The Evolution of Rebellion: Social Networks and Civil War^{*}

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Abstract

We conceptualize civil-conflict dynamics as part of a tug-of-war over public support between the government and an opposition. Violence such as targeted assassination may be used by either side for some larger strategic purpose but also produces shifts in public support against one group and in favor of the other. The size of these shifts are theorized to depend upon the number of friends the target has and the breadth of the political spectrum these friends cover. We use the assassination of Pedro Joaquín Chamorro Cardenal during the Nicaraguan conflict as a source of empirical inspiration in developing a simulation model. Assuming that the Nicaraguan public presumed the perpetrator of the assassination was the Somoza regime, the model demonstrates how public support would have shifted away from the government. We also uncover the following counterintuitive result: If the public presumed that the oppositionleaning target had been targeted by the opposition, then the largest shifts in public support are generated by the target having more friends who are political concentrated in the political spectrum.

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1 Introduction

Conflict is a process of resolving disagreement that involves people whose preferences differ. Sometimes that process turns violent. Often, that process does not completely resolve the disagreement inherent in their differing preferences.

The above statements should not be controversial and may be dismissed as too simplistic. But encapsulating the very dynamic and complex process we call conflict in a few simple statements gives us a firm foundation upon which to explore that dynamism and complexity.

As we study the process of conflict in a society, we have been especially interested in the violent aspects: When does conflict become violent, or more specifically, when does conflict between a government and some opposition group become sufficiently violent that we could call it a "civil war". But we also recognize that a civil war is part of the process and not an outcome that stands alone. The groups fight to get closer to what each of them wants. This holds true for other tactics used or considered in the process of conflict.

It is easy to theorize about conflict between two groups when we personify each group as a distinct actor. Indeed, much has been learned about social conflict using this assumption. It is also easy to critique this simplification toward understanding social conflict. Groups, after all, are made up of individual people who make the actual decisions and do the actual fighting and dying. Arguments and differences of opinion among the individuals who comprise a group are often as consequential (and sometimes as violent) as the conflict between groups. Providing a theory that starts with individuals, is coherent, but not overly complicated is not so easy.

We make an attempt to provide such a theory by placing individuals in an abstract socialpolitical context that both links them together and divides them. Individuals exist in this context and are shaped by this context. The individuals taken together collectively describe the context and its changes. Thus, our focus is on the shifts in individuals' places within the social-political context (based on micro-motives) that collectively take on the characteristics of splintering and cohesion that either resolve the disagreement in favor of one group over the other or keep the disagreement in a state of stalemate.

Following Schelling (1978), we explicitly model micro-level elements (i.e., the individuals and their behavior) and macro-level outcomes (i.e., the changes in the overall context). We also add a meso-level which we manipulate to see how the individuals react given their micro-level characteristics. To do so, we assume that some degree of "group-ness" exists such that a leader represents the government and another leader represents the opposition. The choices of these groups are manipulated by the researcher (rather than analyzed as rational actions). For example, in this paper we will explicitly examine the choice to engage in targeted assassination. The point here of this examination is to understand how such an action ripples through the micro-level to produce a macro-outcome. We also explicitly manipulate the social-political context to see how the same meso-level action produces different macro-outcomes depending on the initial social-political context.

In taking this approach, we are deviating from the standard rational-choice paradigm. We see this as complementary research. The standard rational-choice approach aims to explain outcomes through explaining actions. It does so within the well-defined structure of a game in which the actors understand how their combinations of actions lead to outcomes (even when there are uncertainties such as simultaneous moves, incomplete information, or pure chance). Our approach aims to understand the sociological processes of many individuals' reactions to a meso-level action that produce a macro-level outcome. In one sense, we are trying to limit the use of pure chance as a theoretical construct.

Consider the following example modelling the same phenomenon with parallel approaches. We can think about targeted assassination as a decision problem. From a rational-choice perspective, an actor either engages in the action or not. Each action has consequences that are more or less preferred by the actor. Not taking action may have a known or certain consequence. Taking the action may lead to a better or worse outcome depending on chance factors. For targeted assassination, the outcome may be the evaporation of public support; alternatively, the outcome may be the galvanization of public support. Either may occur. So, the modeller could put *ad hoc* probabilities on each. The rational choice will then depend on whether the probability and value of strengthened public support are high enough to make the expected utility of the action higher than the utility of not taking the action. But where do those probabilities come from?

The social-political context determines the likely reaction of opposition support and, hence, the probabilities the actor should use in making a decision. That is, the proportion of opposition support can be used as the probability of success. If enough is known about the context, these probabilities may approach certainties. Using our approach, we examine the level of opposition support resulting from the action under different initial conditions that represent the social-political context. The joining of our pursuit with a standard rational-choice approach would be the next step to a deeper understanding of social conflict.

The support of "secondary" political actors within a country—economic elites, voters, the military, protesters, armed insurgents, etc.—is the center of focus here. Without support, the "primary" actor has little bargaining power. Without bargaining power, that actor has little influence in the conflict, perhaps even becoming irrelevant. We see the evolution of conflict in terms of how the actions of the primary actors affect the relative support of each side. In the overall project, we explore the social-political dynamics that can be attributed to several different "meso-level" actions. These actions include targeted assassination, one-sided violence more generally, and varying levels of two-sided violence. In this paper, we specifically examine the shifts in support due to targeted assassination. We use the assassination of Pedro Joaquín Chamorro Cardenal as a source of empirical inspiration. Before doing so, we first review other social-networking aspects of Nicaraguan society and politics leading up to the assassination.

2 Background

We build off of the foundational work done by McAdam (1982) and Sidney Tarrow and Charles Tilly (2001) on the spectrum of contentious politics and why and how they turn violent, as well as the work of Mark Lichbach, Christian Davenport and David Armstrong (2005) on civil wars. According to both McAdam et al. and Lichbach et al., we must understand civil war as an extension of a period of protracted civil unrest and violence. Civil wars do not just emerge spontaneously. The months and even years before the onset of civil war clearly hold valuable information about the origins or causes of the conflict. In other words, we cannot understand civil war in isolation of other forms of lower-level political violence, such as protests, riots and social movements. Within this conflict history, we focus primarily on the emergence of opposition groups, as they are key to understanding when civil wars begin.

