employees driving all over the city looking for problems to fix. Even under a "police patrol" model (McCubbins, Noll and Weingast, 1987) in which officers patrol the streets in an effort to deter crime, scarce police resources can be distributed more efficiently for deterrence if the police department has better information about the location of crime "hot spots" (Weisburd and Green, 1995). Particularly when applied to policing and the provision of public safety, one of the most important public goods provided by the modern state, existing research suggests that citizen cooperation significantly improves service delivery (Weitzer and Tuch, 2006; Wilson, 2013; Skogan, 1986; Skolnick and Bayley, 1988; Akerlof and Yellen, 1994; Nanes, 2017*b*).

In return for their effort in providing information to the state, citizens expect that the state will use that information to deliver improved public services. Citizens face uncertainty over the degree of effort bureaucrats will exert in using the information they provide to deliver services. Citizens also incur costs from engaging. For example, filing a police report might require waiting on hold for an emergency operator or walking to a police station. Citizens may also face discomfort from interacting with an unfamiliar authority figure. Additionally, citizens face uncertainty over the way bureaucrats with whom they engage will behave. Engagement with

"bad type" police officers may lead to extortion or physical abuse.

Existing research suggests that the makeup of rank-and-file service providers relative to citizens shapes the nature of their interactions. Citizens are more likely to trust service providers with whom they share norms, culture, or experiences (Alesina, Baqir and Easterly, 1999; Hardin, 1997; Habyarimana et al., 2007; Laitin, 2007; Donohue III and Levitt, 2001). Much of this research focuses on group identity like ethnicity (Samii, 2013; Blair et al., 2016; Lyall, Shiraito and Imai, 2015), race (Kennedy et al., 2017; Tyler, 2004; Smith, 2003), or religion (Shayo and Zussman, 2011; Grossman et al., 2015; Weitzer, 1995; Nanes, 2017*a*,*b*). These studies tend to "black box" shared group identity, leaving unclear exactly why we should expect better service provision from bureaucrats who are demographically representative of those they serve.

We argue that personal connections between service providers and citizens form the key link, as individual citizens decide whether or not to engage with state institutions based on their expected costs and benefits of engagement. Our focus on interpersonal relationships rather than group-level representation aligns with Pepinsky, Pierskalla and Sacks (2017)'s definition of embeddedness as "social relationships" that are characterized by "frequent interaction with clients" and "frequent exchange of knowledge" (p. 13.10). In many areas of the developing world, including communities where ethnic or religious diversity is low, close personal connections to service providers or politicians increases the likelihood that individuals receive employment or development services (Fafchamps and Labonne, 2017*b*,*a*), benefit from electoral clientelism (Cruz, 2018; Ravanilla, Haim and Hicken, 2018), and share information with state employees (Ricks, 2016). While many types of social relationships may increase trust between citizens and bureaucrats, family ties are particularly important. Family structures often form the core of individuals' social and political lives (McCoy, 2009). Citizens rely on family connections to attain politically relevant information (Haim, 2017) and politicians rely on their family connections to maintain political power (Cruz, Labonne and Querubin, 2017). An important feature of family networks is that they remain relatively stable over time, with entry to and exit from a family

network strictly regulated by institutions like marriage and divorce. Because of this stability, family ties form a social network that is unlikely to be shaped endogenously by the nature of the individuals from whom it is made up.[2]

Family ties increase buy-in by increasing expected benefits and reducing expected costs of engaging with the police. First, family ties reduce search costs by decreasing the effort a citizen must make to come into contact with law enforcement to provide a report. A citizen with no personal ties to the police must go through formal channels to report an incident, which may include long telephone hold times or travel to a police station. This problem is exacerbated in rural contexts of the developing world, where cell service is often unreliable and travel to population centers can be prohibitively time consuming and expensive. A citizen who knows one or more officers personally may encounter an officer informally, perhaps at home or at a social gathering, or be able to more easily contact an officer should the citizen observe something that needs immediate attention. Closer social connections afford citizens the opportunity to provide information without going out of their way. In addition, the psychological costs associated with interacting with an unknown authority figure – especially one with a weapon – are reduced when a citizen knows the officer personally. Finally, family ties are associated with shared experiences and norms, which should increase trust and decrease concerns about being treated unfairly by a police officer.

Family ties also shape expectations about the level of effort the police will exert in following up on a citizen's report. Citizens face uncertainty over an officer's "type." Some officers will exert considerable effort, making citizens' engagement worthwhile, while others will exert little effort. Personal connections between citizens and police officers increase expected effort by serving as an informational shortcut about an officer's type. First, citizens may reasonably assume that officers are less likely to shirk when doing so would harm someone they know. Another possibility is that embedded police officers may be better-equipped to make use of citizen-

[2]The family networks in the context of our study, Sorsogon Province, are especially stable due to low levels of in-migration. Less than 2.6 % of survey respondents report having moved villages within a 6-year timespan.

provided information. Connected bureaucrats have a better understanding of the community and can work more effectively in it (Evans, 1995; Kasara, 2007), decreasing citizens' concerns that officers will squander information that is brought to them. In the context of policing, officers who can rely on their personal connections to investigate crimes may be more likely to identify perpetrators and bring them in for prosecution. Finally, bureaucrats may exert greater effort when they are more embedded in the community (Easterly and Levine, 1997; Bhavnani and Lee, 2018) due to improved intrinsic motivation (Tendler and Freeheim 1994) or an enhanced sense of bureaucratic accountability (Tsai 2007). Regardless of the exact reason, citizens observe officers' efforts through repeated interactions and update their expectations accordingly. If embeddedness increases officer effort, citizens will expect greater effort in the future, which makes them more willing to incur personal costs to communicate important information to officers. The resulting buy-in creates a feedback loop in which citizen-provided information makes officers more effective, which increases perceived institutional legitimacy, which makes citizens more willing to provide information because they expect their efforts to be worthwhile, and so on.

2.3.1 Alternative Argument: Embeddedness Causes Favoritism, Corruption

There is some reason to worry that close relationships between service providers and citizens might prove detrimental for both buy-in and service provision. Officers who are especially embedded in their community may be more susceptible to favoritism, bribery, and corruption. For example, officers may "look the other way" if someone to whom they are related commits a crime, while pursuing crimes more vigorously if they are related to the victim. Under this argument, embeddedness creates inefficiencies in crime prevention by allocating officers' time and effort on the basis of personal relationships rather than genuine need, and by letting some crimes go unpunished. Favoritism also reduces the expected costs of criminal behavior. Punishing some criminal offenders more leniently than the law allows reduces the deterrent effect of

law enforcement (Olken and Pande, 2012). In addition to the effects on (potential) criminals' behaviors, citizens who perceive the police as playing favorites may be less inclined to provide them with information, either because they do not believe the police will exert sufficient effort in following up or because they worry that any contact they have with the police creates opportunities for the police to mistreat them. If perceived favoritism reduces buy-in, the police will operate with incomplete information about the needs facing their jurisdiction.

Second, because personal connections make monitoring more efficient (Besley, Coate and Loury, 1993; Miguel and Gugerty, 2005), officers with more connections to the community may be more susceptible to cooptation by the community, since it is easier for those paying bribes or exerting personal pressure to determine whether they are "getting their money's worth." At a minimum, using positions of authority for personal gain distracts officers from their task of providing public safety. Once again, however, we might worry that corruption harms perceived legitimacy and increases the expected costs of interacting with officers, reducing citizens' willingness to engage with the police when they have a genuine need to do so. Such concerns of cooptation prompt the Israel Police to avoid assigning Arab officers to their home towns when possible,[3] and motivates Mexican authorities to replace local police with federal police in areas with heavy drug cartel presence. The possibility that embeddedness fosters favoritism and corruption implies that crime rates should increase when the police are more connected to the community they serve.

Even so, there is some reason to think that embeddedness might decrease corruption. In the same way that personal connections help citizens target officers for extortion, those same connections may help community members monitor bureaucrats' behavior and identify mistreatment. Evidence in support of such "grassroots monitoring" is mixed, however. Using a field experiment in Indonesia targeting corruption in road construction, Olken (2007) finds only limited evidence that community efforts at grassroots monitoring reduced missing expenditures. The most likely explanation for the failure of grassroots monitoring is that citizens who become

[3] Author interview with an Israel Police Brigadier General, 24 July 2014.

aware of corruption may not have the incentives or capacity to do anything about it. Bhavnani and Lee (2018) suggest that the effect of embeddedness on service provision depends on accountability: Where citizens are able to monitor *and sanction* bureaucrats, the positive effects of embeddedness prevail, but where there is low accountability these positive effects are undermined by incentives for corruption.

2.3.2 Hypotheses

We test two sets of hypotheses. The first considers the effects of dyadic citizen-officer relationships on citizen attitudes and behaviors. These hypotheses test the microfoundations linking embeddedness with service provision. The dependent variables in this set of hypotheses are measures of the degree to which citizens "buy-in" to state security institutions and are willing to actively cooperate with police. The theory predicts that buy-in is more likely to occur among citizens who share closer personal ties with service-providers.

H_1**:** Individuals who are more closely related to a police officer will report greater trust in him or her.

H_2**:** Individuals who are more closely related to a police officer will be more likely to report a hypothetical crime to him or her.

H_3**:** Individuals who are more closely related to a police officer will perceive him or her as fairer.

The alternative argument suggests that police officers who are embedded in the community they serve will engage in favoritism and misuse their authority for personal gain, negatively affecting citizens' perceptions of the police.

H_4**:** Individuals who are more closely connected to the officers in their community will expect to be treated more leniently if caught committing a crime.

H_5**:** Individuals in communities with higher average police embeddedness will perceive the

police as more likely to use their authority for personal gain.

Given the expected effects of citizen-officer social ties at the individual level, we expect that officer embeddedness at the *community* level will shape the quality of service provision. Crime prevention is a public good; efficient police deterrence reduces crime not just for the citizens to whom officers are related by for all members of the community. If civilians have, on average, closer connections to police officers, then the police should receive better information and deliver this important public good more effectively.

H_6**:** Individuals in communities with higher average police embeddedness will be less likely to be the victim of a crime.

2.3.3 Scope Conditions

The proposed link between officer embeddedness and citizen buy-in assumes that citizens are aware of whether they share a family relationship with police officers. Politically-salient forms of identity, including race and ethnicity, tend to have an observable component which makes it easy for citizens to determine their relationship with street-level service providers (Chandra, 2006). The type of family connections we analyze in this article are even more visible. First, relatives tend to share names, and second, the villages and neighborhoods in our analysis are small enough that relationships are common knowledge (meaning that everyone knows who is related to whom, and everyone knows that everyone else knows this information as well).

The link between citizen buy-in, and specifically citizen-provided information about the community, and crime prevention depends on two conditions. First, officers must *want* to provide public safety. If they have no desire to carry out their duties and would rather shirk as much as possible, then information about the community's needs will have little effect on crime prevention. Second, officers must have the *capacity* to do something useful with the information, in terms of

both technical expertise and resources. If officers do not know how to prevent crimes, then making them aware of crimes will not lead to an increase in public safety. Similarly, if all officers are already responding to emergencies 100% of the time, then being aware of more emergencies does not help them respond any more effectively. While law enforcement agencies in the Philippines are resource constrained and could certainly benefit from increased capacity, it seems unlikely that they are already utilizing the resources they have with 100% efficiency. Thus, it is likely that increased information flows will help tanods prevent crimes more effectively.

2.4 The Philippines: Policing Under Contested Legitimacy

We test these hypotheses in Sorsogon Province of the Philippines. Sorsogon is one of 81 provinces in the country and home to about 800,000 people. Located on the southern tip of Luzon, the same island as the capital city Manila, Sorsogon is primarily rural, with population centers in Sorsogon City, the provincial capital, and Matnog, an important port city connecting Luzon with islands to the south. Sorsogon Province is sub-divided into 541 barangays, an administrative unit akin to a village in rural areas or a neighborhood in urban areas.[4] Eighty percent of barangays in Sorsogon have between 385 and 1700 citizens, with a mean of 777 citizens. Sorsogon's economy is built largely around agriculture. The province has few salient divisions in group identity: the vast majority (95%) of the population practices Catholicism, and ethnicity is not a salient cleavage aside from a very small indigenous population.

Questions of public services delivery are especially important in Sorsogon because the province is a hotbed of activities for the New People's Army (NPA), a communist insurgent group that has waged a protracted armed struggle against the Philippine government since 1969.[5] Although relatively small, with only about 3,200 active fighters,[6] the NPA is responsible for

[4]Barangays are encompassed by municipalities, of which there are 13 in Sorsogon Province.

[5]The province is unaffected by the ongoing Islamist insurgency, which is focused mainly in the southern portion of the country.

[6]Romero, Alexis (2015), "AFP to NPA: No Choice but to Talk Peace." *Philippine Star* https://ph.news.yahoo.

more than two-thirds of the conflict-related violent incidents that have occurred in the Philippines over the past two decades (Crost, Felter and Johnston, 2016). The NPA in Sorsogon provides an alternative to state security institutions, and has developed state-like structures by extorting taxes from businesses and operating a parallel justice system in which "people's courts" (locally referred to as "kangaroo courts") adjudicate disputes.[7] The rebels therefore challenge state legitimacy not just through violent conflict but also by playing a service-providing role traditionally reserved for the state. In other words, Sorsogon is both a highly relevant test case for our theory because of the hyper-relevance of public safety provision and a hard test case because of low levels of legitimacy due to poor government service delivery.

Starting in 2011, the Philippine state ramped up its investment in public goods provision in NPA-affected areas in attempt to outbid rebel-provided services and improve civilian perceptions of state legitimacy.[8] The investment included bottom-up community driven development (CDD) programs aimed at involving local implementers with a better understanding of community needs. This strategy is analogous to empowering local state-affiliated public safety providers who possess local knowledge and the ability to garner citizen trust, consistent with our argument but applied to a different policy area.

Two sets of institutions provide policing services in the Philippines, the Philippine National Police (PNP) and the *tanods*. The PNP is a typical full-service national police force responsible for crime prevention, traffic enforcement, investigations, and counterterrorism. The PNP employs about 170,000 police officers nationwide, including 850 in Sorsogon Province.[9] The PNP assigns each officer to a municipal station overseen by a Provincial Police Office (PPO). However, the PNP is less relevant in many rural areas, including some where it never conducts routine patrols. Particularly in barangays with a significant NPA presence, the PNP's only presence is

com/afp-npa-no-choice-talk-000000779.html

[7]Pearson, Elaine (2012), "Philippines: People's Courts or Cold-Blooded Murder?" *Philippine Star* https://www.hrw.org/news/2012/04/18/philippines-peoples-courts-or-cold-blooded-murder

[8]Efforts included, for example, the initiation of the PAMANA development program implemented by the Office of the Presidential Advisor on the Peace Process (OPAPP).

[9]Based on data provided to the authors by the PNP's Sorsogon Provincial Police Headquarters

for occasional counterinsurgency operations. In a survey conducted for this study, 20.6% of respondents reported that they see PNP officers "almost never," while an additional 24.6% say they see officers "once per month."

The PNP is supplemented by tanods, or semi-professional community safety officers who serve at the barangay level. The barangay captain, elected directly by barangay residents every three years, appoints the barangay's tanods and oversees their activities. Tanods receive training on basic tasks like traffic enforcement, community patrols, and dispute resolution. When serious crimes occur, the tanods report them to the PNP for investigation and to arrest suspects. For common day-to-day public safety issues, however, tanods are the most relevant officials. Tanods tend to be intimately familiar with their barangay. The 183 Tanods in Sorsogon Province who we surveyed for this project have lived in their current barangay for an average of almost 40 years (with an average age of 49) and served in their current role for an average of more than seven years. The barangay provides tanods with basic equipment like a uniform t-shirt and bamboo club. In barangays near the municipal centers, tanods are also often equipped with flash lights, communication equipment, and basic transportation while on duty. Pay varies depending on the barangay, but in all cases tanods make considerably less money than PNP officers. In Sorsogon Province, each barangay has between 5 and 15 tanods. Whereas many citizens never interact with PNP officers, tanods are ubiquitous: 53.2% of our respondents say they see tanods multiple times per day, and an additional 30.9% see them at least once per day. 46% say that tanods are the most important officials for providing security in their barangay. Because of the importance and presence of tanods relative to the PNP, and because only tanods are attached to a specific barangay, our analysis focuses on their level of embeddedness in their barangay.

