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A Subnational Study of Insurgency: FARC Violence in the 1990s

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This article examines the traditional political and economic factors that have been purported to explain the prevalence of insurgency. It tests the following hypotheses at the subnational level in Colombia: guerrilla violence is positively associated with exports; higher levels of insurgency are associated with low levels of GDP per capita or negative growth rates; guerrilla violence emerges in the context of weak state presence; and higher levels of state repression are associated with higher levels of insurgent violence. The analysis utilizes a zero-inflated negative binomial to capture dynamics of both intensity and onset of violence. The econometric analysis is supplemented with cartographic visualization and qualitative analysis.

Introduction

Many factors are theorized to be important to explain insurgency, including geography and history, the economy, government, and demography. Although Colombia is one of Latin America's oldest democracies, with a history of unusually consistent economic growth for the region, it is also home to one of the most entrenched leftist insurgencies in the world. Colombia is an ideal case to test these factors, due to the ability to analyze the issues at the subnational level and the variability of violence within the country. Although most of the research on Colombia is conducted at the national level, a subnational study of Colombia offers a unique opportunity to incorporate many of the theoretically important factors into a model of FARC violence. In this article, the analysis at the subnational level is based on unique dataset constructed from CINEP (Centro de Investigación y Educación Popular) and Colombian government sources. The subnational-level analysis can assist in the determination of whether the cross-national or national level results are

supported at a disaggregated level. After extensive specification testing, the zero-inflated negative binomial regression was selected to model guerilla violence. In this analysis, a zero-inflated negative binomial regression model is utilized because the dependent variable (FARC human rights violations) is a count, with excess zeros and overdispersion. This model allows for different factors to account for the absence of violence (zeros) and the presence of violence (non-zeros). In this case, the forces that contribute to an absence of guerilla violence may be different from forces that explain the intensity of guerilla violence. Additionally, the model allows different processes to determine the absence of violence (zero counts). Based on the theories of guerilla violence, there could be multiple reasons why there is an absence of violence in a department—no exports to loot, high level of GDP or development, strong state presence, or other, unspecified factors.

When analyzing insurgencies, it is important to understand the origin and growth of the organization. Daniel Pecaut (1997) and Sánchez et al. (2003) remind scholars, especially in the case of the FARC, that factors contributing to later growth can be independent of factors that encouraged its emergence. Pecaut states that the pervasive Colombian violence has created its own influences on society, regardless of the original causes of the violence. Understanding old and new dynamics is essential to crafting an appropriate and effective policy response to the challenge of insurgency.

The FARC, the Revolutionary Armed Forces of Colombia (Fuerzas Armadas Revolucionarias de Colombia), is the dominant guerrilla group in Colombia, with approximately 17000 members.[1] The FARC, a dominant force in much of rural Colombia, also has a presence in the main cities (Petras 2000, 134). Formally, the FARC originated out of peasant self-defense groups in the 1960s. However, it has deeper historical roots, beginning in the 1920s and 1930s, in the early agrarian conflict of poor agricultural workers against the large landed estates (Pizarro 1992, 180, fn 26). The FARC has continued to evolve since its founding, from a primarily localized movement, based on peasant support, to a revolutionary movement of national breadth, with fronts in both rural and urban areas. From the founding through the seventies, the FARC could still be considered a peasant movement of a limited geographic area. FARC support was based on their provision of basic order in parts of the country that did not have significant government presence (Rangel 1999; Vélez 2000; Medina Gallego 1990; Cubides 1998). The FARC builds on its original basis of demands for land reform, while adding charges of corruption, the perversion of capitalism, and U.S. imperialism to its motivations. Pecaut (1997, 915) argues that the motivations of the young guerrillas are very different than the older ones, in that the younger guerrillas tend to look at being a guerrilla as merely one potential job among many. Whether or not the group has become less ideological and more bureaucratized is not the subject of this study. Today the FARC consists of the following operational blocks. By the end of the twentieth century, the FARC had 67 rural and 4 urban fronts, composed of the Caribbean Block (Costa Atlántica), the Central Block (Tolima, Huila y Cundinamarca), the Southern Block (Nariño, Putumayo, and Caquetá), the Eastern Front (Meta, Vichada, and Guaviare), and the José María Córdoba Block (Urabá and Antioquia) (Vélez 2000, 6–9; Marks 2005[2]). By the 1990 s, the FARC had been completely transformed.

The Theoretical Debate and Testable Hypotheses

Both economic and political factors are theorized to be essential in understanding the dynamics of insurgency. Economic factors can help understand both emergence and

persistence of guerrilla conflict. Political factors can also inspire, suppress, or aggravate insurgency. This analysis examines traditional factors that have been purported to explain the prevalence of guerrilla violence at the subnational level.