As McAdam, et al. argue there are two principal methods to building an organization's support base. They must either create an organizational instrument designed to attract new members to the group, or simply expropriate one that already exists (2001). It is in the latter that established social networks and interpersonal relationships become key. Social networks can be defined as a group of individuals with pre-existing relationships. They often share common histories, values and interests, and are built on trust and loyalty. The components of a particular social network include the individual members, their physical location within some geographical space, and their relationships with others. Any society is comprised of innumerable interpersonal relationships. They can be based on familial, generational or friendship ties. They may arise from relationships between colleagues and co-workers, such as trade unions, agricultural co-operatives or even student groups. They may be organized formally, as in the case of institutionalized political parties or religious groups, or informally like community-based associations. They may even be extra-legal organizations, such as street gangs. These relationships exist prior to the onset of civil war, and continue long after its termination.

It is through these networks that information regarding grievances and opportunities for social mobilization is transmitted. Social relations within one's network are both a source of benefit (or loss) and a source of information regarding the larger network. The potential benefits an individual receives from his or her government range from diffuse public goods to personal patronage. This in combination with the positive information feedback one receives from others in their network produce a positive flow potential and result in loyalty to the government. Opposition movements and civil war would not emerge in this scenario.

On the other hand, an individual can also experience "losses" or grievances from their interactions with the government. These can be as minimal as the ordinary costs of maintaining government (i.e. taxes) or as extreme as violent repression (and include everything in between). Net losses and negative information feedback produce a negative flow potential and dissent toward the government.

From a political point of view, grievance is the most important information to be transmitted within a social network. Individuals' reactions to signals of grievance can lead to localized disgruntlement—presuming that such information shapes one's perceptions and future actions (see Calvert, 1998)—but many have no further consequences. When these localized pockets are further linked together, a nascent dissenting organization can form. With a sufficiently large network of dissenters—some providing their resources, some providing their labor—a group may then seek redress for their grievances. If the dissenters use violent means to address their concerns, we label them a rebel group. Social networks provide an invaluable mobilization resource for social movements, including armed rebellions.¹ The ability of rebel groups to exploit these existing networks, what McAdam, et al. refer to as social appropriation and brokerage, will likely tell us something about the onset of civil war as well as their potential for successful military action. Indeed, before the existence of a rebel army, there was a nascent rebel organization, and before that a dissident movement or some other form of low-level conflict.

In the following section we explore the dynamic evolution of social protest and armed conflict in Nicaragua. We explore the support bases of two Nicaraguan opposition groups—the Sandinistas and the Contras. Both relied on extensive systems of previously networked individuals to facilitate their armed struggles.

 $^{^{1}}$ McAdam (1982) was one of the first scholars to demonstrate the importance of previous organizational affiliations and interpersonal networks for the recruitment and growth of social movements, analyzing the black activist movement in the United States in the 1960s.

3 Illustrating the Issues

The Nicaraguan case is not only illustrative of the common pitfalls associated with quantitative studies of civil war and dyadic analyses, in particular, but given its especially violent history it also lends itself well to in-case comparative analysis. In this way, we will employ a most-similar systems research design. We argue that the political and social landscape in Nicaragua prior to the onset of the Sandinista revolution and the Contra-led counterrevolution were indeed quite similar. Certainly in the 30-year time span from the emergence of the Sandinistas to the resolution of the Contra war, there were no changes in the geological terrain of the country. The size of the population, economic growth and inequalities also had not changed dramatically (despite efforts by the Sandinistas to redistribute wealth and land amongst the population). Perhaps the most significant change occurred within the political arena. Although both should be considered as undemocratic in the sense that free and open elections were absent, there is no question that there were substantive differences between the dynastic rule of the Somoza family and that of the Sandinista governing junta. Given their stability over time, these structural factors cannot explain the timing of civil war nor can they explain why the Sandinistas were militarily successful in their mission, whereas the Contras were not.

It would appear then that current studies of civil war suffer from omitted variable bias, namely the emergence of opposition groups onto the political stage and the mobilization of the masses into these groups. To illustrate these processes, we turn to the social mobilization and network literatures. But first, allow us to take a brief look at the summary of the Nicaraguan civil wars from the Uppsala/PRIO Armed Conflict Dataset.

Attempting to understand the nature of armed conflict in Nicaragua from the dataset alone, results in mischaracterizations and unanswered questions. In the dataset, the two Nicaraguan civil wars are given one start-date over four observations. The first battle-related death was recorded in December of 1974. The Sandinistas then engaged in high-level violence against the government in 1978 and 1979. The Contras began low-level violence against the government in 1981 and 1982, later escalating to a high-level civil war in 1983 until 1988, and then de-escalating again to a moderate level of violence and war termination in 1989.

The issue at stake for all four observations of civil war is control of the government. If we knew nothing at all about the history of Nicaragua, it would appear as though the FSLN and the Contras were jointly fighting the government. Of course we all know that the Contras battled against the Sandinista governing junta. If the FSLN had never been successful in ousting the Somoza regime in the first observations of civil war, there likely never would have been a Contra war. This case clearly demonstrates that dyadic datasets inadequately account for changes in the leadership of key actors in the conflict. In fact, the only indication that some change occurred in 1981 is that the civil war was given a new subID.