2.5 Research Design

To test the relationship between tanod family embeddedness and citizen buy-in, we first constructed family network maps for all registered voters in 298 barangays across Sorsogon Province. Voter registration rates in Sorsogon are very high (over 85% on average), giving us a fairly complete frame of the adult population. These 298 barangays were selected because they were deemed "safe for research" by the Armed Forces of the Philippines (AFP) as part of a different research project.[10] From the list of individuals on the voter registration list, we denote a family tie between any pair of individuals within a barangay who share at least one surname. This procedure follows the methods developed by Cruz, Labonne and Querubin (2017) and Davidson, Hicken and Ravanilla (2016).[11]

Two important features of the Filipino naming convention make the creation of family networks based on shared surnames possible. First, in an effort to improve record-keeping for taxation purposes in the late 1800s, Spanish colonial leadership assigned Spanish surnames to all Filipinos. Provincial leaders assigned each barangay priest a unique list of surnames from the *Catalogo Alfabetico de Apellidos* (Alphabetical Catalog of Surnames) to distribute to family heads in their barangay. Because each barangay was assigned a different list of names, common surnames shared by unrelated families in a province (much less a barangay) became exceedingly rare. Second, surnames are passed down from both the mother's and father's side according to the Spanish naming convention, allowing for the tracking of family names through both the maternal and paternal line. As a result, two individuals in a barangay who share a common surname are very likely to be related to each other either by blood or by marriage. This differs from much of

[10] Insurgent presence in the other 243 barangays posed too great of a risk to send enumerators to conduct door-to-door surveys. The designation as "safe for research" does not indicate that the barangay was without NPA presence. Even in many of the barangays included in our research, the PNP does not send officers without a security detail of at least 20 officers and an advance team to ensure safe conditions. However, because of our enumerators' affiliation with both a well-known local research company and an internationally-known university, NPA insurgents did not consider them to be a threat and they were allowed to carry out the survey.

[11] Davidson, Hicken and Ravanilla (2016)adapt the Cruz, Labonne and Querubin (2017) method to calculate family ties at the *individual* rather than the *family* level. We use this adapted method in our study.

the rest of the Spanish-speaking world, where several very common surnames dominate, making it more difficult to infer family connections based on names.

After constructing networks for each barangay, we identify tanods in these networks by matching names from the official list of registered tanods provided by the Philippine Department of Interior and Local Government (DILG).[12] We then calculate several aspects of embeddedness using this information. First, at the dyad-level, we calculate the social distance of each citizen to each tanod in a barangay as the minimum number of steps along the network to connect the tanod-citizen pair.[13] For example, if a citizen has a direct family tie to a tanod (i.e. they share at least one surname), the social distance to that tanod is coded as 1. If a citizen does not have a direct tie to a tanod but has a tie to another citizen who has a direct tie to the tanod, the social distance is coded as 2, and so forth. We use this dyadic citizen-tanod measure of *Distance* in our analysis of citizens' perceptions relating to specific tanods. For each citizen, we then average these dyadic measures of social distance across all of the tanods in their barangay to create a measure of how connected they are to their barangay's tanods in general – the variable *Distance (Avg)*.

Finally, we create several barangay-level measures of tanod embeddedness. The first is the average value of the social distance between each tanod-citizen dyad in the barangay, *Distance (Tanods)*. In addition, we calculate the average degree and betweenness centrality of tanods in a barangay, *Between (Tnds)* and *Degree (Tnds)*. Degree centrality is a count of the number of direct ties a tanod possesses, and captures whether tanods are more likely to be members of families that make up a larger share of the barangay population. Betweenness centrality is calculated by counting the number of "shortest paths" in the network that pass through a given individual. Because individuals that exhibit high betweenness centrality are more connected to different parts of the network through their indirect ties, they are more likely to be important information brokers

[12] An updated list of tanods was collected by the DILG in the months immediately prior to our survey, increasing our confidence that the lists were accurate and up-to-date. Nine of the 298 barangays were not included on this list and are excluded from the analysis.

[13] This measure is also known as "geodesic distance" in the social networks literature.

(Newman, 2005), which operationalizes a key aspect of our theory.

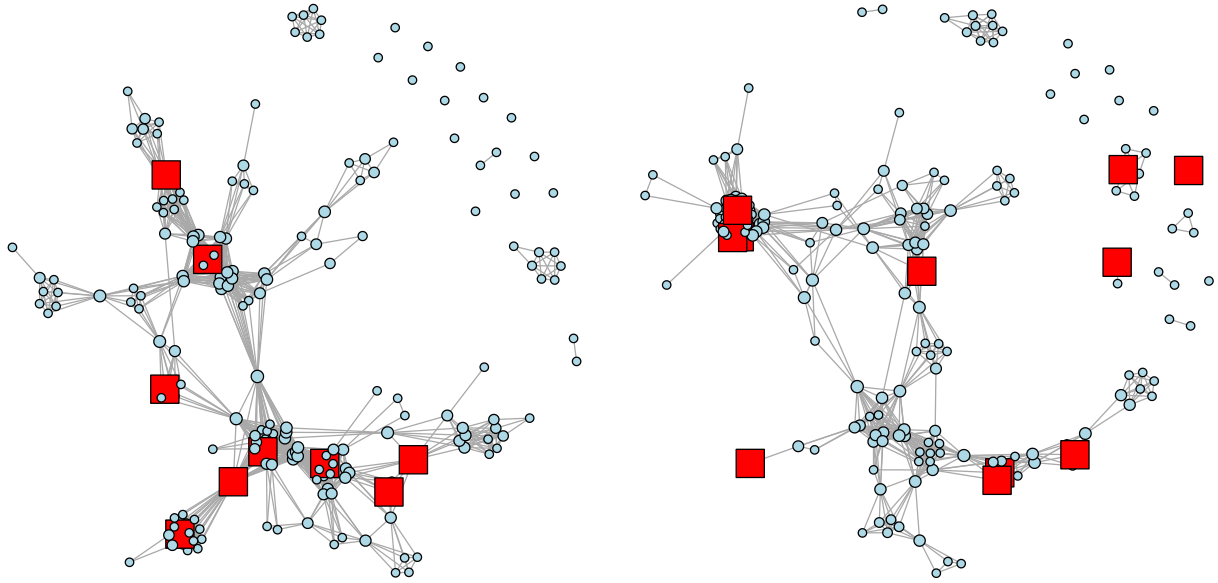
The barangays in our sample display significant variation in tanod embeddedness. In a barangay in the 10^{th} percentile of average tanod social distance – *Distance (Tnds)* – the average length of connection between each citizen-tanod pair is 2.95; i.e. the tanods average just under three links removed from citizens living in the barangay. In a barangy in the 90^{th} percentile, average social distance is 6.07. Figure 2.1 shows what variation in barangay-level embeddedness looks like for two barangays in Donsol Municipality that are very similar in terms of their population, overall network density, and number of tanods. In the barangay on the left (Cristo), tanods have very high levels of embeddedness, as evidenced by their location in the densest parts of the network. In the barangay on the right (Girawan), several of the tanods are located on the periphery of the network, leading to very low embeddedness.

We then conducted two surveys of citizens. The first survey, which included detailed questions about citizens' perceptions of tanods, experiences with corruption, willingness to report crimes, and experiences with criminal activity, included 1,607 respondents across 82 randomly-selected barangays. After analyzing the data from the first survey, we determined that the overall outcome of interest, crime victimization, varied less than expected, causing our analysis to be under powered. We therefore ran a second survey of 2,991 respondents in all 298 barangays from the original sampling frame to measure crime victimization.[14]

For both surveys, respondents were randomly selected from the same list of registered voters that forms the basis for the village network maps, ensuring that all respondents are included in the network.[15] Enumerators went to the barangay hall and asked where they could find the selected individuals. If a subject was not home but was likely to return the same day, the

[14]The second survey was conducted as part of a separate research project by Dotan Haim, Matthew Nanes, and Nico Ravanilla which was funded by the Evidence in Governance and Politics (EGAP) Metaketa IV Project. Data is used here with EGAP's permission.

[15]A small number of proxy survey respondents (surveyed when the intended survey respondent was not present) were not registered to vote, accounting for approximately 5% of our survey sample. In addition, approximately 9% of the tanods on the official DILG lists were not registered to vote. We manually added these individuals to the list of names before creating the networks.



(a) High Embedded Tanods: *Cristo*

(b) Low Embedded Tanods: *Girawan*

Figure 2.1: Village Family Networks

The figures above represent the family networks in two villages in Donsol Municipality with similar populations (Cristo - 193; Girawan - 185) and similar overall network density but different levels of tanod embeddedness. Nodes represent individuals and ties represent direct family relationships between those individuals. Red squares represent tanods. Nodes are sized by betweenness centrality. In Cristo, the average social distance of any given tanod to any given citizen is 4.3. In Girawan, the average social distance of any given tanod to any given citizen is 6.5.

enumerator returned to conduct the interview later. If the selected individual was not available that day, the enumerator interviewed a "proxy," the person available in the household with the next upcoming birthday. If the home could not be located, or if everyone in the household refused to answer, the enumerator proceeded to the next randomly-selected subject from the voter list until the assigned number of respondents had been interviewed in the barangay. The logic behind prioritizing proxy respondents from the originally-selected household is that people living in the same home are likely to be related, so the proxies tended to be located close to the originally-selected individual within the network. In the initial, smaller survey, 30% of interviewees were proxies from the households of unavailable subjects. In the second, larger survey, proxies made up 24.5% of the sample.

2.6 Results: Embeddedness and Citizen Buy-In

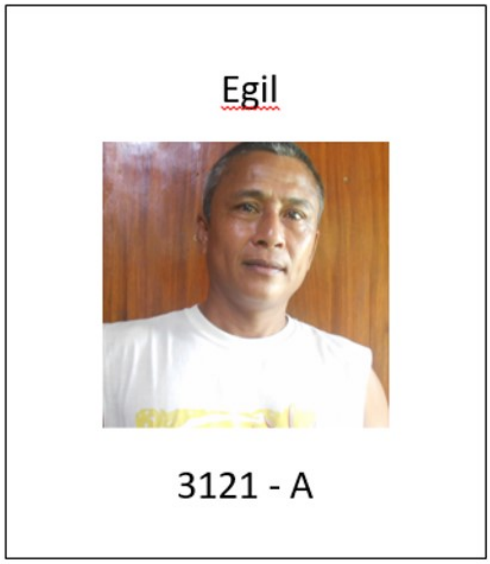


Figure 2.2: Tanod Photo Card

The first set of hypotheses deals with the effects of dyadic citizen-tanod relationships on citizens' attitudes towards specific tanods. The challenge for causal inference is to isolate the effects of this relationship from any citizen, tanod, or barangay characteristics. No doubt some citizens are simply more trusting than others, some tanods are more approachable than others, and these characteristics may correlate with their position in the family network. To avoid conflating the nature of the relationship between citizens and tanods with the characteristics of the individuals themselves, we included in the survey the photos and nicknames of three tanods who serve in the respondent's barangay. The enumerator showed the respondent one tanod's photo and nickname on a printed card, and then asked the respondent a series of questions about their familiarity with and attitudes towards that specific tanod.[16] The enumerator then repeated the procedure for the second and third tanods, randomly varying the order in which the tanods were

[16]Photos and nicknames were collected from three randomly selected tanods on the DILG list of registered tanods in the barangay with their consent, weighted by their social distance from each other to maximize variation in social distance to respondents. We use a tanod's nickname (locally "palayaw") rather than his or her official name because it is far more recognizable to other individual's in the barangay, a fact that became obvious while we were piloting the survey.

displayed across respondents. We regress the respondents' answers on their social distance to each tanod and include fixed effects for both the respondent and the tanod. Thus, we are able to observe the effects of the dyadic citizen-tanod relationship independent of any citizen, tanod, or barangay characteristics. Figure 2.2 shows an example of the photo cards enumerators used.

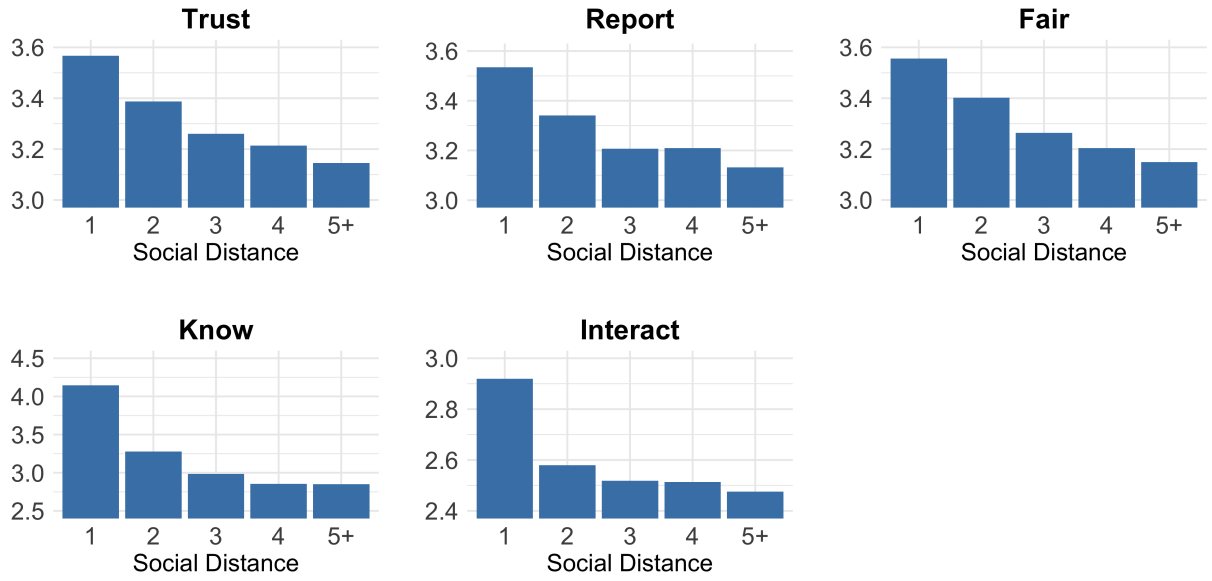


Figure 2.3: Social Distance and Citizen Perceptions of Tanods

Figure 2.3 shows the results of these models. Full model results underlying these results can be found in Table 2.3 of the Appendix; all results discussed in this paragraph are statistically significant ($p<.05$). The x-axis, *Social Distance*, is the length of the shortest path in the network map between the respondent and the tanod in question.[17] The y-axis for each subfigure is the predicted citizen response on a 5-point likert scale (specific questions found in footnotes 18-20). The top row of subfigures displays the relationship between *Social Distance* and respondents' predicted trust in the tanod, willingness to report a crime to that tanod, and perceptions of the tanod's fairness, respectively. The results show that citizens who are a shorter distance from the tanod, i.e. are more closely related to them, are more likely to trust the tanod and more likely to perceive him or her as fair.[18] Consistent with the buy-in hypothesis, respondents are also more

[17] *Social Distance* ranges from 1 to 18, with a mean of 4.

[18] *Trust:* "How much do you agree with the following statement: I trust this Tanod." *Fair:* "How much do you

likely to say they would feel comfortable reporting a crime to tanods to whom they are more closely related.[19] The bottom row of subfigures are checks on our measure of tanod connectedness. They show that respondents interact more frequently with and report closer knowledge of tanods to whom they are closer in the family network.[20] Clearly, family connections between citizens and tanods have an important effect on citizens' perceptions of tanods, and consequently their willingness to provide them with information about crimes in the community.

2.7 Results: Embeddedness, Corruption, and Favoritism

Next, we test the two alternative hypotheses which suggest a negative effect of embeddedness on tanod performance: first, that tanods will engage in favoritism by unfairly providing more lenient treatment towards criminal suspects to whom they are related; and second, that embedded tanods will be more likely use their authority for personal gain because embeddedness helps them identify vulnerable targets for extortion and minimize the chances of getting caught. Because of the sensitive nature of these topics, we could not ask respondents about experiences with favoritism or corruption related to names and photos of specific tanods in their community. Citizens would be highly unlikely to admit to unfair treatment or extortion on such a personal level, and we worried that asking such sensitive questions may cause respondents significant discomfort and might upset the barangay officials whose approval we relied on for access. Instead, we asked two general questions. To measure favoritism, we asked,

> If a Tanod caught you committing a petty crime, for example shoplifting or public intoxication, do you think they would give a verbal warning, make you apologize, make you pay a fine, or take you to jail?

agree with the following statement: This Tanod treats the people who live in my Barangay fairly."

[19] *Report:* "How much do you agree with the following statement: If I observed a crime, I would feel comfortable reporting it to this Tanod."