Economic Factors

There are two ways that economic factors can encourage insurgency. First, poor economic conditions may inspire sedition. In general, some scholars focus on hopelessness. Others, after controlling for the level of economic development, find no relationship between inequality and violence: Hardy (1979), Weede (1987), Weede and Tiefenbach (1981), and Collier (2000).[3] One direct connection between poverty and Colombian violence is that, in many cases, the guerrillas offer relatively higher wages than other available agricultural jobs (Sánchez 1998, 40).[4] In Colombia, there are long standing structural challenges in the countryside, resulting in persistent land conflict (Ortiz Sarmiento 1990–1, Medina 1985–1986). As new crops become lucrative, old tensions reignite. For example, when new lands are brought into production (for coffee, coca, etc.) and peasants displaced, groups of bandits form to provide "protection" for the landowners from the recently displaced peasants. Beginning in the 1980s, with the advent of the drug agriculture, the aim has been to gain dominance, in the form of land ownership (Meertens 1997). Second, economic resources can serve as a financial basis for insurgent groups. Collier (2000) found.

> The factors which account for this difference between failure and success are to be found not in the "causes" which these two rebel organizations claim to espouse, but in their radically different opportunities to raise revenue . . . the economic theory of conflict argues that the motivation of conflict is unimportant; what matters is whether the organization can sustain itself financially . . . (Collier 2000, 2, 4)

In particular, primary commodity exports are "lootable because their production relies heavily on assets which are long-lasting and immobile" (Collier 2000, 9). Sánchez (1998, 39) documents that areas rich in primary export goods have become points of confrontation due to the importance of controlling these lucrative zones.

In addition to analyzing licit exports, it is important to examine illicit exports as a key source of financing of insurgent activities. Theoretically, illicit drugs can be conceptualized as a form of enclave production and thus more susceptible to predation. "It is evident that items produced in enclaves are more susceptible to predation. That makes them more attractive targets for both personal rulers and predatory rebels than are small agriculturalists because neither predation nor general state or market collapse will stop the revenue from flowing: even if their products are often looted, enclave producers will continue to generate goods because of extreme asset specificity, and because of general concentration, production will continue even in the face of general collapse" (Leonard and Straus 2003, 15). Given the combination of lucrative licit exports such as coffee, emeralds, coal, and oil in combination with illicit exports such as cocaine, Colombia is an ideal case in which to determine if predation is confined to licit exports, illicit exports, or exports in general.

Many scholars and U.S. officials cite the importance of coca production in fueling the Colombian conflict (Rochlin 2003; Byman et al. 2001; Pecaut 1997). For example, Francisco Thoumi (1995) pointed out "the drug trade has in fact weakened the country's economy by fostering violence and corruption, undermining legal activity, frightening off foreign investment, and all but destroying the social fabric." In Colombia, guerrillas fight

for control of areas that can finance them (Bottía Noguera 2003, 44). Many scholars have discussed the financial basis of the group, but there is disagreement about the extent of the funding that comes from drugs. Some claim that the FARC is itself a cartel. For example, Villamarín Pulido (1996) cites military documents claiming that the FARC is the third largest cartel in Colombia.[5] Despite suggestions that guerrilla groups such as the FARC are nothing more than another drug cartel, the reality is much more complicated. In areas where the guerrillas are too strong to eliminate, the drug traffickers pay the guerrillas a "tax" on their proceeds. Some scholars have probed the pragmatism of the relationship (Steiner 1999). In testimony to the U. S. House of Representatives, Marc Chernick dismissed claims of guerrilla groups operating as cartels as a distorted view of the true relationship between guerrillas and the drug trade. Instead, the groups tax the drug trade as any other source of income—illicit or licit (House of Representatives Committee on International Relations 104th Congress). The FARC's financial basis rests on extortion of both licit and illicit businesses in areas under its control and kidnapping (Shifter 1999, 15 and Sánchez et al. 2003, 12). Ortiz Sarmiento (1990–1, 269) estimated that the group taxes production at rates of 10 percent and commerce at 8 percent. Some scholars cite particular times and circumstances in which there have been drug FARC ties. Edgar Torres (1995) tells of a 1977 decision of the narcos to locate processing facilities in guerrilla controlled areas, outside of the government purview. As the narcos purchased lands, their incentive to cooperate with guerrillas changed. Eventually, instead of having the guerrillas provide order (and impose their "tax"), the narcos funded their own paramilitary armies, often fighting the guerrillas for local control (Pecaut 1997, 908; Rochlin 2003, 100). How much of the recent growth of the FARC is due to funding from the drug trade? Rochlin (2003) discussed the complicated relationship between the FARC and coca. He cited an interview with the UNDCP, in which officials explain that some FARC members are involved, but it is not uniform among the leaders or the rank and file. However, he claims that much of the department by department spread of the FARC was due to drug cultivation in areas of its control (Rochlin 2003, 137, 99).

As applied in this analysis, the authors are able to operationalize economic factors in the following hypothesis.

Hypothesis 1. Guerrilla violence is positively associated with exports because easily lootable exports (illicit or licit) provide an accessible source of funding for non-state violent groups.

Hypothesis 2. Higher levels of insurgency will be associated with low levels of GDP per capita or negative growth rates.