3.1 The Emergence of the Sandinistas and the Overthrow of a Dictator

Paying particular attention to social network ties, this section looks at the emergence and evolution of rebel groups in Nicaragua. First, we consider the formation of the Sandinista revolutionary opposition in the beginning of the 1960's, its evolution into a formidable guerilla army and its transition into a legal political party in the years following the overthrow of the Somoza regime. We will look at the existence of grievances against the state, and how the Sandinistas were able to capitalize on existing social networks to exploit the opportunities afforded by such grievances. In comparison, we look at the early existence of the counterrevolutionary opposition, primarily within the Contras and how despite widespread network ties and large amounts of military aid and training from the United States, the Contras were unable to militarily defeat the Sandinista government.

The group now commonly referred to as the Sandinistas or the Frente Sandinista de Liberación Nacional (FSLN) dates back to the late 1950s as a radical student activist group at the Universidad Nacional Autónoma de Nicaragua (UNAN) in Managua. Two of these students, José Carlos Fonseca Amador and Tomás Borge Martínez, joined the Nicaraguan Socialist Party (PSN) and founded Nicaragua's Patriotic Youth (a cell of the PSN's youth movement) to organize and mobilize university students against the Somoza regime. Fonseca and Borge initially resisted forming alliances or strategic coalitions with conservative and traditional sectors of society in favor of a more ideologically purist approach, and as a result later broke ties with the PSN in 1960 (Gilbert, 1988; Vanden and Prevost, 1993, 33-36). Thus the FSLN was formally organized in 1961 during a meeting between founding members, Fonseca, Silvio Mayorga, Borge, and Noel Guerrero Santiago in Havana, Cuba (Brown, 2001; Vanden and Prevost, 1993).² In its first years, the FSLN boasted a mere twelve members. These individuals who helped to create and comprised the earliest membership of the organization can be thought of as the "core" of the FSLN.

The organization was to be modelled after the *foquista* ideologies and strategies of Ernesto "Ché" Guevera and Fidel Castro in Cuba. Essentially, this means that the FSLN would rely initially on a small group of insurgents to stage military battles or attacks against the state, effectively demonstrating the weakness of the government, and the opening or opportunity for a successful rebel movement. After demonstrating the possibility for military success or victories against the state, support for the insurgents would grow amongst the wider population (as the opportunity costs to individual members go down and the probability of success goes up). In this way, a *foquista* military approach implicitly incorporates its own recruitment strategy, and thus no separate recruitment or mobilization efforts are needed. However, as the early military efforts of the FSLN demonstrated, *foquismo* alone would not be sufficient to win a revolutionary war against a more powerful state, leading some organization leaders to advocate for a guerilla warfare strategy with active recruitment amongst the peasantry and rural bases (Nolan, 1986).

Different mobilization strategies led the FSLN to split into three factions.: 1) Los Preletarios, also called the Movimiento Pueblo Unido (MPU), 2) Guerra Popular Prolongada (GPP), and 3) La Tercerista. The MPU was headed by Jaime Wheelock Román and Luis Carrion and pursued a strategy of mobilizing factory workers and residents of poor neighborhoods. The GPP, led by Borge, Henry Ruiz and Ricardo Morales followed a Maoist strategy of a combined peasant and worker-led insurrection. La Tercerista was led by Daniel Ortega Saavedra, his brother Humberto, and Edén Pastora, and favored a more moderate strategy of building alliances (both political and military) with other sectors and cohorts of society, including some non-Marxist groups (Hall, Brignoli, and Cotter, 2003; Gilbert, 1988; Vanden and Prevost, 1993). Events in the 1970s afforded incredible opportunities for alliance building as the number of people opposed to the regime increased exponentially.

The embezzlement of more than \$32 million in international humanitarian aid in the aftermath of the 1972 earthquake in Managua and the later assassination of Conservative opposition party leader and editor of La Prensa, Pedro Joaquin Chamorro Cardenal on January 10, 1978, led to widespread

 $^{^{2}}$ Noel Guerrero left the organization soon after the 1961 meeting, and as a result, most accounts do not include him as a founding member.

public disdain for and greater mobilization against the Somoza regime (Hall, Brignoli, and Cotter, 2003). The regime's misappropriation of aid and monopolization of demolition and reconstruction opportunities, in addition to the loss of tax exemptions previously enjoyed by the business elite, signalled that Somoza had no intentions of breaking up his economic empire.³ Likewise, additional sectors of society also began to break away from the Somoza government. Violations of civil liberties and human rights and restrictions on press freedom increased support for the opposition movement amongst the conservative Catholic Church, members of the mainstream media and the political opposition, all of whom had increasingly become targets of the state's violence. The process through which key members previously loyal to the regime, begin to defect and pledge their support for the opposition is what McAdam, et al. refer to as domestic "decertification."⁴ It was the ability of the Sandinista leadership to recognize and exploit these newly emerging social actors which transformed this opening in to a realized revolutionary situation.

The FSLN learned a major lesson from the splintering of its leadership and organizational base: "division is perilous, open conflict at the top is potentially catastrophic" (Vanden and Prevost, 1993, 45). Ultimately, it was this understanding that allowed the FSLN to reunify in 1978–79, to capitalize and organize the massive popular mobilization, and to lead a successful popular insurrection in 1979, resulting in the disposal of Somoza.⁵ At the time of their final offensive, it is estimated that the FSLN had approximately 1,500 members, whereas just two years before in 1977, they had a mere 200, demonstrating their successful efforts at mobilizing and organizing the masses Vanden and Prevost (1993).

3.2 Assassination of Chamorro

The growing insurgency of the FSLN was not the only opposition to the Somoza dynasty. Though the general public was growing weary of the Somoza dictatorship, they were not ready to fully commit to the socialist agenda of the FSLN. Enter Pedro Joaquín Chamorro Cardenal, the owner and editor-in chief of the newspaper La Prensa. A staunch opponent of the Somoza family, Chamorro offered a more moderate view for the future of Nicaragua, one that would benefit the business elite and promote public interests such as education, healthcare and social security. His assassination on January 10, 1978, presumably by the Somoza regime, would help sway popular support towards the FSLN, which would use this momentum to take the country by 1979.