[20] *Interact:* "In your day-to-day life, how often do you interact directly with this Tanod?" *Know:* "How would you describe your relationship to this Tanod?" Answer choices constitute an ordinal scale of familiarity: "I have never met him/her; I know of him/her but do not know him/her personally; I know him/her personally but do not consider him/her a close friend; I consider him/her to be a friend; I am related to him/her."

The response options provide a scale of increasing severity. If tanods are more lenient towards citizens to whom they are related, then citizens who are more closely connected to the tanods in their area should expect less severe treatment compared to citizens who are more distantly connected to the tanods. To measure perceptions of corruption, we asked,

> How frequently do you think that Tanods in your Barangay use their positions and authority for personal gain, for example by taking payments or gifts from citizens? Never, occasionally, frequently, or all the time?

Table 2.1 shows the results of several models testing these two hypotheses. The key independent variable in Models 1-3, *Distance (Avg),* is the average network distance between an individual respondent and each of the tanods in his or her barangay. A higher score on the distance measure indicates that the individual is *less* connected. *Distance (Avg)* is the same measure of connectedness used in Table 2.3 averaged across multiple tanods instead of a citizen-tanod dyad. Whereas the first three models consider the effects of an individual respondent's connectedness to the barangay's tanods, Model 4 tests the effects of the tanods' embeddedness within the barangay as a whole. It uses *Distance (Tanods),* the average network distance between each tanod and every citizen in the barangay. *Distance (Avg)* is measured at the individual respondent level, while *Distance (Tanods)* is measured at the barangay level. Accordingly, Models 1-3 include barangay fixed effects, while Model 4 includes additional barangay-level controls for the barangay's overall family network density, population size, the percent of the population registered as "overseas foreign workers," and the percentage of the population that is male (not shown).[21] All models include a set of individual-level controls. Models 1, 3, and 4 use OLS, while Model 2 uses logistic regression because of its dichotomous dependent variable.[22]

Model 1 shows that respondents who are more distant from (less connected to) their barangay's tanods expect that if a tanod caught them committing a minor crime, they would be treated less severely compared to respondents who are more connected. To ensure that these

[21] These additional controls come from the most recent Philippines census, conducted in 2010.

[22] The results in Model 2 hold when using OLS instead of logistic regression. The *Corrupt* variable is somewhat over-dispersed; results hold using negative binomial regression in place of OLS.

Table 2.1: Family Ties and Favoritism

	(1) Severity	(2) Jail	(3) Corrupt	(4) Corrupt
Distance (Avg)	-0.0142**	-0.169***	0.0107**	
	(0.00684)	(0.0508)	(0.00458)	
Distance (Tanods)				0.0154**
				(0.00670)
Age	0.000391	0.00716	-0.000966	-0.000900
	(0.00180)	(0.00984)	(0.000925)	(0.000932)
Male	0.0247	0.519**	0.0407*	0.0378
	(0.0485)	(0.244)	(0.0231)	(0.0229)
Education	0.0594***	0.264***	-0.00423	-0.00553
	(0.0156)	(0.0787)	(0.00939)	(0.00909)
Reside Years	-0.000200	-0.00772	0.000310	-0.000000242
	(0.00131)	(0.00799)	(0.000823)	(0.000829)
Income	-4.247	-5.191	0.209	0.0356
	(3.183)	(14.95)	(1.632)	(1.651)
Observations	1548	1007	1552	1561

Barangay-clustered SE. Models 1-3 include barangay FE, 4 includes additional controls.
* $p < .10$, ** $p < .05$, *** $p < .01$

results are not an artifact of the somewhat arbitrary scale of severity, Model 2 tests the same relationship using a dummy variable for whether or not the respondent believes he or she would be taken to jail if caught committing the minor crime. Once again, respondents who are more distant from (less connected to) their barangay's tanods are less likely to believe they would be taken to jail. In other words, far from expecting favorable treatment, citizens to whom tanods are connected expect to be treated more harshly!

Models 3 and 4 test the effects of embeddedness on perceived corruption, and specifically the belief that tanods frequently use their position for personal gain. Model 3 shows that citizens who are more distant from (less connected to) their barangay's tanods say that they tanods engage in corruption more often. In Model 4, respondents in barangays whose tanods are more distant from citizens (less embedded) perceive that tanods engage in corruption more often. Not only is there no evidence of embeddedness leading to corruption, the results suggest that embeddedness is associated with *less* corruption. While we cannot say for sure whether embeddedness is associated with less actual corruption or simply alters citizens' *perceptions* of corruption, at a minimum it is clear that embeddedness does not harm buy-in and legitimacy through this channel.

To what extent should citizens' perceptions of corruption match reality? Treisman (2007) finds that perceived corruption tends not to correlate closely with reports of experienced corruption, and speculates that people may inadvertently assume corruption is occurring in the presence of conventional explanations for corruption like low economic development, the exclusion of women from politics, and restrictions on the press. While we do not measure experienced corruption directly, we expect our respondents' perceptions to reflect reality somewhat more closely than those in the studies Triesman reviews. The studies Triesman references use evaluations by "experts" making broad judgements about an entire country, whereas our respondents are being asked to evaluate tanods with whom they have frequent personal interactions in a very small administrative unit. Regardless, the argument that perceptions are based on conditions assumed to foster corruption biases *against* our findings. That is, conventional wisdom suggests that

bureaucrat embeddedness should foster greater corruption, therefore the presence of highly-connected tanods should increase perceptions of corruption. Yet, we find a consistent negative relationship between embeddedness and perceived corruption.

2.8 Results: Embeddedness and Crime

Finally, how does embeddedness affect the quality of service provision? The finding that family connections between citizens and tanods increase citizen buy-in and decrease favoritism suggest that embedded tanods should be more effective at preventing crime. We measure the quality of service provision using crime victimization. Following Banerjee et al. (2012) and Nanes (2017*b*), we assume that public safety problems will decrease when the quality of police service provision increases. Rather than using administrative crime statistics, which are susceptible to reporting bias and would almost certainly be confounded with citizens' trust in the police (Banerjee et al., 2012), we ask respondents whether they have experienced any of several types of issues in the last six months. We focus on less-serious public safety problems like petty theft, disputes between neighbors, juvenile delinquency, and family feuds for two reasons. First, these are the types of items that tanods are most likely to deal with, while more serious crimes like drug pushing, homocide, and assault remain the domain of the PNP. Second, less serious crimes are likely to go unnoticed by the police if citizens do not report them, whereas more serious issues like vehicle thefts and murders are unlikely to escape the attention of law enforcement. Thus, citizen buy-in is most important for preventing minor crimes.

Table 2.2 shows the results of several models testing the relationship between tanod embeddedness and crime. Each dependent variable is coded as "1" if the respondent experienced the issue in question in the past six months, otherwise "0." The least common issue, juvenile delinquency, was experienced by 7% of respondents, while 14.5% experienced the most common issue, neighbor disputes. All models use logistic regression because of the dichotomous dependent

variable and control for a full slate of barangay-level controls (not shown)[23] in addition to the individual-level controls whose coefficients are reported in Table 2.2. The two key embeddedness variables are *Between (Tnds)* and *Degree (Tnds)*, the average betweenness and degree centrality for a barangay's tanods. These predictors vary at the barangay level, therefore we cluster standard errors at the barangay level.

[23]Barangay-level controls are the barangay population's network density, population size, proportion of the population that is male, average household size, number of overseas foreign workers from the barangay, average educational attainment, and the proportion of the population age 18–39. All variables except network density come from a 2010 census.

Table 2.2: Tanod Embeddedness and Crime

	(1) Feud	(2) Feud	(3) Neighbor	(4) Neighbor	(5) Juvenile	(6) Juvenile	(7) Theft	(8) Theft
Between (Tnds)	0.205		0.301**		-0.354*		-0.0492	
	(0.136)		(0.130)		(0.192)		(0.185)	
Degree (Tnds)		0.0124**		0.0152***		-0.0220**		0.00148
		(0.00588)		(0.00538)		(0.00948)		(0.00689)
Age	-0.0458***	-0.0458***	-0.0338***	-0.0337***	-0.0308***	-0.0309***	-0.0115**	-0.0116**
	(0.00529)	(0.00525)	(0.00498)	(0.00492)	(0.00764)	(0.00772)	(0.00491)	(0.00488)
Education	-0.0440	-0.0420	0.00280	0.00548	0.0459	0.0421	0.166***	0.165***
	(0.0509)	(0.0508)	(0.0485)	(0.0482)	(0.0672)	(0.0676)	(0.0519)	(0.0515)
Employed FT	0.0132	0.00753	-0.108	-0.117	0.461**	0.471**	0.0937	0.0946
	(0.131)	(0.130)	(0.133)	(0.132)	(0.211)	(0.212)	(0.167)	(0.167)
Income	-4.909	-5.080	-4.703	-4.851	5.897	5.871	-1.212	-1.207
	(6.161)	(6.144)	(5.859)	(5.855)	(4.079)	(3.877)	(2.665)	(2.703)
Yrs in Barangay	0.00145	0.00165	0.000630	0.000884	-0.00132	-0.00172	0.000513	0.000588
	(0.00193)	(0.00190)	(0.00251)	(0.00243)	(0.00372)	(0.00394)	(0.00210)	(0.00207)
Degree	0.00177	0.000850	0.00172	0.000738	0.00823***	0.0101***	0.000486	0.000129
	(0.00181)	(0.00191)	(0.00175)	(0.00180)	(0.00217)	(0.00258)	(0.00210)	(0.00219)
Observations	2773	2773	2772	2772	2757	2757	2784	2784
R^2								

Logistic regression with barangay-clustered standard errors in parentheses. Models include barangay-level controls.

* $p < .10$, ** $p < .05$, *** $p < .01$

The apparent effects of tanod embeddedness on crime are mixed. Juvenile delinquency is, as expected, less common in barangays where the tanods are more embedded. However, family feuds and neighbor disputes are *more* common in barangays in which the tanods are more embedded. The relationship between embeddedness and petty theft is not statistically significant. What might explain these inconsistent results? Why does citizen buy-in not appear to translate to more effective crime prevention across all types of crime?

Several possibilities exist. First, as we note above, the link between buy-in and service provision assumes that tanods *want* to provide services (i.e. exert effort towards crime prevention) and that they have the capacity to react to citizen-provided information in a useful way. If either of these links are broken, buy-in would not affect crime. In the context of tanod service provision in the Philippines, we think these explanations are unlikely to apply. With regard to effort, extensive field work by both authors revealed no systematic attempts to shirk by Sorsogon's tanods. On the contrary, tanods were extremely enthusiastic about participating in public safety initiatives under a province-wide initiative launched in 2017. A lack of capacity to turn information into effective public safety provision seems somewhat plausible, but this limitation predicts only a null result and cannot explain the positive relationships between embeddedness and feuds or neighbor disputes.

We speculate that the observed effects depend on the nature of the crime in question. Family feuds and disputes between neighbors differ from typical perpetrator-victim crimes in the methods through which law enforcement officers investigate and deter problems, and consequently the role that personal connections with the community play. For dispute-type crimes, rather than being asked to determine who committed an obviously-illegal action, they must interpret whether or not some behavior was improper in the first place. These types of issues are often resolved through mediation rather than criminal justice, and mediation depends on both sides viewing the mediator as fair and unbiased. When tanods are extremely embedded in the community, they may have trouble playing the role of impartial mediator, either because they are *actually*

biased, because one or both parties to the dispute attempt to use their personal ties to pressure the tanod into a favorable judgment, or because one side in the dispute perceives that the other side has received unfair treatment due to family connections and therefore rejects the tanod's ruling. In contrast, preventing juvenile delinquency is more straightforward police work in which tanods rely on citizens to alert them to issues, including details about the identity of offenders and problematic locations.

2.9 Discussion and Conclusion

We find evidence that person-to-person ties between citizens and rank-and-file law enforcement officers significantly increase citizens' willingness to engage with state security institutions. In particular, citizens who are more closely related to a law enforcement officer are more likely to trust him or her, more inclined to perceive him or her as fair, and more willing to provide information about problems in the community. These effects occur independently of the individual characteristics of either the citizen or the officer. We argue that the resulting increase in citizen-officer information flows when officers are more embedded allows officers to allocate resources more efficiently. While we find some evidence consistent with this argument, we also find cases in which officer embeddedness is associated with an increase in crime. While officer embeddedness is associated with a decrease in nuisance crimes like juvenile delinquency, it is associated with more frequent occurrences of neighbor disputes and family feuds. We speculate that when officers are highly embedded in their community, it makes it more difficult for them to serve as impartial mediators for dispute resolution. We also test a common counter-argument, that bureaucrats and law enforcement officers who are *too* embedded are susceptible to corruption and favoritism. Such concerns have prevented full implementation of community policing in a number of countries worldwide, including Mexico and Israel. We find no evidence for this argument whatsoever; in fact, citizens who are more connected to tanods expect to be treated

more harshly if they are caught committing a crime.

These findings have important implications on at least two fronts. First, they suggest a specific causal pathway through which representation in service-oriented institutions affects the quality of services those institutions provide. Our analysis of family ties tests a more general argument that extends to the representation of ethnic, racial, religious, and other identity groups as well. Wherever some source of identity is politically salient, calls for representation in service-providing institutions along identity lines are common. Yet, researchers and policy advocates rarely specify the precise reason why representation should matter. We demonstrate that personal connections increase information flows from citizens to public officials. Thus, exiting research which finds that representation on the basis of shared ethnic, racial, or religious identity improves bureaucratic outcomes may simply be picking up on the higher likelihood of personal connections between individuals who share a salient group identity. For example, Lyall (2010) finds that counterinsurgent forces which include individuals from the same identity group as rebels are more effective at preventing future insurgent activity, which he suggests is because ingroups are better able to monitor and sanction one another. In a lab in the field experiment, Habyarimana et al. (2007) find that coethnics are more likely to cooperate to generate public good in large part because they are more socially connected to one another. Our findings make explicit the conclusion towards these studies points: politically-salient group identity is a proxy for personal connections, and to the extent that group-based representation improves public goods delivery, these personal connections are likely the cause.

Second, the pivotal role of citizen-state information flows, and the role personal connections play in driving these flows, extends beyond the bureaucratic provision of public goods. Improvement in citizens' willingness to engage with state institutions when they have personal connections with the employees of those institutions has implications for counterinsurgency. Rebel groups rely on civilians to provide material support and cover from government forces (Berman, Shapiro and Felter, 2011). Existing research shows that citizens are more willing to

provide tips to counterinsurgents who are coethnics (Lyall, Shiraito and Imai, 2015), implying that government forces with citizen-provided information should be better able to locate rebels and defeat them using force. However, improved citizen buy-in has an even greater potential benefit for combating threats to state legitimacy, one which does not rely on the use of physical force. One way in which insurgents attempt to win civilians' support is by providing alternatives to government goods and services. For example, in the Philippines the NPA subverts government authority by operating "People's Courts" as an alternative criminal justice system. By increasing citizens' willingness to engage with state institutions, and especially law enforcement, an embedded street-level bureaucracy counteracts these efforts by insurgents. To the extent that counterinsurgency efforts depend on enhancing the legitimacy of the state in the eyes of citizens and convincing them to provide the state with information about insurgents' activities, an embedded bureaucracy enhances state legitimacy by allowing the state to uphold its part of the implicit bargain by delivering public services in return for authority. Citizens' engagement and cooperation with state institutions signals a willing delegation of this authority and a vote of confidence in government service-providing institutions, undermining competing claims of legitimacy which undermine stability.

2.10 Appendix

Table 2.3: Family Ties and Citizen Perceptions of Tanods

	(1) Trust	(2) Report	(3) Fair	(4) Interact	(5) Know
Distance	-0.0239**	-0.0212*	-0.0254**	-0.0474**	-0.145***
	(0.0109)	(0.0116)	(0.0116)	(0.0228)	(0.0219)
Observations	3583	3586	3576	3580	3587
R^2	0.127	0.119	0.121	0.117	0.129

OLS with respondent-clustered SE. Respondent and tanod fixed effects.
* $p < .10$, ** $p < .05$, *** $p < .01$

Table 2.3 shows the statistical model underlying the results in Figure 2.3. The predictor, *Distance*, is the length of the shortest path in the network map between the respondent and the tanod in question.