What makes Chamorro such a unique actor in this conflict is his ability to reach over multiple socioeconomic lines and connect with the community almost effortlessly. Much of this has to do with his political views, but his family name and its ties with the history of Nicaragua put him in the position to be a difference-maker. How he became the voice of the popular dissent against the Somoza regime is credited to his family history and the connections of his friends. The Chamorro family has directly influenced the history Nicaragua, having had ties to the presidency since 1853. Altogether, before the Sandinista Revolution, four Chamorro's great-great uncle was the

 $^{^{3}}$ In the 1970s the family's private fortune and net worth were estimated at between \$400 and \$900 million, representing more than one third of the entire national economy (Gilbert, 1988, 105–106).

⁴In this case, international decertification also played an enormous role in the onset of civil war. Key international actors, including the United States and neighboring countries in Latin America, were outspoken in their opposition to the Somoza government.

⁵The newly formed FSLN organization assumed the leadership of Ortega and the ideology and military strategies of the Tercerista faction.

first Nicaraguan president (1853–55), Pedro Joaquín Chamorro was next (1875–79), followed by Emiliano Chamorro (1917–21, and again in 1926), and finally Diego Manuel Chamorro (1921–23).⁶

His father, Pedro Joaquín Chamorro Zelaya, bought part-ownership of the newspaper that would become Chamorro's soapbox to petition against the Somoza regime, La Prensa, in 1930, and owned it in its entirety by 1932. La Prensa was a family affair, with his brothers, Xavier and Jaime, working as editors for the newspaper. His close associates at La Prensa consisted of editors and managers such as Pablo Antonio Cuadra (Co-director), Horacio Ruiz (Managing Editor), Rafael Bonilla (General Manager), and Edgar Castillo (International Editor).

Growing up in Granada, Chamorro had ties with the conservative elite, including the families that were part of the Banamerica group, a group of wealthy landowners that controlled a large portion of the sugar, rum, cattle and coffee exporting in the country.⁷ He kept only a few childhood friends due to many eventually becoming Somoza allies/sympathizers, but Dr. Emilio Álvarez Montalván, co-founder of the National Union of Popular Action (UNAP) was one of the few.

Chamorro showed his willingness to work with divergent political opinions when he organized the Democratic Union of Liberation (UDEL), a political party that consisted of Liberals, Conservatives, Christian Socialists, intellectuals and laborers with the intent of challenging the Somoza regime in general elections.⁸ He also had high-ranking friends in other states, such as Venezuelan president Carlos Andres Perez (but for the sake of this paper we will only discuss associates in-country).

Chamorro's family stature in Nicaraguan society and the varied political views of his friends and associates show that Chamorro was well connected, which gave him the potential to be a highly influential person. Although he did not associate with anyone that had ties to the Somoza family, he associated himself with many people across all lines of society (rich/poor, left/right). This cross-spectrum connectivity played a significant role in the events that would unfold after his assassination.

Chamorro's political leanings were born in the conservative city of Granada. His presidential ancestors were staunch Conservatives, so it was no wonder that he was perceived to have Conservative leanings in the public sphere. This was not entirely true, though. He was politically moderate, more in the sense that in that he was the opposite of the corrupt Somoza regime, but not as extreme as the communist leaning FSLN. He offered a progressive approach, one that would benefit the private business elite and the struggling middle and lower classes. He was not afraid of working with the middle-class and poor, something that was rarely done in a society with firm social lines.⁹ In 1963, Chamorro, through La Prensa, launched a literacy campaign aimed at the country's youth and poor. With the help of grade schools, universities, radio broadcasts, and the Ministry of Education, Chamorro was able to bring awareness to a public need. "One who does not know how to read is like one who cannot see, and it is necessary to take the blindfolds off our brothers" (Edmisten 44). This program would later be used as a template for the Sandinista-led literacy campaigns of the 1980s.

The manner in which he ran La Prensa was often viewed as a potential model for the post-Somoza economy. According to friends, "the newspaper was like a small republic, and Pedro Joaquín implemented his ideas about society within La Prensa" (Edimsten 49). He initiated a profit sharing system, paid high salaries, provided financial assistance through loans, helped with

⁶Cardenal, Jaime Chamorro. LA PRENSA The Republic of Paper. 1998.

⁷Merrill, Tim. Nicaragua: A Country Study. Washington: GPO for the Library of Congress. 1993.

⁸Edmisten, Patricia Taylor. Nicaragua Divided: LaPrensa and the Chamorro Legacy. 1990. p. 61-62.

⁹Edmisten, Patricia Taylor. Nicaragua Divided: LaPrensa and the Chamorro Legacy. 1990. p.52.

medical need for his employees and the less fortunate members of the community, and implemented Social Security (before there was social security) for tenured employees.

As for his public service as a political leader, Chamorro did much to fight against the Somoza regime while managing to keep the public aware and engaged. As a youth, he joined the "Generation of Forties" protests in 1944 to oppose Anastasio Somoza García from seeking reelection, which was successful only in part (Somoza did not run for reelection, opting instead to install a puppet ruler). In 1948, he along with longtime friend Dr. Álvarez Montalván and others cofounded the National Union of Popular Action (UNAP), a party created to initiate social revolution. In 1954, PJCC participated in the unsuccessful plot by "Frente Interno" to forcibly overthrow the Somoza regime, and finally, in 1974 Chamorro created UDEL, the Democratic Union of Liberation, a group consisting of cross-spectrum political actors (left to right, rich and poor) with the goal of gaining public support to challenge to Somoza regime.¹⁰

Chamorro was also an accomplished author. His books discussed the longstanding oppression of the Somozas, the suffering of the poor as well as his own suffering during his multiple imprisonments and exiles. Bloody Stock: The Somozas, Diary of a Prisoner, and Jesus Marchena, invoked sympathy for the poor, hatred for the government, and made the country aware of the injustices implemented on them by the Somozas. Besides La Prensa, these books gave Chamorro another outlet to garner national and international attention to the atrocities executed by the Somoza regime.

Because of his political ideals, Chamorro was able to attract allies from all over the political landscape, even more so after the 1972 earthquake, where he was able to give the elite families an alternative option to the extreme policy preferences of the FSLN. He was seen as incorruptible, having been offered inclusion into the Somoza family's inner circle of business elites and refusing. Media censorship, targeted executions and imprisonment, as well as the gross mishandling of foreign aid in the aftermath of the 1972 earthquake in Managua made Anastasio Somoza Debayle highly unlikeable and politically toxic. What Chamorro offered the general public was just the opposite. He connected with all castes in society, was willing to fight for multiple causes including free enterprise, education, and healthcare, but more importantly, he wanted free and fair government rule. Because of his popularity in the public sphere, his death was used as a rallying point against government censorship and corruption and became a major turning point in the revolution that would soon envelop the country.

"Revolution is necessary not because the Communists say it is, but because revolution is necessary when there is no roof, bread, liberty and work for the majority of people" (Edimsten 41)

The general public was outraged by the assassination of Chamorro. Over 30,000 countrymen, from all castes of society (a true testament to his far-reaching ties in the community), escorted his body to his family home to be buried. As they accompanied his body, the crowd sang the national anthem in a show of unity and respect to Chamorro, but the tone quickly changed from one of mourning to one of anger and disdain as protestors clashed with the National Guard. According to a 1979 FBIS Latin America report, there was almost unanimous condemnation of the killing, many blaming the Somoza regime for coordinating the assassination. The public put pressure on the government to conduct a thorough investigation, which would eventually conclude without any tangible findings (FBIS).

Chamorro's associates went to work as well. His successor at UDEL, Rafael Córdova Rivas, organized a general strike that would see over seventy five percent of industry and business cease

¹⁰Edmisten, Patricia Taylor. Nicaragua Divided: LaPrensa and the Chamorro Legacy. 1990. p.13-29, 58-62.

operations. Somoza would retaliate with emergency laws that censored the media and fined businesses that continued to strike. Having lost faith in his ability to lead, many business owners decided to pay their employees wages to continue striking instead of giving in to Somoza's demand. The General would eventually lift the emergency laws, but violent repression by the National Guard to protests around the country would further strengthen the growing association between political moderates and the FSLN (Edmisten).

La Prensa became headquarters to the budding insurgency. The newspaper served to unify the public and sway popular support against Somoza. The general public assumed that Somoza was behind the assassination; it just needed a cause to get behind.

"People who had been neutral or indifferent aligned themselves with all the national forces opposing the dictatorship" (Cardenal). The death of Chamorro, along with concessions made by the FSLN, mainly the development of *la tercerista*, gave the general public a unified voice to stand behind and challenge Somoza.

General Somoza had once declared the FSLN to be finished, "divided and now conquered by me" (Goodsell). James Nelson Goodsell, in his assessment of the Sandinista Revolution shows that this assertion may have been more propaganda than truth.

"Then, in January 1978, an unexpected event changed that assessment. The assassination of an opposition newspaperman, Pedro Joaquín Chamorro Cardenal, editor and publisher of Nicaragua's major daily, La Prensa, galvanized the opposition to General Somoza as no other event before had done. Together with a growing civilian middle-class opposition composed of businessmen, scholars, and professional people, the Sandinistas benefitted bountifully fro the growing nation-wide disenchantment with Somoza's rule. General strikes shut down business; raids on National Guard posts were stepped up; Sandinista recruitment was increasingly successful. Although General Somoza disclaimed responsibility for the Chamorro assassination, in the popular mind he and his National Guard were widely believed to be the culprits. Historians now view the assassination as the beginning of the end for Somoza's rule." (Goodsell 96)

What Somoza failed to recognize was the growing moderate opposition to his regime. Though the FSLN was fractured at the time of his statement, the general public was silently galvanizing against him. Its safe to say that the actions taken by the moderates would have an equal or even more profound effect on the outcome of the revolution than any action taken by the FSLN.

The assassination became a final tipping point in the fall of Somoza, shifting his last erstwhile supporters away from him even if not becoming supporters on the FSLN. If Somoza's bloc of supporters had not been thinned by the corruption revealed in the aftermath of the earthquake, the assassination may not have been as consequential to the shift in support. Thus, we are not arguing that any one of these events necessarily led to Somoza's downfall, but that there was a cumulative effect over the course of the last years of his rule.

In the rest of the paper, we use computer simulations to explore theoretical mechanisms that would produce the effects of targeted assassination. In doing so, we focus on two factors that we hypothesize were critical in producing the size of effect generated by Chamorro's assassination: the number of friends he had and the breadth of the political spectrum his friends covered. Within the controlled environment of a simulation, we can examine counterfactual situations in which the target of assassination had many fewer friends or whose friends covered a narrower range of the political spectrum. Along the way, we also examine the effect that the presumed perpetrator has on shifting support. That is, if everyone in society presumes the assassination was committed by government forces, the expected shift will be one way while if everyone presumes the assassination was committed by the opposition, the expected shift will be another way.

4 Literature

The broader targeted assassination literature is divided along two dimensions. There is a normative/ positive divide in which the normative side deals with the moral/legal conditions under which such violence may be justified. On the positivist side, there is also a divide between examining the effects of targeting government officials versus targeting insurgent/terrorist leaders. Little of this literature is directly relevant to the case of Chamorro that we take as our starting point. However, we do briefly review this literature here and link back to it in the conclusion.

The normative literature on targeted assassination is concerned with the moral/legal conditions under which such violence may be justified. Aloyo (2013) and Grayson (2012a,b) are representative of the moral concerns, discussing either the moral foundations tied to just-war theory (Aloyo, 2013) or the lack of such foundations (Grayson, 2012b,a). Chong (2012) and McNeal (2014) are representative of the legal concerns. McNeal (2014) evaluates accountability mechanisms and argues for reforms that would increase accountability. Chong (2012) argues that accountability needs to be more front-loaded by resuscitating outlawry proceedings before targeted assassination of citizens could take place. Taking a broader perspective, Sanders (2014) argues that there is a trade-off between increasing the legality of targeted assassination and eroding the ability of counterinsurgents/ counter-terrorists to champion human-rights law.