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Chapter 3

Clash of Clans: Local Elections, Political Networks and Conflict in the Philippines

3.1 Abstract

How do local electoral politics influence counterinsurgency effectiveness? Previous research has largely conceptualized counterinsurgency as being conducted by a unified national government motivated to expel insurgents. In reality, certain local elected officials benefit from an alliance with insurgents, undermining national government attempts to establish military control. Specifically, I argue that the control of political *clans* over local politics inhibits national government attempts to effectively conduct counterinsurgency. Political clans rely on insurgent presence to strengthen their hold on local power and, in return, use their political influence to subvert national government attempts to eliminate insurgent presence. While clans are able to slow national government attempts to win military control from insurgents, clans' strong grip on power also results in reduced violent incidents due to lower levels of contestation. I test this theory using village-level data from the Philippines on 1) political clan influence, 2) village level electoral returns, 3) insurgent presence, and 4) conflict-related violence from 2009-2015.

3.2 Introduction

Civil conflicts that involve relatively weak insurgencies fighting much higher capacity state governments often last for decades and make up some of the world's most enduring conflicts (Kalyvas and Balcells, 2010; Sundberg and Melander, 2013). In the Philippines, a once-strong communist insurgency founded half a century ago still continues to affect thousands of villages across the country, despite the fact that the group has only maintained approximately 1,500-5,000 active fighters at any given time over the past 20 years (International-Crisis-Group, 2011). In addition, a decades long conflict with Moro separatist groups in Western Mindanao has recently seen an up-tick in extremist violence stemming from the actions of several relatively small splinter groups.[1] Despite possessing much lower military capacity than the governments they are fighting, similarly weak insurgencies in Colombia, Myanmar, and India, among other countries, have also lasted for decades and continue to cause significant economic disruption and high levels of violence. How do these small, but disruptive, insurgencies become so entrenched in the face of heavy government investment in counterinsurgency?

Previous scholars and policymakers have argued that insurgent groups survive because of the protection provided to them by local civilians, upon whom government forces rely for intelligence (Kalyvas, 2006; Berman and Matanock, 2015; US-Army, 2007). Real-time information on rebel identities and activities is needed to defeat rebels whose greatest advantage is their ability to hide in plain sight. In this paper, I argue that insurgents often also rely on another key ally that helps protect them from encroachment by national counterinsurgent forces: local elected politicians. Contrary to the assumption made by much of the existing literature, governments are not unitary actors with a consistent incentive to eliminate insurgents. Instead, local politicians, whose hands are on the levers of important aspects of counterinsurgency implementation, may have strong reasons to help sustain continued insurgent presence in the areas

[1] The recent increase in rebellion-related violence in ARMM largely stems from incidents involving the BIFF, Maute Group, and Abu Sayyaf. These groups are much smaller in numbers relative to the MILF and are being actively pursued by counterinsurgency forces.

where they govern. A corrupt bargain between local government elites and insurgent groups can maintain the political control of both actors. Politicians use an alliance with insurgents to intimidate political opponents, sustain clientelist practices, mobilize voters, and generate income from extractive illegal industries. In exchange, insurgent groups rely on local politicians to shield them from counterinsurgency efforts by influencing the assignment of local security leadership and the targeting of government infrastructure projects. This process plays out similarly to the relationship other scholars have identified between politicians and organized crime organizations (Acemoglu, Robinson and Santos, 2013; Alesina, Piccolo and Pinotti, 2016; De Feo and De Luca, 2017).

When, then, are these corrupt bargains between insurgents and local politicians likely to occur? I contend that alliances between insurgents and local politicians are more likely to form when politics are controlled by political "dynasties" (clans). Clan politics is characterized by networks of political families that monopolize local power, occupying multiple political positions across both time and space. The dominance of local political clans is common in many developing democracies, including in many of the countries currently experiencing civil conflict (Querubin, 2016; Rossi, 2012; Asako et al., 2015). Political clans are particularly likely to be allied with insurgent groups for both "supply-side" and "demand-side" reasons. First, political clans benefit disproportionately from weak centralized state capacity, which allows them to continue practices that bring them rents and preserve their monopoly on power, like clientelism and corruption. Sustained insurgent presence generates the instability that allows them to continue these practices uninhibited. Second, by building connections over time and by controlling multiple levels of government, clan politicians are better able to use their influence to impede counterinsurgency efforts, should they wish to do so. Finally, from the insurgent perspective, clan politicians make for more attractive allies because of their ability to maintain power over time and across neighboring administrative units, affording insurgents with more stable protection.

The theory in this paper leads to two key propositions. My central hypothesis is that

insurgent groups are more likely to retain territorial control in areas where local political clans have influence. This is true even in the face of national government attempts to win civilian "hearts and minds" through counterinsurgency-related development projects. At the same time, the protection afforded by local clans results in reduced contestation between insurgents and the state, as well as the need for insurgents to threaten civilians with violence. Counter-intuitively, this implies that the presence of political clans will result in lower levels of conflict-related violence. I find support for both of these predictions using fine-grain data on political clan influence and conflict outcomes in the Philippines over the 2009-2015 period. Stronger clan influence in a village is associated with an increased propensity for insurgents to retain an active military presence in that village, as measured by military intelligence reports. At the same time, areas governed by clan mayors are significantly less likely to experience incidents of conflict-related violence.

The findings of this study provide several important contributions to the academic literature on insurgency and civil conflict. Existing research has largely conceptualized counterinsurgency as being conducted by a unified national government motivated to expel insurgents.[2] In reality, certain *local* government leaders may benefit from an alliance with insurgents, undermining national government attempts to establish military control. The disaggregation of local and national political incentives is particularly salient because local government leaders frequently have tremendous leeway over the implementation of counterinsurgency policy. National governments and intervening foreign militaries delegate this power to local government leaders because their knowledge and influence networks are crucial to counterinsurgency success. But local leaders can also use their local knowledge and influence to undermine counterinsurgency. Along these lines, this study highlights the importance of moving beyond the singular focus on factors that shape *civilian* cooperation with counterinsurgents. Civilian behavior, particularly their propensity to share information with counterinsurgents, undoubtedly plays an important role in insurgent

[2]See, for example, the formal model presented by Berman, Shapiro and Felter (2011), which provided the foundation for a blossoming recent literature on insurgency.

conflict.[3] However, the behavior of elite local actors can have a disproportionately large effect on counterinsurgency success.[4] Better understanding the factors that drive the behavior of local government elites can illuminate conditions under which broader counterinsurgency strategies (like the attempt to win civilian "hearts and minds") have room to be effective.

The remainder of this paper proceeds as follows. I begin by presenting a brief background of relevant academic literature on insurgency. I then turn to my theory, detailing how certain local politicians and insurgents benefit from coordination. This section also includes a discussion of why clan politicians in particular end up allied with insurgent groups and the mechanisms by which 1) insurgent groups favor clan politicians and 2) clan politicians undermine national counterinsurgency efforts. After laying out specific hypotheses, I present descriptive data on conflict and elections in the Philippines, followed by findings connecting political clans to patterns of insurgent territorial control and the incidence of violence.

3.3 Background

Existing research on insurgency has focused largely on the relationship between the conflict actors (government and rebel group) and non-combatants. In "asymmetric" conflicts where one conflict actor has disproportionately high military capacity compared to the other actor, the weaker side must rely on protection provided by civilians in order to operate effectively. Because insurgents live amongst the civilian population and rely on them for food and supplies, civilians often hold crucial information on insurgent identities and movements. If shared with counterinsurgents, this information can be used by the government to disrupt insurgent activities

[3] Berman and Matanock (2015) provide an excellent overview of how civilian information-sharing impacts insurgent conflict, as well as the factors that shape this civilian behavior.

[4] As the 2007 US Counterinsurgency Field Manual states, "traditional authority figures often wield enough power, especially in rural areas, to single-handedly drive an insurgency" (US-Army, 2007). Gaining the cooperation of local tribal leaders in Iraq and Afghanistan is widely recognized as a determining factor driving whether counterinsurgents can effectively operate in a region. For example, it was the shift in loyalties of local tribal leaders in Iraq that led to the Anbar Awakening and turned the tide of the Iraq War.

and carry out effective attacks against guerrilla fighters.

The focus of many policymakers and scholars has been centered on the conditions under which civilians are more or less likely to share information with counterinsurgent forces. From the insurgent side, guerrilla leaders have focused much of their writings on building a "mass base" of support among civilians who are willing to protect insurgent identities and provide them with food and supplies (Mao, 1937; Guevara, 1961; Giap, 1961; Sison, 1970). From the government side, prominent policymakers have focused on counterinsurgency strategies aimed at winning civilian "hearts and minds" by addressing their economic grievances and ensuring their security (Thompson, 1966; Corpus, 1989; US-Army, 2007). The importance of civilian-held information has also been the focus of a burgeoning literature in economics and political science focusing on the micro-level dynamics of civil conflict (Berman and Matanock, 2015; Zurcher, 2017). The two main findings of this scholarship are that civilians are more willing to cooperate with counterinsurgents (and thus, counterinsurgency is more likely to be effective) when civilians are provided with sufficient security (Condra et al., 2010; Lyall, Blair and Imai, 2013; Shaver and Shapiro, 2016; Sexton, 2016) and economic development (Berman, Shapiro and Felter, 2011; Beath, Christia and Enikolopov, 2016; Crost, Felter and Johnston, 2016). This aligns with previous academic literature on the economic roots of conflict that focuses both on the grievances that drive conflict (Gurr, 1971; Horowitz, 1985) and the opportunities (greed) that allow conflict actors to thrive (Collier and Hoeffler, 2004; Fearon and Laitin, 2003).

While this literature does well at explaining individual civilians' decision to join insurgent groups or cooperate with the government, it largely overlooks the role of local elites. Local elites are likely motivated by a very different calculus than ordinary civilians. As I lay out in further detail below, the way in which local elites interact with conflict actors can affect their hold on political power and ability to extract rents. Because they lack the anonymity of ordinary civilians, local elites can also be expected to respond differently to threats of violence. At the same time, it is an oversimplification to conceptualize local elites as a simple extension of the "government," as

is common in models of insurgency. Even though they may be elected into government positions and shape government policy (including as it relates to counterinsurgency), local elites may have strong reasons not to align their actions with the goals of the national government. A fruitful recent line of research investigates the implications of disaggregating rebel organizations into their constituent factions (Cunningham, 2013, 2006; Driscoll, 2012). The present study follows in this same vein, but aims to disaggregate different actors within the government side. Specifically, it highlights an important divide between the incentives of central and local government actors.

The role of local elites is particularly relevant to the study of insurgency because their actions impact whether relatively weak groups are able to thrive in the face of national government pressure. This argument is importantly related to a growing literature on the relationship between politicians and criminal organizations. Studies on the Italian mafia show that political elections can be affected by mafia violence and that, in turn, politicians friendly to the mafia increase the criminal organization's ability to maintain control (Alesina, Piccolo and Pinotti, 2016; De Feo and De Luca, 2017). Acemoglu, Robinson and Santos (2013) extend this logic to the realm of civil conflict, using data from Colombia to show that insurgents are able to use the threat of violence to elect sympathetic politicians.[5]

3.4 Theory

My argument has two main parts. First, I posit that certain local politicians and insurgent groups have an incentive to coordinate with each other because of the effect that an alliance has on both actors' ability to maintain political control. I begin by laying out the potential benefits and costs to coordination for both actors along with mechanisms for *how* local politicians and insurgents can use the tools at their disposal to benefit each other. Second, I detail why

[5]The main outcome of interest in Acemoglu, Robinson and Santos (2013) is the timing of the use of violence by rebel groups. In this paper, I take a different approach by considering how politicians that are more likely to benefit from rebel presence are able to affect rebel control and violence.

clan politicians are more likely than other local politicians to enter into corrupt bargains with insurgents. In short, political clans stand to benefit more than other local politicians from allying with insurgents and are also more likely to be able to effectively stall national counterinsurgency efforts should they wish to do so. I conclude this section by translating the insights of the theory into empirically testable hypotheses.

3.4.1 Why Local Politicians Ally with Insurgents

In order for insurgents to gain the protection of local politicians, these politicians must stand to benefit from continuing insurgent presence in the area where they govern. I argue that there are two main categories of benefits that local politicians can gain from a corrupt bargain with insurgents: 1) direct electoral benefits from insurgents' role in elections and 2) indirect electoral and economic benefits associated with reduced central state capacity.

Insurgents' Role in Elections

The first benefit that local politicians potentially gain from an alliance with insurgents stems from the direct role that insurgents play during elections. Insurgent groups can provide allied politicians with the political "muscle" needed to sway votes and intimidate opponents. Electoral violence is common in many developing democracies, and can be used by politicians to coerce voters into turning out, changing their vote, or staying home (Höglund, 2009; Dunning, 2011; Hafner-Burton, Hyde and Jablonski, 2014). Because insurgents have detailed knowledge of the communities where they operate, they may be better able to target coercion strategically at swing voters or socially central individuals (Collier and Vicente, 2012; Cruz, 2018). Insurgents can also use their coercive capacity to directly deter allied politicians' opponents from running for political office or campaigning in areas where they operate.[6] While politicians can intimidate

[6]For example, in the lead-up to the recent local elections in Mexico, more than 100 candidates were assassinated, with many of these occurrences being linked to organized crime organizations (http://wp.telesurtv.net/english/news/Mexican-Mayoral-Candidate-Becomes-Murder-Victim-Number-114-

voters and their political opponents by hiring their own goons, this risks significant social or legal backlash if discovered and is expensive to organize. Outsourcing electoral coercion to a group that already has the firepower needed to coerce, while maintaining plausible deniability for the politician, may be a preferable strategy.

Interviews conducted during five months of field research in the Philippines reveal how the process of direct insurgent involvement in elections plays out. One individual who plans to run for village captain (Punong Barangay) in an area with active NPA presence reveals how insurgents utilize voter intimidation.[7] According to the interviewee, members of the NPA will spread the word about their preferred candidate several days before the election. They do not explicitly threaten violence if voters refuse to comply, but the threat is implicit. In areas where the NPA operates, appearing to be a government supporter or informant can significantly raise the risk of violence used against one's family. On election day, NPA personnel make themselves seen near polls, giving voters the impression that their turnout is being monitored. While an individual's vote choice is secret in most cases, lower than expected vote totals for the NPA's preferred candidate can lead them to later question families in the village who are suspected of supporting opposition candidates. As a result of the NPAs coercive capacity, politicians can use an alliance with the NPA to mobilize high turnout and sway vote choice in villages where they have an active presence.

Political assassinations by insurgent groups in the Philippines also occur regularly. NPA "sparrow units" are notorious for assassinating police officers, government informants, and politicians who they perceive as threatening. One way that the NPA systematically influences politician behavior is by selectively issuing "permits to campaign" in areas where they operate. Acquiring these permits to campaign requires politicians to pay a fee to the NPA in exchange for an official-looking permit stating that they are free to conduct political campaign activities in their

20180615-0013.html).

[7]Interview occurred in a Province in Southern Luzon on February 18, 2018. I maintain the anonymity of the interviewee for security purposes.

area of influence.[8] Campaigning in an area where one has not attained a permit can risk violence against campaign workers or make politicians targets for assassination. The NPA uses this tactic as a way to raise funds and, in most cases, issues permits to multiple political candidates as a way to extract additional money and avoid alienating politicians who might win the election. However, in some cases, the NPA also uses the selective assignment of permits of campaign to favor their political allies. This process became clear during an interview with a former mayor's campaign manager.[9] In a province where two prominent political families regularly competed for political power, the deadlock was eventually broken by one family paying the NPA a significant "revolutionary tax" in exchange for not issuing permits to campaign to their political opponents. By buying a monopolistic right to campaign in certain areas of the province, this family was able to win control of the governorship (along with several subsequent mayoral positions) and consolidate power for decades to come.

Reduced Central State Capacity

The second main category of benefits politicians can reap from a corrupt bargain with insurgents stems indirectly from insurgents' ability to prevent the expansion of central state capacity. When the state is unable to provide effective public goods, citizens become more reliant on "informal" clientelist networks that connect them to politicians and allow them to access government benefits (Stokes et al., 2013; Nichter, 2014). In addition to the conditional exchange of votes for cash, local politicians have the ability to target government services to villages, families, and individuals as part of a reciprocal exchange for political support. Politicians can use these informal patronage networks to essentially turn government services into private (rather than public) goods. In many developing countries, including the Philippines, vote buying and patronage run rampant. Several recent studies find that rates of vote-buying in the Philippines

[8] http://newsinfo.inquirer.net/748073/army-npa-raising-permit-to-campaign-fees-on-top-pols-such-as-pacquiao

[9] Interview conducted in January, 2017. The interviewee's name and area of operation are kept anonymous for safety purposes.

approach 70%, and these numbers are reportedly even higher in conflict-affected areas (Davidson, Hicken and Ravanilla, 2016; Cruz, 2018). Access to government services and employment is also highly dependent on citizen ties to local politicians (Fafchamps and Labonne, 2017*a*,*b*).