The positivist literature that focuses on the targeted assassination of government leaders is generally concerned with macro-level effects on development, institutions, and/or stability. Studying any exogenous leadership change including assassination, Jones and Olken (2005) find that unexpected changes in autocracies have larger effects on long-term growth and development than in democracies. Similarly, Iqbal and Zorn (2008) find that assassinations of government leaders produce the greatest political instabilities for regimes without clear succession policies. Jones and Olken (2009)—supported by Gao, Gilbert, and Sylwester (2013)—find that successful assassinations of autocratic leaders supports democratization; they also find that the effect of assassination during conflict can either escalate the conflict (if it was only a "moderate" conflict at the time of the assassination) or help terminate the conflict (if it was already "intense").

The positivist literature that focuses on the targeted assassination of insurgent or terrorist leaders is generally concerned with the "effectiveness" of the assassination with respect to the counterinsurgent or counterterrorist forces. Byman (2006) sets the general tone of this literature by discussing the costs and benefits of such targeted killings illustrated by a variety of cases. He ultimately urges caution regarding how effective this strategy may be. Jordan (2009) measures effectiveness via organizational collapse and degradation. She finds that groups suffering decapitation are marginally *less* likely to collapse; organization degradation, however, depends interactively on the capacity of the organization at the time of the assassination. However, Price (2012) finds that decapitation does make organizational collapse more likely. Wilner (2010) presents evidence from Afghanistan that targeted killings of the Taliban reduced their effectiveness along several military dimensions, including professionalism, success rates, and morale. Johnston (2012) also finds that targeted assassinations reduce the effectiveness of terrorist organizations along similar military dimensions, including reducing conflict intensity and frequency of attacks. Focusing just targeted capture, D'Alessio, Stolzenberg, and Dariano (2014) find similar effects in the Peruvian conflict. Turing to Colombia, Morehouse (2014) finds that targeted assassinations reduced the number but not the severity of subsequent insurgent attacks.

In addition to the inconsistent results regarding above, others raise significant questions regarding this literature. For example, Gazit and Brym (2011) suggest that "effectiveness" may well be contextually contingent; they argue that the targeted assassinations by Israel during the Second Intifada were motivated more by delaying the founding of a viable Palestinian state through de-stabilizing their nascent leadership than any military measure of effectiveness. Carvin (2012) more generally questions the foundations of assessing effectiveness of targeted assassinations due to different definitions of effectiveness, as well as the quality and scope of data used in these analyses.

Again, this literature is disconnected with our research focus primarily because the target of concern to us is a potential rather than an actual leader of one of the combatant groups. However, there is no theoretical research and little generalizable empirical research regarding this kind of targeted assassination. In the next section, we discuss our modelling strategy for tackling this research question.

5 The Model

As an analogy to visualize the model, think of civil conflict as a tug of war over public support between the government and an opposition. The space between the two sides represents the political spectrum. The rope represents the public itself. As one side pulls more of the rope over the dividing line, it is closer to winning. While pulling the other side over the dividing line is the ultimate goal, progress toward that goal is measured by how much of the rope is on one side of the dividing line.

The model itself has two main components. A pull of coalition building and a push of enmity generated by violently targeting one's friends and family. Unlike the analogy, these pushes and pulls are theorized to operate at an individual level, constituting the micro-foundations of the system. These individual agents assumed to have some minimal characteristics that defines their "place" in the system.

The first of these characteristics is a position within the political spectrum that represents their political preferences within the conflict. This spectrum is defined by the government at one end and the opposition at the other. All agents use their influence to pull other agents toward themselves in a free-for-all of coalition building. The government and opposition ends are generally assumed to have more "mass" than any other point along the political spectrum—by stacking many agents at the end-points—but each agent throughout the political spectrum has the same pull.

The second of these characteristics is a "position" within the social network that defines their links with other agents in the system. The degree of enmity regarding targeting propagates through the social network such that the target's friends feel the most enmity toward the perpetrator, the target's friends' friends' feel a little less enmity toward the perpetrator, and the target's friends' friends' friends' feel even less enmity toward the perpetrator.

Once the targeting takes place, the agents move within the political spectrum according the the multitudes of pulls of coalition building and the various pushes of enmity. The pushes of enmity only affect a minority of agents, who are repelled away from the side that perpetrated violence against their friend (or their friends' friend, etc.) These agents thus have two forces acting upon them. Sometimes these forces will reinforce each other; sometimes these forces will be opposed to one another; occasionally these forces will be both opposed and balanced, resulting in no movement by that agent.¹¹

¹¹For a technical description of the model, see Butler, Wallace, and McGovney (2013).

5.1 Using the model to examine targeted assassination

The current use of the model in this paper is applied to measuring the theorized macro effects of targeted assassination. As such, only one agent is selected for targeting. Unlike a single historical event, we can re-run the targeted assassination to see how different conditions resulted in different levels of public support for each side–using the percent of the public support for the government at the end of the simulation as our dependent variable. This implies targeting the same agent over and over again in different simulations. In doing so, we also hold constant the characteristics of the targeted agent and the presumed perpetrator.

Regarding the targeted agent, we hold constant its position within the political spectrum while manipulating its social-network characteristics. In particular, we systematically vary its number of friends from few to many (relative to the average number of friends that all agents have in the system). We also systematically vary the range of the political spectrum that the target's friends cover from narrow to a broad swath of the political spectrum. These two manipulations represent the main independent variables.

Regarding the presumed perpetrator, we examine two idealized extremes. That is, either the government or the opposition was the perpetrator and all agents in the system know for certain who the perpetrator was. Because the effects of the presumed perpetrator represent entirely different scenarios, we present the results of each separately.

5.2 Initial conditions

Finally, we need to discuss the initial conditions. While we recognize that the initial conditions affect the final conditions, our primary purpose here is to show the marginal effect of a targeted assassination like that of Pedro Joaquín Chamorro Cardenal. The main point of departure regarding the assassination of Chamorro from the rest of the targeted assassination literature is that Chamorro was not a leader of either the government or the opposition. Instead, he represented a point in the middle of the political spectrum, albeit opposition-leaning. As such, we place our target agent approximately half-way between the center of the political spectrum and the opposition end. Chamorro was targeted for his potential to bring together a coalition that would dominate either extreme of the political spectrum. The preponderance of evidence suggests that the Somoza regime was responsible for the assassination and, more importantly, that was what people believed at the time. However, the FSLN also had a rationale for eliminating Chamorro as an alternative to their leadership. This justifies our examination of the presumed perpetrator as being either the government or the opposition.

For the other initial conditions, we assume a more abstract and generic society.

For the distribution of agents along the political spectrum, we assume an equal balance of influence on either side. In particular, we assume two equal "stacks" of agents at each end of the political spectrum representing 5% of the agents initially on that side. All other agents are distributed uniformly between these end points. This initial distribution can be seen in Figure 1.

For the social network, we assume that the typical agent has twenty friends following a Watts-Strogatz small-world network (Watts and Strogatz, 1998) and that 20% of the friendship links cross the political spectrum.

With these initial parameters, the simulated outcome without targeting remains a 50-50 split of public support for either side. Therefore, we can compare the outcome *with* targeting against

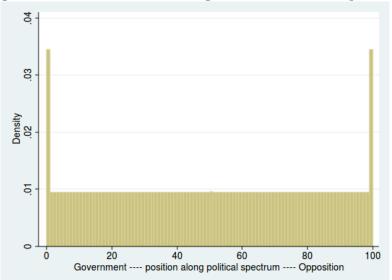


Figure 1: Initial Distribution of Agents in the Political Spectrum

that baseline.

5.3 Specifics and Expectations

We select a target that is close to position 75.0—about halfway between the center of the political spectrum and the opposition end. Keeping the target's position constant, we then vary the target's number of friends and the range of the political spectrum that the target's friends cover. Specifically, we vary the target's number of friends from 20—the average of the rest of the agents—to 70. Few other agents have as many as 30 friends, so this maximum represents many friends relative to all other agents.

We also vary the range of the target's friends from a minimum half-range (or radius) of 10 units in the 100 unit political spectrum to a maximum half-range of 60. Given the target's fixed position, this means that for half-ranges of 10 to 25 all of the target's friends are on the same side of the political spectrum as the target. (The target's friends' friends, however, are less restricted. So, even when the target's friends range is very narrow, some of the target's friends' friends will be on the other side of the political spectrum.) At the half-range of 60, the target's friends cover most of the political spectrum.

Finally, we also examine whether the universally presumed perpetrator was the government or the opposition using a dummy variable.

Recall that the variable of interest is public support. We specifically measure the percentage of agents on the government side of the political spectrum at the end of the simulation as our dependent variable. Without targeting, there would be movement of the agents due to coalition building but the final government support would remain 50%. Thus, we use this as a baseline for comparison when there is targeting of our one fixed target. Values higher that 50% indicate shifts in support favoring government; values lower than 50% indicate shifts in support favoring the opposition.

With these specifics in mind, we first consider government targeting of our opposition-

leaning target. When this target has few friends, we do not expect there to be noticeable shifts in public support. Some agents in the political system will have enmity against the government, but not enough to affect the distribution of support. Increasing the target's number of friends, however, is expected to increase the shift in support *against* the government. Similarly, if the target has a narrow range of friends (i.e., all on the opposition side of the political spectrum), then we do not expect a noticeable shift in public support. As this range widens, however, we expect a shift in support *against* the government. Finally, we expect something of an interaction effect between the target's number of friends and the range of the political spectrum the target's friends cover. Specifically, when the target has a large number of friends and those friends cover a wide range of the political spectrum, we expect the largest shifts in public support *against* the government. We argue that this combination represents the case of Pedro Joaquín Chamorro Cardenal.

When examining **opposition targeting of our opposition-leaning target**, we have similar expectations except that public support will generally shift *in favor of* the government. A target with more friends is expected to produce a larger shift in public support. A target with a wide range of friends is expected to produce a larger shift in public support. And the interaction between the two variables—more friends and covering a wide range of the political spectrum—is expected to produce the largest shift in public support *in favor of the government*.

We now turn to the results.

6 Results

We ran four sets of simulations covering the parameter space that varied the number of friends (20–70), the half range of the target's friends (10–60), and the perpetrator (government or opposition).¹² Each set of simulations produced the same pattern of results.¹³ Even so, these results should be considered preliminary; greater confidence would exist with more simulation sets over a tighter mesh of the parameter space.

Figure 2 presents the averaged results across sets of simulations when the government targeted our opposition-leaning target. These results fit our expectations: Increasing the target's friends shifts support (relative to the baseline of 50%) *against* the government. Widening the range of the political spectrum that the target's friends cover shifts support against the government. Finally, we do observe an interaction between the two variables such that the shift in support against the government is greatest when the target has many friends who cover most of the political spectrum.

In this sense, our simulation captures assassination of Chamorro in producing a noticeable effect (about 4 percentage points) of shifting government support against the Somoza regime predicated on society presuming that the Somoza regime was responsible for his targeted assassination. We do not argue that Nicaraguan society was balanced between the two sides at the time of the assassination. Indeed, we recognize that the scandal after the earthquake had already produced a shift away from Somoza. We argue instead that the assassination produced another shift in public support that we have modelled. Within the context of our model, we would argue that the

¹²The number of friends was incremented by 1 while the half range of the friends was incremented by 10. Each simulation set therefore had 612 observations $(51 \times 6 \times 2)$.