When state capacity expands and citizens begin gaining access to public goods that are not contingent on their political support, candidates who are not reliant on to long-standing patronage networks have room to run competitive campaigns. Consequently, politicians who benefit disproportionately from status quo patronage networks have an incentive to prevent the expansion of state capacity, allowing these networks to keep operating as is. Fergusson, Larreguy and Riaño (2015) point to this dynamic in Mexico, where the incumbent PRI party had a comparative advantage in clientelist practices that allowed them to use existing patronage networks to maintain a dominant hold on political power. As a result, PRI politicians systematically resisted the expansion of formal state presence and public goods provision to areas that threatened their existing comparative advantage in clientelist practices. Certain local politicians will also prefer to quell the expansion of formal state capacity because of the benefits they gain from corruption. Local politicians are often able to extract significant rents from government contracts and illegal industries like logging, mining, and the drug trade.[10] The expansion of formal state capacity risks the efficacy of these practices and reduces the personal benefits to politicians of holding office. As I will later argue, politicians from political clans benefit most from systems of clientelism and corruption, and so they will be the local political actors most fervently resistant to the expansion of state capacity.

Local politicians can significantly slow the expansion of state capacity to areas they govern by allowing insurgents to maintain an active presence. Simmering conflict inhibits the expansion of meaningful public goods provision, which is rendered ineffective in areas that are not already under government military control (Sexton, 2016). Using evidence from the Philippines, Crost, Felter and Johnston (2014) show that the NPA violently undermines government public goods

[10]The mayoral campaign manager mentioned in footnote 8 estimated that approximately 55% of government investment in his area of the Philippines is lost to corruption.

provision in the areas where they operate in an effort to prevent the government from winning civilian "hearts and minds." By raising the costs of meaningful public service provision on the part of the government, insurgent presence makes civilians more dependent on the informal patronage networks that allow them to access essential benefits and services. At the same time, insurgent activity prevents any sort of meaningful monitoring of vote-buying or other illegal electoral practices by restricting the freedom of movement for unapproved government actors.

Insurgent presence also facilitates the ability of local politicians to benefit from economic corruption. Many of the sources of rents for local politicians come from illegal industries that draw the ire of national governments. For example, the cocaine trade in Colombia and the opium trade in Afghanistan provide a lucrative source of income for local elites. In the Philippines, both the NPA and local politicians are able to extract significant rents from the logging and mining industries and have an interest in protecting these industries from national government attempts to enforce regulations. Armed insurgent presence in areas where these industries operate significantly raises the cost of a central government crackdown. Finally, local politicians are able to profit directly from the increased investment that governments and international donors target at conflict-ridden districts.[11] Local politicians can skim money off the top of these investments while taking actions that extend the duration of conflict, encouraging the continuing flow of these investments.

Before turning to the next section, it is worth clarifying an important additional point. There may be benefits that politicians gain from making a corrupt bargain with insurgents, but they may also face significant costs that arise from this arrangement. Being a known collaborator with a group attempting to overthrow the state may draw the ire of national politicians. Failing to be in the good graces of prominent national politicians might increase the risk of arrest or quash ambitions for higher political offices. Aligning with an insurgent group also reduces a

[11] For example, the Office of the Presidential Advisor for the Peace Process (OPAPP) in the Philippines funnels significant additional funding for infrastructure projects to conflict-affected areas through the PAMANA program. One might also think of the amount of investment the US government has focused on conflict-threatened areas of Iraq and Afghanistan.

local politician's autonomy over the implementation of policy. While the politician's interests may sometimes be aligned with the insurgent group, there will undoubtedly also be issues where the insurgent group and the politician fail to see eye to eye. By allowing insurgents to continue operating in their administrative unit, politicians become beholden to the interests of a coercive actor. Relatedly, by increasing the longevity of insurgent presence in their area, local politicians inevitably open themselves up to the higher long-term risk of assassination. Insurgents will always maintain the latent threat to use violence against politicians who fall out of their good graces; living under the cloud of that threat has significant negative implications. My theory aims to predict when certain politicians will choose to ally themselves with an insurgent group in the face of these significant costs. In other words, what *types* of politicians are likely to see greater benefits and/or smaller costs that arise from aligning with insurgents?

3.4.2 Why Insurgents Ally with Local Politicians

From the insurgent perspective, the benefits of allying with local politicians are more straightforward. Most importantly, this corrupt bargain protects them from military encroachment by national counterinsurgency forces because of local politicians' ability to disrupt these efforts. In addition, local political allies allow insurgents to extract rents and claim credit for government infrastructure projects that might otherwise undercut their legitimacy.

Local politicians are able to influence military and police efforts to conduct meaningful counterinsurgency through their power over the assignment and promotion of local security leaders, as well as through their ability to tip off insurgents about government strategies and maneuvers. In the Philippines, Mayors, Governors, and other prominent local politicians have long had a hand in influencing the assignment of local military and police leadership. When local politicians are unhappy with the activity of municipal and provincial police leadership, they can use their networks of influence to initiate police chief replacements or block promotions to higher positions. As a result, local security leadership can end up beholden to the preferences

of local political leadership.[12] In some cases, local security leadership has even been known to actively participate in the transfer (or convenient "capture") of weapons by insurgents.[13] When military and police decision making is highly decentralized, local political leaders end up having a hand in deciding security priorities, which can include easing up on national counterinsurgency directives.[14] Local politicians are also in a position to gather crucial information about counterinsurgency activities and other government programs. If local politicians have an interest in shielding insurgent groups from pressure, they can give insurgent groups advanced warning about these programs and operations, allowing them to get ahead of efforts to reduce their influence.

Second, insurgents benefit from alliances with local politicians because of politicians' control over the targeting and contracting of government infrastructure projects. This is especially true when infrastructure projects use community-driven development (CDD) strategies to determine targeting. The CDD process involves consulting local community leaders (who are often politicians) to determine targeting priorities. For example, the PAMANA program in the Philippines, run by OPAPP to target conflict-affected communities in ARMM as well as NPA zones, includes consultation between local security and political leaders to determine which villages are targeted and which contractors will be selected to implement the projects. While these programs still might be effective at reducing insurgent presence in the aggregate,[15] local politicians can sway the targeting of these programs to reduce counterinsurgency pressure on certain areas. One specific way that local politicians can direct national infrastructure funds to benefit insurgents is by awarding projects to local contractors that are willing and able to funnel a portion of the money directly to insurgents, or employ insurgents in the construction process.[16]

[12] This sentiment was expressed in interviews with several municipal police chiefs in the Bicol Region from January - March 2017.

[13] See examples in Jones (1989).

[14] As was described to me by a local government official in a February 2018 interview, the degree to which local politicians have control over local security policy shifted dramatically with the election of Rodrigo Duterte. Loyalty to national-level politicians and security leadership increased with Duterte's election, weakening the ability of local politicians to influence security policy.

[15] As found in Haim (2017).

[16] This process was described to me by a former NPA commander in a March, 2017 interview.

Insurgents then claim credit for the projects and also garner increased funding. This process of extortion is far more difficult without the support of local politicians who help direct funding to benefit insurgents and act as mediators between insurgents and local contractors.

3.4.3 Why Political Clans are the Most Likely Allies

Thus far, the theory has been focused on general reasons that drive politicians and insurgents to form alliances. These incentives are likely to be in place for insurgents and local politicians in many different contexts; yet, alliances only occur in some cases but not others. What explains this variation? When do politicians choose to shield insurgents from national counterinsurgency efforts and when do they choose not to? I contend that, all else equal, politicians from family *clans* are more likely to form alliances with insurgents than non-clan politicians. This is true due to both demand-side and supply-side incentives. In other words, clan politicians are more likely to experience the benefits of aligning with insurgents and insurgents are more likely to experience the benefits of aligning with clan politicians. At the same time, clan politicians are more likely to have the political connections needed to impede national counterinsurgency efforts, should they wish to do so.

For the purposes of this study, I define clan politicians as elected officials who come from families that have previously held political office in the same administrative unit and/or currently hold more than one elected position (Mayor or higher) in a given province. In the Philippines, these family dynasties are extremely pervasive. The control of powerful political families over local politics affects government legitimacy (Sidel, 2010; Lara, 2013), political competition (Querubin, 2016), vote-buying (Cruz, Labonne and Querubin, 2017; Davidson, Hicken and Ravanilla, 2016), and the distribution of patronage (Fafchamps and Labonne, 2017*b*), among other outcomes. In some cases, modern political families have their roots in pre-colonial strongmen, while others slowly rose to prominence over the years or began their hold on power after the fall of Ferdinand Marcos in 1986 (McCoy, 2009; Sidel, 2010). As Querubin (2016)

shows using a regression discontinuity design, when a local politician wins political office, their family relatives experience more than a 10% increase in the probability of winning office during subsequent election cycles.

Clan politicians are more likely to want to form alliances with insurgents because 1) they have more to gain from existing systems of clientelism and corruption, 2) they have less to lose in terms of risking long-term political ambitions or personal safety and 3) they are more able to use their resources to effectively protect insurgents should they wish to do so. Perhaps the primary reason that clan politicians have more to gain from an alliance with insurgents stems from their comparative advantage in existing practices of clientelism and corruption. Because they come from families that are more likely to have established patronage networks and vote-buying infrastructures,[17] clan politicians are more likely to benefit from slowing the expansion of state presence and true public goods provision. Again, this is similar to the advantage that Fergusson, Larreguy and Riaño (2015) describe being held by the PRI in Mexico. In the Philippines, political parties are far weaker, ad hoc, and often change between elections (Hicken, 2009). Rather than having *parties* that benefit from established clientelist networks, the Philippines has *families* that disproportionately benefit from these networks. The same goes for corruption. Political dynasties are more likely to have existing relationships with government officials and contractors that allow them to engage in corrupt practices. As a result, clan politicians are more likely to favor practices that prevent the encroachment of formal state capacity in the areas they govern. As mentioned in the previous section, allowing insurgents to continue operating in their territory allows them to achieve this goal.

Second, clan politicians are less likely to face the costs that stem from an alliance with insurgents. Clan politicians, who often have extensive upwards political connections, are more likely to be immune from being targeted for arrest by national government forces. This allows them to adopt non-programmatic policies without risking their future political careers. Finally,

[17] For example, an existing network of village-level brokers needed to effectively target vote-buying.

should they fall out of the good graces of insurgents in the future, clan politicians are less likely to be at risk of assassination. By having other family members in positions of power, clan politicians know that their family has a greater deterrent against insurgent violence. Insurgents will be more wary of assassinating a politician when they know it would risk vengeance from other people in positions of power. Going to war with an isolated local politician is far more likely to end well than going to war with a politician who is highly politically connected.

Finally, clan politicians are far more likely to have the ability to protect insurgents from national counterinsurgency policies should they wish to do so. Politicians from powerful political families with established contacts in local government are more likely to be able to put effective pressure on local security leadership to relax counterinsurgency efforts. Clan politicians are also more likely to have established political contacts at the ultra-local level. In the Philippines, village-level politicians often rely on the support of clan Mayors to fund their campaigns and gain name-recognition. These village-level contacts are then able to reduce pressure on the NPA by monitoring informants and acting as mediators for extortion with local contractors. Politicians with existing contacts in local government are also more likely be able to direct the targeting of infrastructure spending in a way that benefits insurgents. In short, clan politicians can more effectively capture the mechanisms of local politics that allow them to reduce the effectiveness of national counterinsurgency efforts.

From the demand side, insurgents are more likely to view clan politicians as attractive allies. An alliance with a political family that has the infrastructure needed to win office over multiple election cycles gives insurgents more long-term stability. Political clans, by definition, are also more likely to have political influence in multiple administrative units. Thus, a single alliance with a political clan can give insurgents breathing room over a more expansive geographic area.

All of this is not to say that clans are the only local politicians who form alliances with insurgents. There are certainly cases where established family clans are at odds with insurgents

and where non-clan politicians ally with insurgents. Insurgents also often "hedge" by staying friendly with multiple politicians in the same administrative unit to avoid putting themselves in a situation where they draw the ire of a politician who they choose not to support but who wins political office anyway. My claim is simply that clan politicians are *more likely* to form alliances with insurgents than non-clan politicians, all else being equal.

3.4.4 Hypotheses

Thus far, the main prediction that comes out of the theory is that political clans are more likely to form covert alliances with insurgents. However, the fact that these alliances are covert makes it a challenge to directly observe when one of these alliances forms. What, then, are the observable implications of the model? I hypothesize systematic relationships between clan influence and two main conflict-related outcomes: 1) increased insurgent *presence* and 2) decreased *violence*. First, by impeding the ability of national counterinsurgent forces to effectively conduct operations, political clans are able to reduce the likelihood that insurgents will lose territorial control of the areas where they operate.[18] Retaining the ability to operate freely in a territory is perhaps the most important goal for insurgents because it is necessary to achieve all their other goals, such as defeating the government or extracting rents (Kalyvas, 2006). Assuming an ongoing conflict where insurgents want to retain localities already under their control while also gaining control of new localities, the dynamic version of this hypothesis implies that clan politicians will be able to effect positive (or arrest negative) *changes* to insurgent presence. I discuss in the following section how a change in insurgent presence is operationalized in the Philippine case.

[18] One could also pose this as an increased likelihood that insurgents will *gain* territory. In practice, national trends in the Philippines over the period of this study generally resulted in insurgents losing significant ground. Thus, for ease of interpretation, I pose the hypotheses in terms of reducing loss.

H1 Higher political clan influence in a locality results in an increased ability for insurgents to retain/gain a presence in that locality.

A corollary of the above hypothesis is the prediction that higher levels of influence in a village by *non-clan* politicians will result in increased military control for the government. If the theory is correct, and clan politicians disproportionately benefit from insurgent presence, non-clan mayors will have an incentive to undercut insurgent presence while they are in office, weakening the strength of potential political opponents.

The second major outcome predicted by the theory relates to conflict-related *violence*. By reducing pressure on insurgents, allied local politicians can reduce the amount of active contestation with government troops. In addition, as Kalyvas (2006) predicts, lower levels of contestation between the conflict actors will result in a lesser need for insurgents to use violence against civilians. Clan politicians are, to a certain extent, able to put a "freeze" on active conflict and turn the presence of insurgent groups into part of everyday politics. This leads to the following hypothesis:

H2 Higher levels of political clan influence in a village will result in reduced conflict-related violence in that village.

One of the important mechanisms behind the above hypotheses is the ability of clan politicians to selectively allocate counterinsurgency resources and government infrastructure projects to villages that will benefit both the politician and the insurgents. Thus, I predict that clan politicians will sway the allocation of government infrastructure projects in insurgent areas towards villages where the politician has strong local influence. It is in these areas where politicians can use their established networks to allow for the political capture of development projects for their own, and for the insurgents', purposes. For example, in villages where clan influence is strong, they can more easily sway construction assignment towards contractors who are willing to pay off insurgents and the politician with part of the funds. Clan politicians may

also be more able to rely on allied local village leaders in these areas to act as mediators between insurgents and government contractors.

H3 Mayors are more likely to direct the targeting of government development projects towards villages where they have strong local influence when: 1) the mayor is part of a clan and 2) the NPA retains a presence.

One concern with this third hypothesis is that mayors might be generally more likely to allocate development projects to villages where they have high vote share, independent of anything having to do with insurgency. For example, mayors may use these projects as patronage for core voters. Funders may also prefer that CDD projects are implemented where mayors have strong influence to improve the quality of implementation. Both of these alternative mechanisms, however, would predict similar patterns of development targeting 1) under the control of both clan and non-clan mayors and 2) regardless of whether the NPA has an active presence. The hypothesis here is that clan mayors will have an increased propensity to target development projects to areas where they have strong influence when the NPA retains an active presence.

While the third hypothesis captures one of the mechanisms driving the alliance between local politicians and insurgents, there are several other mechanisms driving the theory including, for example, local politicians' influence over local security leadership. Due to data constraints, many of these mechanism-level implications of the theory are not currently testable with a systematic quantitative analysis. I focus on the predicted trends in insurgent presence, violence, and the allocation of government development projects too see whether the measurable patterns of conflict are consistent with the theory laid out in this paper.

3.5 Conflict in the Philippines

The theory put forth in this paper is particularly relevant to two ongoing conflicts in the Philippines: 1) the conflict with the communist New People's Army (NPA) and 2) the conflict

with Muslim separatist groups focused in several provinces of the Autonomous Region of Muslim Mindanao (ARMM). This year marks the 50th anniversary of the NPA conflict. In 1968, Jose Maria Sison founded the Communist Party of the Philippines (CPP) along with its military arm, the NPA, in the image of other Maoist insurgencies of the time. The central political focus of the movement has been the economic grievances of rural poor. The NPA reached a high of 25,000 active fighters in the mid 1980s, but its strength dipped sharply after the fall of Marcos in 1986 (Felter, 2006). Despite its decline, the CPP/NPA has maintained a presence in approximately 2,000-5,000 villages (barangays) across the country over the past several decades.

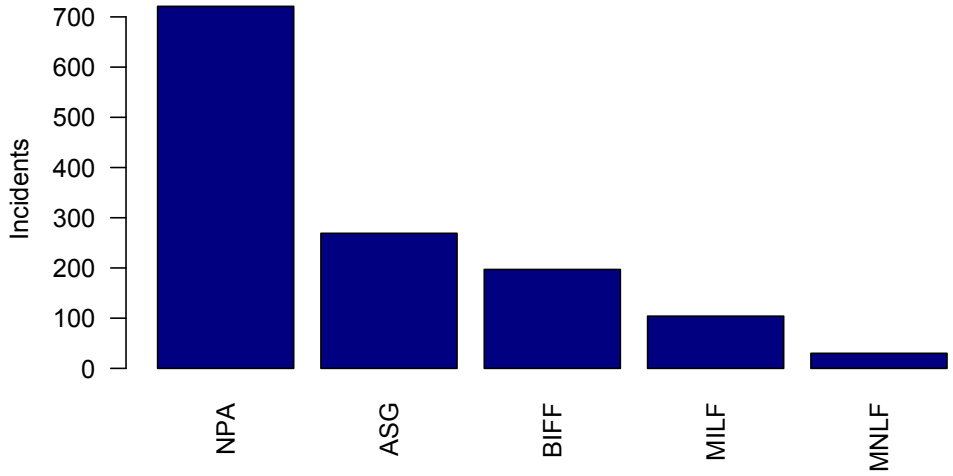


Figure 3.1: Rebellion-Related Incidents by Group, 2011-2015

The second conflict is composed of various Muslim separatist groups concentrated in provinces of western Mindanao. The conflict began in 1972 with the founding of the Moro National Liberation Front (MNLF). Over the past two decades, its successor, the Moro Islamic Liberation Front (MILF) has become the dominant political actor in ARMM and is currently in negotiations with the government of the Philippines to end the conflict and further expand autonomy in the region. While the conflict between the government of the Philippines and the MNLF/MILF is now relatively stagnant, several prominent splinter groups and extremist groups in the region continue to be involved in active conflict. These groups include the Abu Sayyaf

Group (ASG), the Bangsamoro Islamic Freedom Fighters (BIFF), and the Maute Group, among others. These smaller extremist groups number only several hundred fighters but have used guerrilla tactics to maintain an ongoing presence across many areas of ARMM. Figure 3.1 shows the distribution of rebellion-related violent incidents attributed to the various insurgent groups over the 2011-2015 period recorded by the Bangsamoro Conflict Monitoring System (BCMS). The NPA conflict has been responsible for the majority of rebellion-related incidents during this period, along with two of the smaller Moro groups: the BIFF and ASG.[19]

To test my hypotheses, I use various data sources relating to the conflict with the NPA, as well as with the various Moro insurgent groups in ARMM. In the following section, I describe the different datasets, as well as their overlap.

3.5.1 Outcome Variables: Insurgent Presence and Violent Incidents

The two main outcomes of interest in this study are local-level insurgent *presence* and the incidence of *violence*. I measure the first outcome, insurgent presence, using annual Armed Forces of the Philippines (AFP) intelligence reports for each year 2010-2015. These year-end reports classify each village on a three-point scale of NPA presence – influenced, threatened, or clear.[20] For the statistical models in the next section, I follow the official AFP coding system for villages: *cleared = 0*, *threatened = 1* and *influenced = 2*. Figure 3.2 (along with Figure 3.7 in the Appendix) reprinted from Haim (2017), show national trends in NPA presence over the period of this study. At its peak in 2011, the NPA influenced or threatened over 5,000 villages nationwide despite its relatively weak military capacity. Its presence then decreased significantly over the following few years.

[19] BCMS data cover the provinces of ARMM, along with the provinces in the Davao Region. The NPA conflict is also active in a number of other regions across the country, meaning that these numbers are an underestimate of their overall impact.

[20] "Influenced" villages are ones in which the NPA has an active party organization. "Threatened" means that NPA regularly travel through the village. "Cleared" means that the AFP has full military control. These annual reports were shared with me by the Office of the Presidential Advisor on the Peace Process (OPAPP).

These data have several potential limitations. First, they are only available for areas outside of ARMM, and so do not include information on the Moro groups. Thus, my analysis of insurgent *presence* is limited to the NPA. Second, because the data are reported by the Armed Forces of the Philippines (AFP), there is potential reporting bias, as the military may have an incentive to over-report counterinsurgency effectiveness. This concern is mitigated by the fact that these data are used mainly for internal AFP reports and actually showed a year-on-year increase in NPA presence for ever year from the mid 1990s to 2011. Despite the limitations, these data have several advantages. Most importantly, insurgent presence may not be directly correlated with violence. As Kalyvas (2006) points out, areas where insurgents are strongest may experience lower levels of violence relative to areas where active contestation is occurring. By measuring presence directly, these data allow me to distinguish between H1 and H2 above, which predict different patterns of insurgent presence and violence to be associated with local clan influence.

The second major outcome is conflict-related violence, which I measure using data collected by the Bangsamoro Conflict Monitoring System (BCMS). These data are collected using official reports from the Philippines National Police (PNP), are supplemented by local news reports, and then validated at the local level by Multi-Stakeholder Validation Groups. This three-pronged strategy makes these incident data more reliable than many of the incident-level datasets used in the study of conflict around the world. BCMS data cover ARMM and the Davao Region, allowing me to compare patterns of violence in the NPA and Moro conflicts.[21] The data are disaggregated by "horizontal" violence, which includes violence between civilians and between clans (sometimes involving insurgent groups) and "vertical" violence between insurgent groups and the state. For the main analysis, I use the total number of violent incidents, all of which may be influenced by the dynamics predicted by the theory. I then look separately at the "vertical" incidents explicitly involving insurgent groups. Table 3.1 shows the number of

[21]The Davao Region is currently one of areas of most active conflict with the NPA.

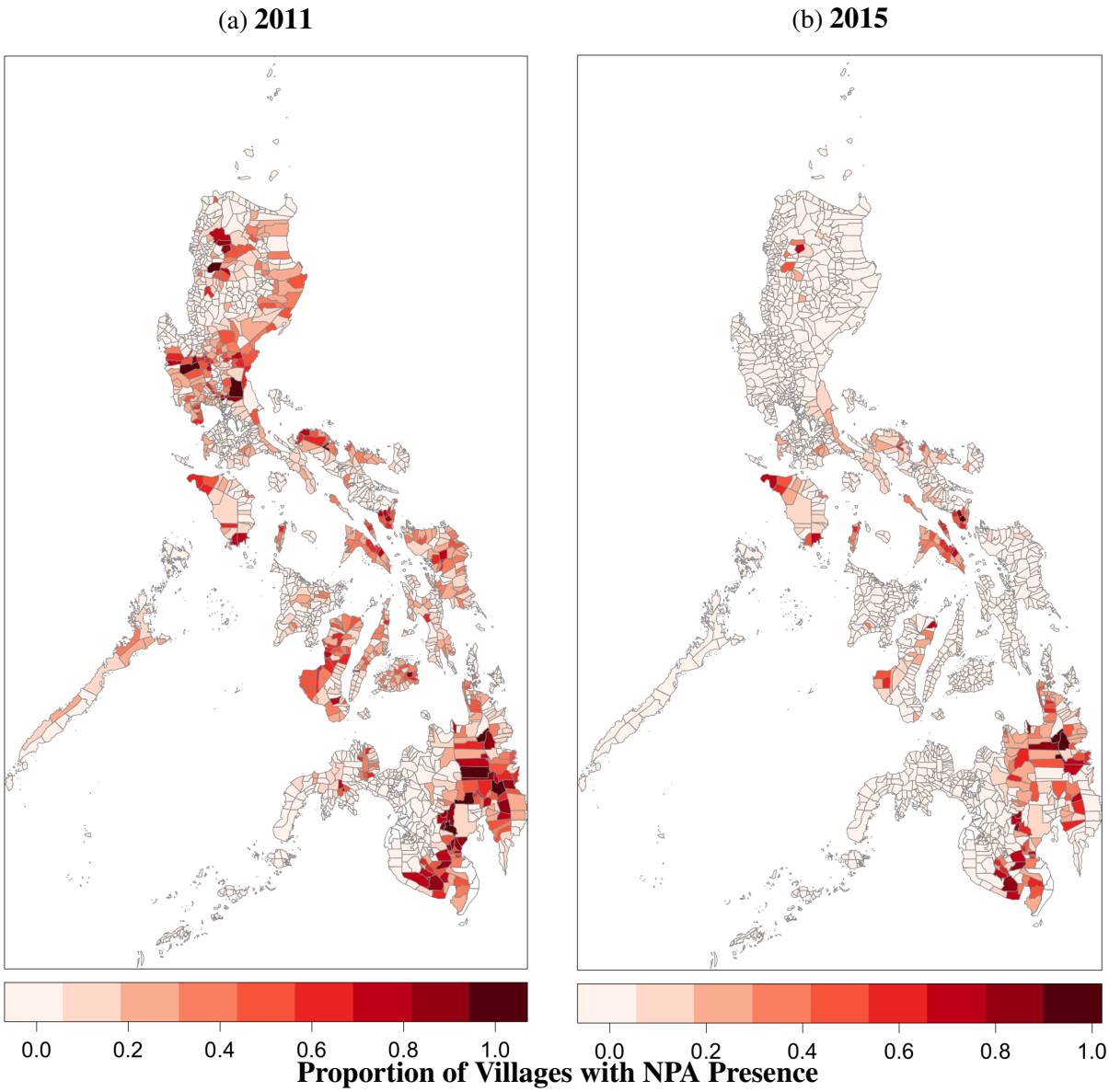


Figure 3.2: National NPA Presence, 2011-2015

Geographic units in the maps are municipalities and cities. On average, these encompass 26 villages. Shading represents the proportion of villages in each municipality that is either influenced or threatened by the NPA.

incidents in these two categories disaggregated by province and election cycle. More information on BCMS data, along with reports describing patterns of conflict, are available on the Conflict Alert website.[22]

Table 3.1: BCMS Incidents by Election Cycle

		Election Cycle 1 2010-2013		Election Cycle 2 2013-2015	
Region	Province	Total	Vertical	Total	Vertical
ARMM	Basilan	422	62	674	61
	Lanao del Sur	271	3	904	15
	Maguindanao	579	60	2206	150
	Sulu	309	38	520	65
	Tawi Tawi	128	2	135	3
Davao	Davao del Norte	3537	55	4014	46
	Davao del Sur	1998	32	4700	13
	Davao Oriental	2391	26	1533	29
	Compostela Valley	4065	179	3449	251
	Davao Occidental	395	16	1338	9

"Vertical" incidents are those that are explicitly between an insurgent group and the state. Total incidents also include "horizontal" conflicts (for example, between civilians or between clans). The break point between the two election cycles is June 30, 2013. The incidents in the provinces of Autonomous Republic of Muslim Mindanao (ARMM) predominently involve the Moro Separatist groups (ASG, BIFF, MILF, MNLF), while the incidents in the provinces of the Davao Region predominently involve the NPA.

3.5.2 Explanatory Variable: Local Clan Influence

The main explanatory variable of interest is the local-level influence of political clans. I measure this by expanding the method pioneered by Querubin (2016). For each municipal mayor in the 2010 and 2013 election cycles, I create an indicator variable for whether they had a relative hold the position of Mayor, Governor, or Provincial Board dating back to 2001. Relatives are identified by matching politicians' surnames. As Querubin (2016) and Cruz, Labonne and

[22] http://conflictalert.info/

Querubin (2017) show in further detail, individuals in the same province who share at least one surname are highly likely to share either a marriage or kinship tie. These data were collected using official COMELEC election returns, as well as the Asian Institute of Management (AIM) Policy Center Political Dynasties Dataset. This variable is measured at the municipal level. I then create a village-level measure of clan influence using vote shares for candidates in the previous election. Because of the clientelist nature of local Filipino politics, these vote shares proxy the extent to which mayors have political networks within a village. The key village-level explanatory variable, then, is the *interaction* between whether the municipal mayor position is held by a clan mayor and the mayoral vote-share within a village.

As a test of one of the key mechanisms driving the processes described in this paper, I look at how the control of clan mayors affects the allocation of development projects aimed at winning civilian hearts and minds. H3 predicts that among villages where the NPA is present, clan mayors will influence the allocation of these projects *towards* villages where the clan has political influence. I use project-level data on the two flagship infrastructure development programs implemented by the Government of the Philippines: 1) KALAHI-CIDDS (henceforth, KALAHI) and 2) PAMANA. Both of these projects began implementation with the assistance of the World Bank and were later turned over to the Department of Social Welfare and Development (DSWD) and the Office of the Presidential Advisor on the Peace Process (OPAPP). Using these project level data, I create a variable measuring the number of KALAHI and PAMANA projects a village received during an election cycle.

3.6 Findings

In the main specifications of this paper, I use OLS regression to investigate the association between local clan influence and conflict outcomes.[23] The data are organized as a village-level

[23]For the first hypothesis, which uses the 5-point NPA change scale, I also run a robustness check that employs ordered logit.

panel of three election cycles separated by the inauguration of new mayors on June 30, 2010 and June 30, 2013. For the first hypothesis, the dependent variable is the *change* in NPA presence from the beginning to the end of the mayor's term in office. Because NPA presence is categorized by the AFP at the end of the year, I use the year prior to the election date as a measure of end-of-term NPA presence. So, for example, in the 2013-2016 election cycle, the dependent variable is the change in NPA presence from end-of-year 2012 to end-of-year 2015.[24] By focusing on change in NPA presence relative to the previous election cycle, I aim to mitigate some of the concern that clan influence and NPA presence both arise in the same areas due to omitted variables not captured in the regression. Because the raw NPA presence variable is coded on a three-point scale (0, 1, 2), the *change* in NPA presence from one election cycle to the next falls on a five-point scale (-2, -1, 0, 1, 2).[25] Lower numbers on this 5-point scale indicate a reduction in NPA presence and, thus, more effective counterinsurgency. During the period of this study, approximately 91.7% of villages experienced no change in NPA presence during a given election cycle. 6.2% of villages experienced a reduction in NPA presence while 2.1% of villages experienced an increase in NPA presence.[26] The key explanatory variable is the interaction between the clan mayor indicator variable and mayoral vote share in the village. In the OLS model, I incorporate a number of control variables from the 2010 census, including village population, urban/rural status, population share in the 18-39 age range, land area, average education, religion, and ethnicity.[27] In addition, I control for whether the mayor is an incumbent and whether the village received a development project. Finally, I include election-cycle fixed effects to account for national-level

[24] Because changes are measured by election cycle, it is possible for a village to experience both an annual gain and loss of NPA presence during the same election cycle. This coding decision is made to capture the mayor's overall influence over their term in office. Only a small percentage of villages experienced this sort of back-and-forth change during a single election cycle, as seen in Table 3.4 of the Appendix.

[25] To illustrate the substantive meaning of this scale, consider two villages near Digos City in Davao Del Sur. The first, barangay Tagaytay in Magsaysay municipality, shifted from being influenced by the NPA in 2012 to being cleared of NPA presence in 2015: a shift from a 2 to a 0. Thus, for the election cycle ending in 2015, the change in NPA presence in Tagaytay took the value of -2. The second, barangay Sacub in Hagonoy municipality, shifted from being cleared of NPA presence in 2012 to being threatened by the NPA in 2015: a shift from a 0 to a 1. Thus, for this same election cycle, the change in NPA presence in Sacub took the value of 1.

[26] For a more detailed breakdown, see Table 3.3 in the Appendix.

[27] A table of means for all variables is included as Table 3.2 in the Appendix

trends in counterinsurgency effectiveness over time.