¹³A set of simulations is differentiated by its randomization seed. Each set produces slightly different results because of randomization in the creation of the underlying social network. Producing the same pattern of results increases confidence that the simulation is capturing the intended process.

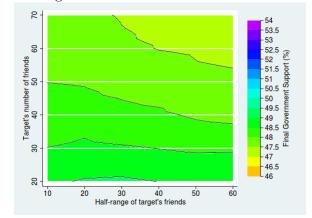


Figure 2: Averaged Simulation Results of Government Targeting

assassination produced enough of an effect to be a tipping point in the movement against Somoza.

The simulation also allows us to consider counterfactual cases. Above, we have already considered the counterfactuals of a target with few friends and a narrow range of friends. Next, we consider the counterfactual of targeted assassination by the opposition.

Figure 3 presents the averaged results across sets of simulations when the opposition targeted our opposition-leaning target. These results do not entirely fit our expectations. While increasing the target's number of friends has does shift support *in favor of* the government, widening the range of the political spectrum that the target's friends cover dilutes this effect. Similarly, while there is an interaction effect between the two variables, the effect of widening the range of friends further dilutes the shift in support in favor of the government. In fact, the largest shift in support in favor of the government occurs when the target has many friends who are narrowly concentrated around the target in the political spectrum.

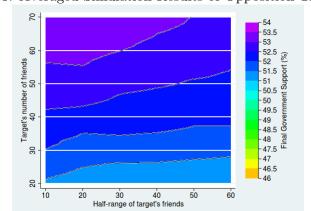


Figure 3: Averaged Simulation Results of Opposition Targeting

How do we make sense of this counterintuitive result? Within the context of the model, an agent who is targeted by its own side propagates enmity among its friends, friends' friends, etc., who then are repelled from the perpetrating side. When these friends are spread across the political spectrum, two things are going on. First, the target's friends who are already on the the other

side of the political spectrum aren't repelled as much as friends who are closer to the perpetrator. Second, their ability to pull more agents with them is diluted because they are not close enough to each other to create a coherent bloc sufficient to pull others with them.

When these friends are narrowly concentrated around the target, however, each has a strong repelling force away from the perpetrator. They also do form a coherent bloc within the political spectrum who can pull other agents with them. Furthermore, they are moving opposite to the baseline movement. That is, without the targeting, those in the middle of the opposition side would generally be pulled toward the opposition end. Given the targeting, this bloc's enmity pushes them more than the pull of coalition building. Any agents within this range of the political spectrum who was unaffected by the enmity propagation (because it wasn't their friend, friends' friend, etc., who was targeted) would now be dragged toward the government end by the cohesive bloc of agents whose friend was targeted.

Our focus on the case of Chamorro blinded us from considering this possibility but shows some of the power of the simulation approach. Ideally, we would want to find cases corresponding to "same-side" assassinations of this type to examine whether the corresponding shifts in public support validate the model or suggest some other relationship.

The results do raise a quandary for modelling the effects of violence as we have. If the shifts in public support are as predictable as we have modelled, why would either side engage in such targeted assassination. One disturbing possibility that fits strategic thinking and the current logic of the model is that each side has an incentive to engage in such violence *provided that it can reasonably blame the other side for its execution*. If pulled off successfully, the other side loses a measure of public support that the actual perpetrators gain.

Alternatively, there may be benefits to violent targeting that we have not yet modelled. The broader targeted assassination literature focuses on the organizationally disruptive effects that assassination can have. On the one hand, the case that we are examining does not have this organizational component and, thus, provided a starting point for modelling that was allowed us to concentrate on public support rather than this additional characteristic of the organizational social network. On the other hand, we argued that Chamorro represented a threat of alternative leadership to both the Somoza regime and the FSLN. Thus, either side may have seen a benefit in eliminating his leadership potential *before* he formed an organizational structure. Such a structure would likely start with his friends and family. We discuss this modelling alternative and others in the conclusion.

7 Conclusion

We argue that our model captures some of the ripple-effects of political violence in the form of political support. The case that got us started—the assassination of Chamorro in 1978—is not representative of the broader targeted assassination literature, but is an important aspect of political violence. Our next steps in this research programme are roughly divided between these two different kinds of targeted assassination.

Within the context of the current model, we have only explored a narrow range of effects. In keeping the position of the target fixed, we have only scratched the surface. In addition, we kept the distribution of agents in the political space balanced and the underlying social network "average". It is in the nature of simulation analysis that you want to vary what you think are the most important parameters first. But it is important to vary these other parameters to make sure that the shifts in public support we have found are merely an artefact of these chosen parameters.

Another aspect of political violence that is not presently part of the model is fear of the outgroup. Group identity plays a large role in many internal conflicts. While a group's targeted violence may be known to have the repulsive effect we have modelled here, it may also sow fear between individuals belonging to different identity groups. Individuals who share the identity of the target now have an apprehension or outright fear of any individual who shares the identity of the perpetrator. Especially to the extent that individuals from different identity groups share beliefs within the political spectrum at the time of the violence (cf. Branscombe et al., 1993), this fear can push them away from each other after the violence. This would act as an indirect recruiting tool for the perpetrators of violence.

In addition, we would like to address the broader targeted assassination literature more directly. One way of doing this—and in line with our model—is to add an organizational social-network structure to the groups at the ends of the political spectrum in combination with mechanisms for replacement. This would allow us to examine the effects of targeted assassination on different kinds of organizational structures.

This future research may be of particular relevance to policy-makers. In the sad world of conflict, targeted assassinations are taking place, both in counterinsurgency and counter-terrorism campaigns. While our research is predicated on the idea that such violence reduces the public support of the perpetrator under most circumstances, some targeted assassinations have worse backlash effects than others. Deepening our understanding of the effects of political violence can help us guide and temper the policy-makers who ultimately are faced with these difficult choices.

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