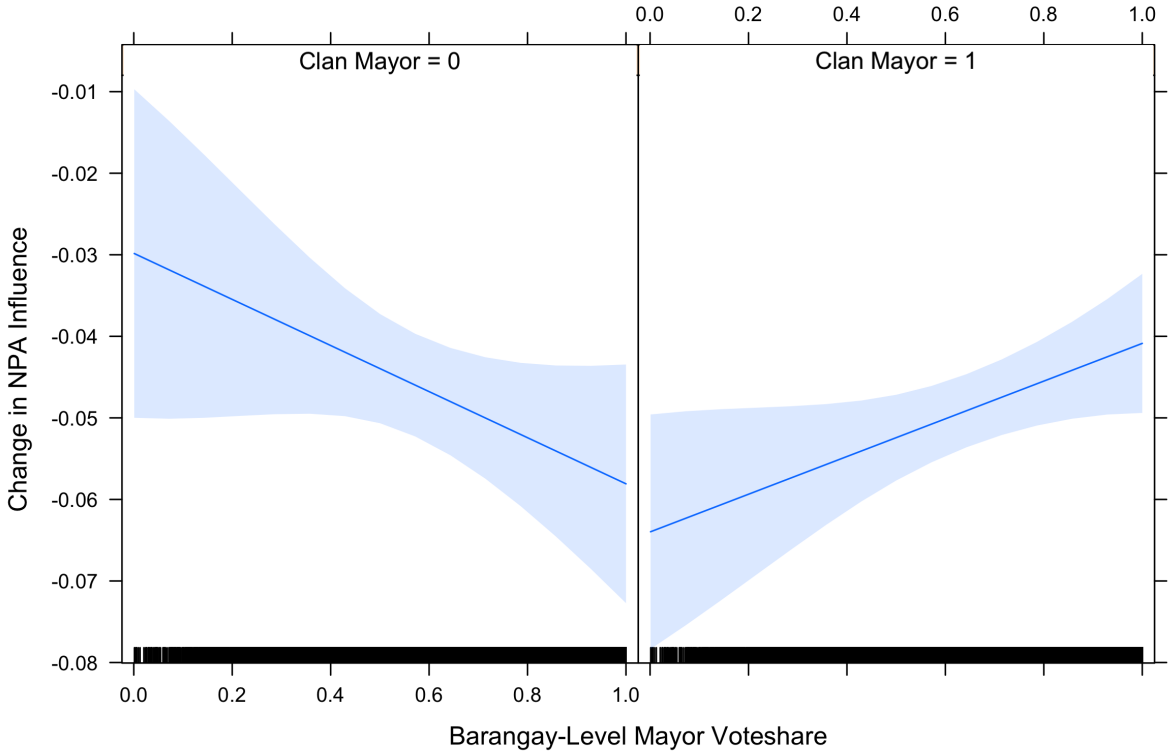


Figure 3.3: Local Clan Influence and NPA Presence

Figure 3.3 presents the results from this regression.[28] The y-axis is the predicted change in NPA presence. Lower values indicate an increased likelihood that the NPA will *lose* its presence in a village during a given election cycle.[29] The units on the y-axis represent the predicted change in NPA Presence on the 3-point scale (0,1,2) during an election cycle. Put in layman's terms, this also approximates the percentage likelihood that a village will see a 1-unit decrease in NPA presence during an election cycle (Influenced to Threatened OR Threatened to Clear). So, for example, -.05 represents a five percent chance that the NPA will lose ground in an election cycle.

The x-axis is the village-level vote share the mayor received in the previous election,

[28]The regression tables for model results displayed in Figures 3.3, 3.5, and 3.6 are in Table 3.5 of the Appendix. The estimation equations are in section 2 of the Appendix.

[29]It also indicates that a certain village is less likely to see the NPA *gain* a presence. I refer to NPA loss in the text for ease of interpretation, due to the fact that the vast majority of changes in NPA influence during this time period involve the NPA losing territory.

which I use to proxy for the level of influence the mayor has in a village. The right panel shows the relationship between these two variables when the mayor is part of a political clan. The more influence that a clan mayor has in a village, the more likely the NPA will retain a presence in that village by the end of the election cycle. This pattern supports the first hypothesis, showing that, on average, clan mayors undercut counterinsurgency effectiveness in areas where they govern. The left panel shows the opposite pattern when a non-clan mayor holds office. In these cases, stronger mayoral influence in a village is associated with significantly *more* effective counterinsurgency efforts. Also consistent with hypothesis 1, this suggests that non-clan mayors use their influence to bolster counterinsurgency efforts while they are in power, weakening potential clan opponents. The magnitude of the predicted relationship is quite strong. Villages where a clan mayor received 75% vote share has approximately a 10% increased likelihood that the NPA will retain a presence relative to a village where a clan mayor received 25% vote share.

In addition to the results from the full statistical model, it is instructive to observe the relationship between these variables in the raw data. Figure 3.4 shows this relationship, and the same general trend appears as in the results of the OLS model. However, counterinsurgency seems to be at its most effective (lower values on the y-axis) – both in areas governed by clan mayors as well as those governed by non-clan mayors – in villages where mayors are involved in highly competitive elections. This non-linear relationship, as well as the apparent importance of local electoral competitiveness, provides motivation for future research.

As a test of the second hypothesis, I run a similar model to the one described above, with all the same control variables, but I instead use the number of violent incidents experienced in the village as the dependent variable. Because BCMS violent incident data also cover areas of the Moro insurgencies, I begin by pooling these two areas together in the analysis. Figure 3.5 presents the results of this regression.

The results from this model lend support to the second hypothesis.[30] The number of

[30]The raw data underlying this model are shown in Figure 3.8 of the Appendix.

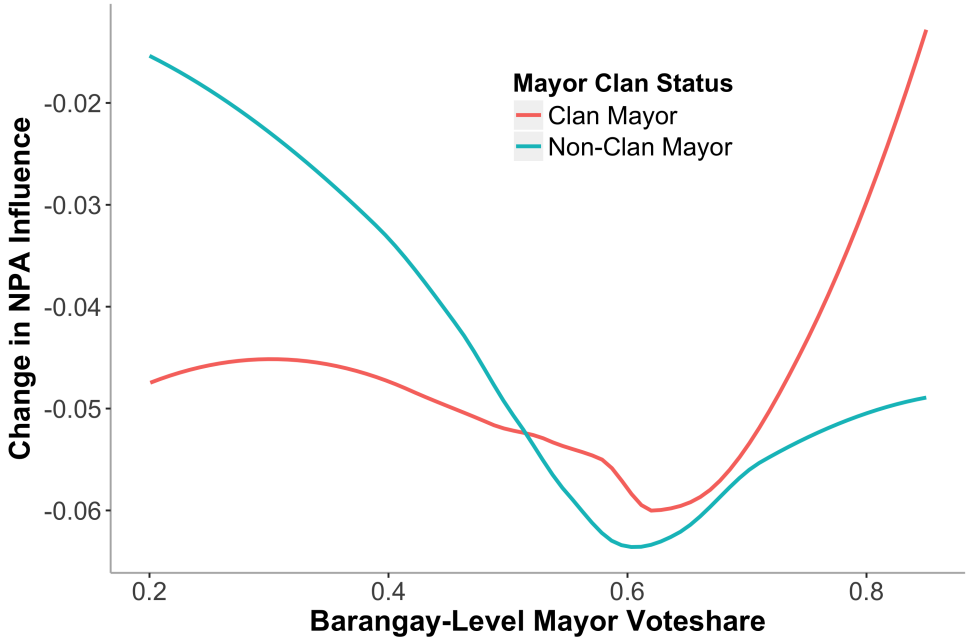


Figure 3.4: Local Clan Influence and NPA Presence: Raw Data

predicted violent incidents in a village overseen by a clan mayor is almost half the number of predicted violent incidents in a village overseen by a non-clan mayor. However, unlike with insurgent presence, this pattern is not conditional on the mayor's vote-share in a village. That is, violence decreases in areas governed by clan mayors regardless of their level of influence at the village level. The pattern of the relationship shown in Figure 3.5 also holds when looking only at "vertical" incidents between insurgent groups and the state (and the coefficient is of a similar magnitude), though the relationship is no longer statistically significant (p=.3), perhaps due to the lower number of incidents making it more difficult to detect a significant effect. Interestingly, the relationship between clan control and violence is driven entirely by the Davao Region, where the NPA operates. In ARMM, there is no statistically significant relationship between clan mayors and the propensity for violent incidents. Perhaps this is driven by the fact that an alliance with groups like Abu Sayyaf and BIFF is far more costly to local politicians than aligning with the NPA. It may simply be too risky to continue allowing these known extremist groups who have aligned themselves with ISIS and other international terrorist organizations to freely operate in

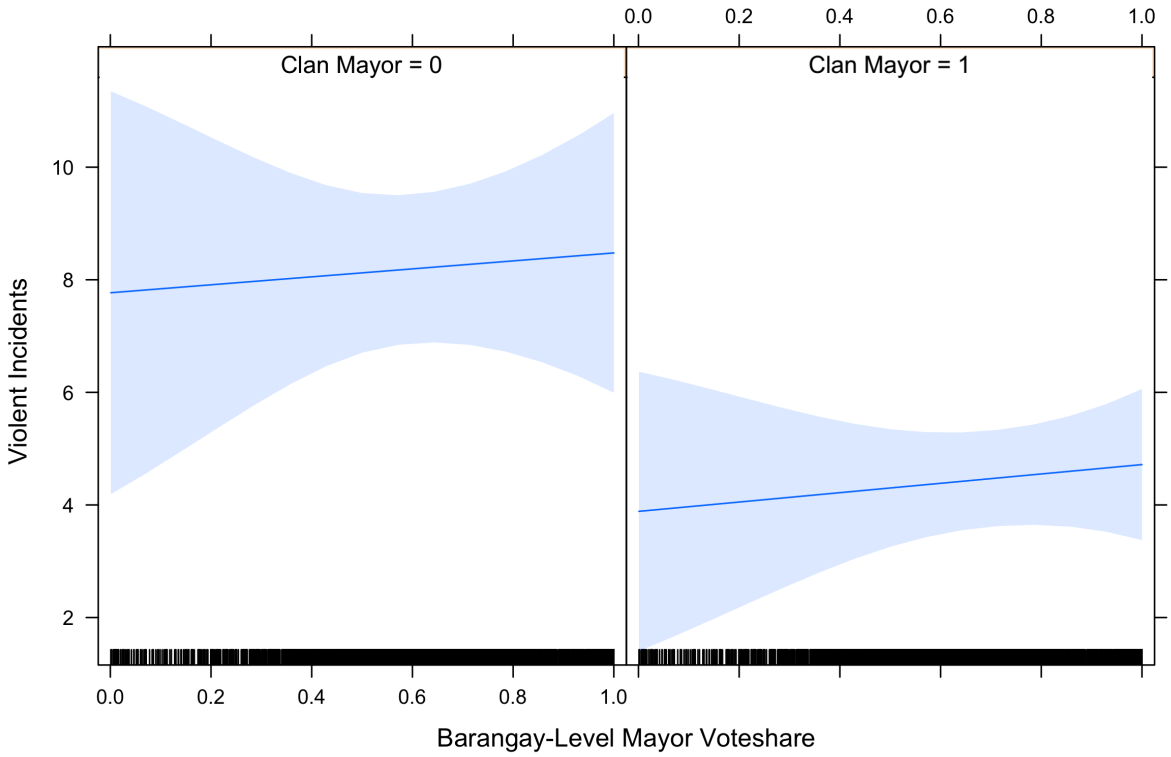


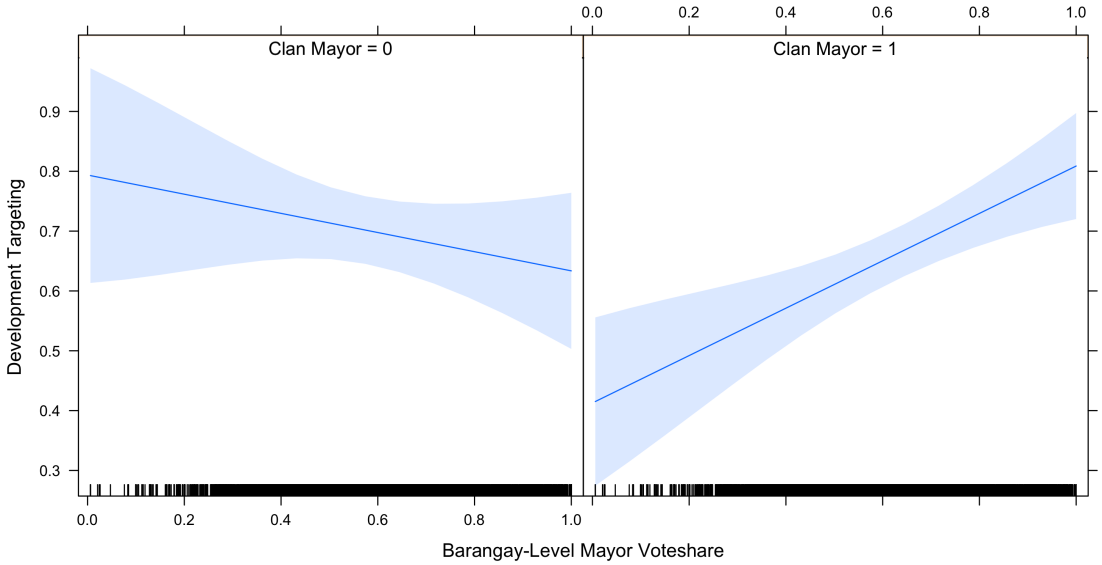
Figure 3.5: Local Clan Influence and Violent Incidents

the area one governs for an alliance to be worthwhile. While alliances certainly occur between local politicians and some of the more well-established groups like the MILF and MNLF, these groups produced very few violent incidents over the period of this study.[31]

Finally, to test the third hypothesis, I look at the targeting of development infrastructure projects implemented by KALAHI and PAMANA. The theory predicts that in areas where insurgents operate, clan mayors will be more likely to target development spending towards areas where they have strong local influence. This local influence allows them to allocate projects to friendly contractors who redirect funds back to both the insurgents and politician. To test the hypothesis, I run models where the dependent variable is the total number of KALAHI/PAMANA projects assigned to a village during a given election cycle. Figure 3.6 shows the result of these

[31] In fact, many local politicians in ARMM are currently official MILF members, who are allowed to run for election under the current autonomy agreement.

(a) Among Villages *With* NPA Presence



(b) Among Villages *Without* NPA Presence

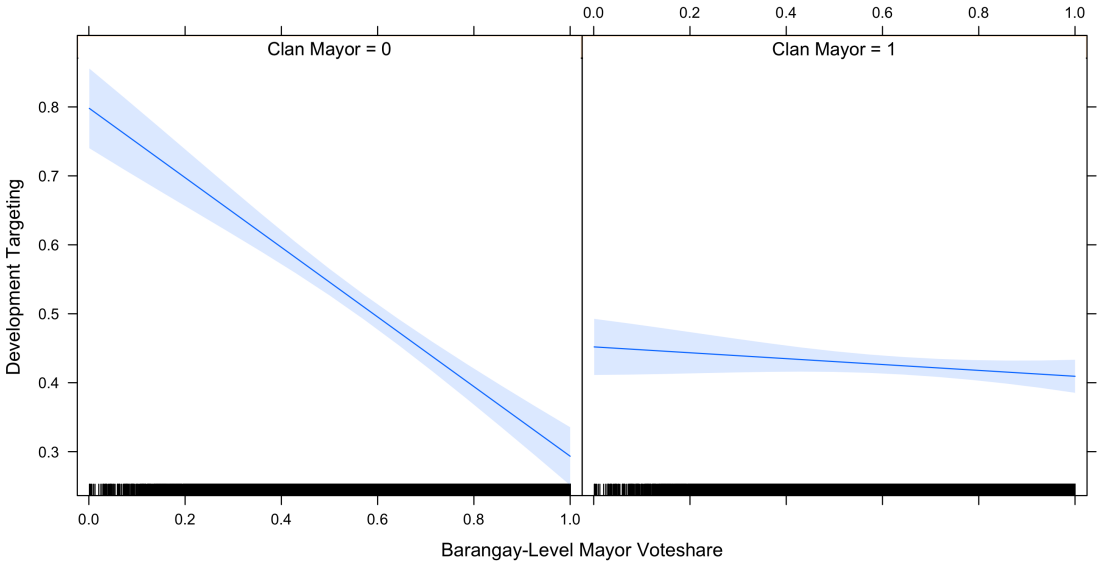


Figure 3.6: Local Clan Influence and Development Targeting

regressions, where the y-axis in each panel is the predicted number of projects received by a village. The model predicts that, in areas where the NPA retains a presence, clan mayors allocate nearly twice as many projects to areas where they have a high vote-share compared to areas where they have low vote share (the righthand panel of subfigure *a*). This is the opposite pattern relative to areas where non-clan mayors govern (the lefthand panel of both subfigures), contradicting the alternative hypothesis that all mayors simply allocate development projects to core voters as political patronage or that funders prefer projects targeted at areas with strong mayoral influence. In addition, even clan mayors are no more likely to allocate projects to areas where they received high vote-share in areas *without* NPA presence (the righthand panel of subfigure *b*). These results hold both in ARMM and in the Davao Region. This result supports one of the key mechanisms of the theory that might be driving the empirical patterns found in Figures 3.3 and 3.5.

3.7 Discussion

The findings of this paper suggest that local clan politicians can impede national government attempts to conduct effective counterinsurgency. This highlights an important aspect of conflict that has received scant attention in the existing empirical scholarship on insurgency. Existing research on civil conflict has focused almost entirely on either the macro-level bargaining dynamics between conflict actors – for example, the information or commitment problems that drive conflict (Fearon, 1995; Walter, 2002) – or the micro-level dynamics that drive individual citizens to join a rebel group or share information with government troops (Humphreys and Weinstein, 2008; Berman, Shapiro and Felter, 2011). This paper aims to draw attention to an important meso-level driver of conflict outcomes. The incentives of national-level and local-level political leaders are not always aligned when it comes to defeating insurgents and it is the local politicians who often have their hands on the most important levers of counterinsurgency policy. By either disrupting or aiding counterinsurgency efforts, local political leaders influence insurgent

presence and conflict duration, as well as levels of conflict-related violence.

This paper studies the relationship between local politics and conflict in the Philippines, but the results have important implications for other conflicts around the world. For example, in Iraq, the tide of the war changed during the so-called Anbar Awakening. Until 2005, many local tribal leaders protected Al Qaeda and affiliated groups from encroachment by American and Iraqi military operations, despite the motivation of the national government to defeat the insurgents. The course of the war changed when these local tribal leaders shifted their support to the coalition fighting against Al Qaeda, allowing the coalition to push insurgents out of the crucial provinces of Anbar and Ramadi.[32] In Afghanistan, tribal leaders play a similarly crucial role in the fight between US/Afghan forces and the Taliban. While American counterinsurgency manuals do speak at length about winning ground-level civilian hearts and minds, they also focus significant attention on winning support from local community leaders who have a disproportionate effect on counterinsurgency success (US-Army, 2007, 2013). This is particularly important in the context of local democracy, given that many areas of the world currently experiencing low-level insurgency have competitive local elections in place.[33] Future work focusing on the incentives facing these local civilian leaders, as well as the factors that drive them to cooperate with one side of the conflict or the other, provides a fruitful way forward in understanding the dynamics of insurgency and conflict.

[32] http://www.understandingwar.org/sites/default/files/reports/IraqReport03.pdf

[33] See, for example, India, Colombia, and Myanmar.

3.8 Appendix

The annex below includes three sections. The first section shows descriptive statistics for the variables of interest in the paper. The second section shows the estimating equations for all statistical models included in the body of the paper. The third section shows the full model results for the models in the paper, which underly the three results plots Figures 3.3, 3.5, and 3.6).

3.8.1 Descriptive Statistics

Table 3.2: Table of Means

Statistic	N	Mean	St. Dev.	Min	Max
NPA Presence	113,500	0.133	0.406	0	2
NPA Change	75,668	−0.048	0.377	−2	2
BCMS Incidents	8,554	3.924	17.731	0	525
KC/PAM Projects	120,970	0.341	0.998	0	64
Clan Mayor	47,152	0.678	0.467	0	1
Mayor Voteshare	47,694	0.634	0.203	0.001	1.000
Mayor Incumbent	47,728	0.544	0.498	0	1
Area (km^2)	120,664	0.595	1.496	0.000	79.886
Population	120,709	1,175	2,041	3	63,944
Urban	120,970	0.206	0.404	0	1
% Age 18-39	120,709	0.565	0.060	0.190	0.936
Education	120,709	1.802	0.388	0.055	3.069
% Catholic	120,709	0.777	0.288	0.000	1.000
% Islam	120,709	0.078	0.256	0.000	1.000
% Other Religion	120,709	0.145	0.191	0.000	1.000
% Indigenous	120,709	0.182	0.339	0.000	1.000

Table 3.2 displays the number of observations (unit of analysis is village-election cycle), mean, standard deviation, minimum value and maximum value of all variables used in the analysis. *BCMS Incidents* include all incidents in the dataset. *KC/PAM Projects* is a count of KALAHI-CIDSS and PAMANA projects implemented in a village-election cycle. All variables from *Area* (km^2) through *% Indigenous* come from the official 2010 Philippine Census. *Education* is coded

using the following scale: 0 = incomplete elementary, 1 = completed elementary, 2 = completed high school, 3 = completed college, 4 = completed post-college degree.

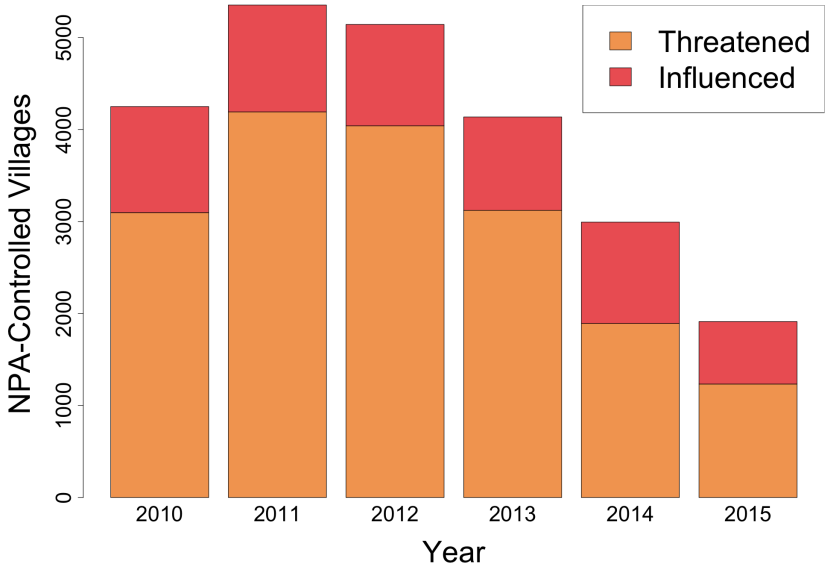


Figure 3.7: National NPA Presence, 2010-2015

Table 3.3: Distribution of Change in NPA Presence

Change in NPA Presence	Count	%
2	520	0.7
1	1,066	1.4
0	69,354	91.7
-1	3,709	4.9
-2	1,019	1.4

Table 3.3 displays the distribution of the *Change in NPA Presence* variable that is utilized as the dependent variable for hypothesis 1. As noted in the body of the paper, the variable is a 5-point scale ranging from -2 to 2. A value of 2 indicates a village that moved from Clear (0) to Influenced by the NPA (2), while a value of -2 indicates a village that moved from Influenced (2) to Clear (0). A value of 1 indicates either a change from Clear (0) to Threatened (1) or from Threatened (1) to Influenced (2). A value of 0 indicates a village that experienced no change in

NPA influence relative to the end of the previous election cycle. This could either be a village that remained Clear, remained Threatened or remained Influenced. The "Count" column indicates the number of village-election cycles in each of these categories over the three election cycles in the time period of the data. The "%" column represents the percent of the total count in that category.

Table 3.4: Unpacking NPA Change

Change in NPA Presence in Entire Election Cycle	% Back and Forth
NPA Gain	9.02%
No Change	3.10%
NPA Loss	1.02%

Table 3.4 displays the percentage of village that experienced a back-and-forth change to NPA presence (both a loss and gain) during the same election cycle. This is disaggregated by the overall election-cycle trend (NPA Gain, No Change, or NPA Loss). Because each election cycle is 3 years, it is possible that multiple changes to NPA presence could occur within the same cycle. In the estimation, I mean to capture the mayor's influence over their entire term by coding change in NPA presence from the end of the previous cycle to the end of the current cycle. The majority of changes to NPA presence happen in a linear fashion. For example, over the course of election cycles where the NPA lost a presence, only one percent of villages also experienced a gain in NPA presence during at least 1 of the individual years. In village-election cycles that experienced no change from the end of one election cycle to the next, only 3 percent of villages experienced a back-and-forth change.

Figure 3.8 shows the raw data underlying the model shown in Figure 3.5. As in the raw data underlying the model relating to NPA Presence, there appears to be a non-linear relationship between local electoral competitiveness and the incidence of violence. Violence is far more likely to occur in villages where the mayor received a vote share close to 50%.

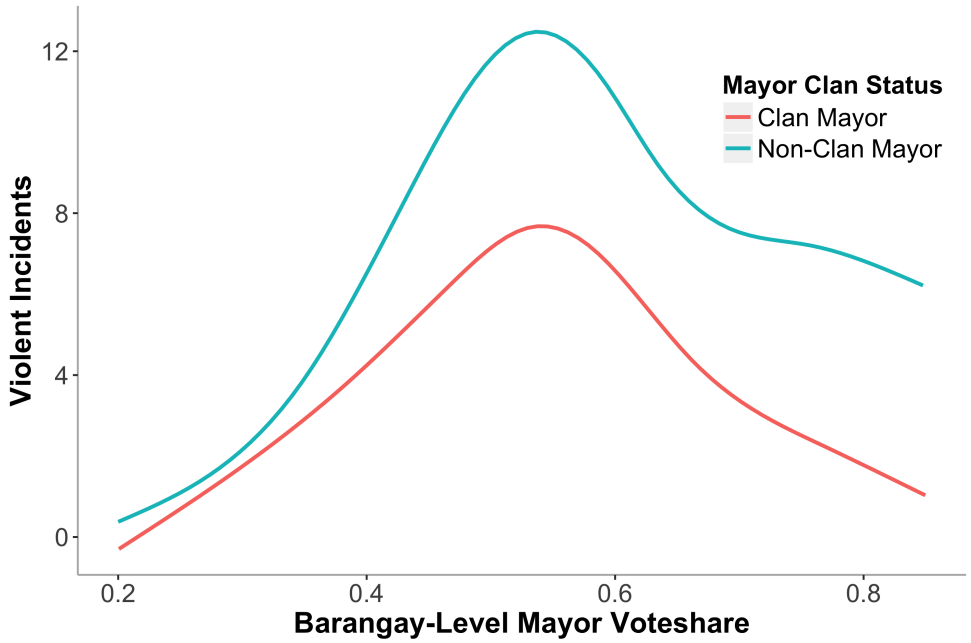


Figure 3.8: Local Clan Influence and NPA Presence: Raw Data

3.8.2 Estimating Equations

NPA Presence

$$\begin{aligned}\Delta NPA_{i,t} = \alpha + \beta_1 ClanMayor_{i,t} + \beta_2 MayorVoteShare_{i,t} \\ + \beta_3 ClanMayor_{i,t} * MayorVoteShare_{i,t} \\ + \beta_4 Controls_{ij} + \delta_t + \varepsilon_{i,t}\end{aligned}$$

Above is the estimating equation for the OLS model that underlies Figure 3.3 (Local Clan Influence and NPA Presence). The dependent variable ($\Delta NPA_{i,t}$) represents the change in NPA presence in a given village *i* (according to military intelligence reports) at the end of election cycle *t*, relative to end of the previous election cycle *t-1*. The coding of this variable is described in the main body of the paper. The independent variable of interest is the interaction between 1) a dummy variable indicating whether village *i* is in a municipality controlled by a clan mayor ($ClanMayor_{i,t}$) and 2) a continuous variable indicating the mayor's vote share in that village

($MayorVoteShare_{i,t}$). In other words, the main coefficient of interest is β_3. In addition to the base terms of this interaction, the right hand side of the estimating equation also includes a vector of control variables ($Controls_{ij}$), election cycle fixed effects, (δ_t), and the error term ($\varepsilon_{i,t}$). Control variables for each village *i* are: 1) geographic area in square kilometers, 2) population according to the 2010 census, 3) a dummy for whether the village is urban or rural, 4) the percentage of the population in the 18-39 age range, 5) the average education level, 6) the percentage of the population whose stated religion is Islam and the percentage of the population whose stated religion is neither Islam or Roman Catholic (Roman Catholic is the excluded category), 7) The percentage of the population that are Indigenous Peoples, and 8) an indicator for whether the village received a KALAHI or PAMANA project during election cycle *t*.

Violent Incidents

$$\begin{aligned} Incidents_{i,t} = \alpha &+ \beta_1 ClanMayor_{i,t} + \beta_2 MayorVoteShare_{i,t} \\ &+ \beta_3 ClanMayor_{i,t} * MayorVoteShare_{i,t} \\ &+ \beta_4 Controls_{ij} + \delta_t + \varepsilon_{ij,t} \end{aligned}$$

Above is the estimating equation for the OLS model that underlies Figure 3.5 (Local Clan Influence and Violent Incidents). The dependent variable is the number of violent incidents recorded by BCMS in a village *i* during an election cycle *t*. The right hand side of the estimating equation is identical to the one described above for NPA presence. The coefficient of interest is β_3.

Development Targeting

$$
\begin{aligned}
Projects_{i,t} = \alpha &+ \beta_1 ClanMayor_{i,t} + \beta_2 MayorVoteShare_{i,t} \\
&+ \beta_3 ClanMayor_{i,t} * MayorVoteShare_{i,t} \\
&+ \beta_4 Controls_{ij} + \delta_t + \varepsilon_{ij,t} \\
&DataSubset : NPA_{i,t-1} > 0; NPA_{i,t-1} = 0
\end{aligned}
$$

Above is the estimating equation for the OLS model that underlies Figure 3.6 (Local Clan Influence and Development Targeting). The dependent variable is the total number of PAMANA and/or KALAHI projects implemented in a village *i* during an election cycle *t*. The right hand side of the estimating equation is identical to the one described above for NPA presence. The coefficient of interest is β_3. The data are analyzed in two subsets: 1) villages where the NPA retained a presence at the end of the previous election cycle *t-1* and 2) villages where the NPA did NOT retain a presence at the end of the previous election cycle *t-1*.

3.8.3 Full Model Results

Table 3.5: Full Regression Results

DV:	Δ NPA Presence	BCMS Incidents	Development Targeting	
			NPA = Yes	NPA = No
Model Number:	(3.3)	(3.5)	(3.6a)	(3.6b)
Clan*VShare	.04** (.02)	.12 (3.28)	.56*** (.18)	.46*** (.06)
Clan Mayor	−.03** (.01)	−3.88* (2.21)	−.38*** (.12)	−.35*** (.04)
Mayor VShare	−.01 (.02)	.71 (2.79)	−.16 (.15)	−.50*** (.05)
Incumbent	0.00 (0.00)	3.28*** (.72)	−.05 (.03)	.10*** (.01)
Area (km^2)	−4.01*** (1.16)	425.07** (179)	15.3** (6.6)	.42 (3.96)
Population	−0.00*** (0.00)	0.00*** (0.00)	0.00* (0.00)	−0.00 (0.00)
Urban	−0.00 (.01)	8.19*** (1.09)	−.15*** (.06)	−0.00 (.01)
% Age 18 - 39	−.01 (.04)	−16.69** (7.1)	.44 (.36)	.30*** (.10)
Education	.03*** (.01)	.14 (1.00)	−.47*** (.06)	−.46*** (.02)
% rel.Islam	.08*** (.02)	−7.86*** (2.1)	1.90*** (.58)	1.69*** (.05)
% rel.Other	0.00 (.01)	−9.39*** (2.8)	.05 (.09)	−.08*** (.03)
% Indigenous	.03*** (.01)	4.79** (1.93)	.06 (.07)	−.04* (.02)
KC/PAM	−.01*** (0.00)	.80*** (.27)		
NPA (lag)			.90*** (.04)	
Constant	.04 (.03)	10.29** (4.84)	−1.10*** (.27)	.40*** (.08)
Elec Cycle FE	Yes	Yes	Yes	Yes
Observations	45,474	3,310	6,302	39,172
R^2	.02	.20	.21	.18

*p<0.1; **p<0.05; ***p<0.01

Table 3.5 shows the full results from the OLS regressions discussed in the paper and displayed in Figures 3.3, 3.5, and 3.6. The Model Number refers to figure in the paper that displays the results of the model.

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