Government Factors

For 40 years, Colombia has faced an insurgency that the government has not been able to control. As recently as the last few years, some parts of the country did not have any government representatives in many municipalities. Power vacuums are then filled by leftist guerrilla groups or rightist paramilitary groups. Scholars such as Fearon and Laitin (2003, 76) hypothesize "that financially, organizationally, and politically weak central governments render insurgency more feasible and attractive due to weak local policing or inept and corrupt counterinsurgency practices." Other scholars recognize that cycles of violence can become established, with different types of violence (guerrilla, state, or paramilitary) intensifying conflicts as opposed to suppressing them. Hayes (2001) finds that widespread exposure to violence results in support for paramilitary movements and can

create a cycle of perpetual violence. Mason and Krane (1989) highlight the importance of examining both state and paramilitary violence. In general, scholars such as Schock (1996) find that semi-repressive regimes have higher levels of violence.

These issues are well documented in the specific works on Colombia. Ortiz Sarmiento (1990–1) generally found that violence during *La Violencia* was a product of an incremental chain of retaliation between the Liberals and Conservatives and that private justice has been common throughout Colombian history because of a relatively weak police and military presence. As Waldmann (1997) pointed out, Colombia has not had a unifying dictatorship, such as the Porfiriato in Mexico. For example, in 1949, there were only 15000 soldiers, compared to 4,500 guerrillas. Later, under Rojas Pinilla (1953–1957), the military increased to 42000, still a relatively small number in a country of 11.5 million (Ortiz Sarmiento 1990–1, 253–254). Byman et al. (2001) criticizes contemporary Colombia for its low military spending, with only 3.1 percent of GDP spent on military expenditures in 1998. Power vacuums are then filled by leftist guerrilla groups or rightist paramilitary groups. Specifically within Colombia, Sánchez found large centers of guerrilla activity during *La Violencia* in parts of the country with recent settlement, land conflict, open frontier, rough topography, lack of state presence, and support of liberal landowners (Sánchez 1992, 92). Similarly, Ortiz Sarmiento (1990–1) found a pattern of violence in areas of recent settlement. In particular, when settlement occurred without a robust state presence, insurgency tends to follow. In Colombia, certain areas tend to be conflict prone. Collier (2000) found that "if a country has recently had a civil war its risk of further war is much higher" (Collier 2000, 6). Previous wars, such as the war of the thousand days (1899–1901), and *La Violencia* (1946–1958) primarily occurred in the countryside, in remote regions, with little state presence (Waldmann 1997, 411). Some scholars, such as Pizarro, recognize a geographical overlap among successive Colombian conflicts (Pizarro 1992, 175). More recently, many blame the National Front for a legacy of political exclusion, insufficient legitimation, and insurgency (Medina 1985–1986). Although the National Front, which lasted from 1958–1974, ended the war between the Liberals and Conservatives, the lack of mobility and flexibility of the National Front "gave rise to an opposition that, lacking a means of expression, turned toward a plan of radical rupture" (Pecaut 1992, 227).

The following hypotheses are tested to examine the relationship between political factors and FARC violence:

Hypothesis 3. Guerrilla violence is expected to emerge in the context of weak state presence.
Hypothesis 4. Higher levels of state repression will be associated with higher levels of insurgent violence.

In testing the stated hypotheses, the analysis needs to control for additional factors, such as population, eradication of illicit crops, and general level of development. This literature review highlights the importance of incorporating a broad range of explanatory factors into an analysis of FARC violence. Although most of the research on Colombia is conducted at the national level, a subnational study of Colombia offers a unique opportunity to incorporate many of the theoretically important factors into a model of FARC violence.

Model Specification, Methodology, and Analysis

Although at the national level, Colombia has seen a rise in drug cultivation and a concomitant increase in violence, to claim that the increase in drug cultivation is the source of FARC violence appears to be an oversimplification of the underlying causes of the violence. The

national-level data are not appropriate for time series analysis because of the limited data and the short time span. Moreover, as Guillermo O'Donnell pointed out, "current theories of the state often make an assumption which recurs in the current theories of democracy: that of a high degree of homogeneity scope, both territorial and functional, of the state and of the social order it supports" (O'Donnell 1999, 130). In the Colombian case, clarity may be gained by examining differences among departments.[6] The country, in some respects, is a nominal nation, in which many parts have never been under effective government control. In Colombia, there are 32 subnational political territories called departments. From the original Spanish colonization through contemporary times, significant differences persist into the current period. Examining the range of FARC activity throughout the country, as opposed to examining only national level trends, will provide a sharper focus to the Colombian internal dynamic. Sambanis highlighted that case studies of civil war have "challenged the unit-homogeneity assumption that underlies current quantitative work. This should prompt analysts to test for fixed effects by country, region, or period" (Sambanis 2004, 273). An alternative approach to fixed effects is to use the zero-inflated negative binomial regression to account for unobserved sources of heterogeneity (omitted variables) that differentiate departmental violence. The zero-inflated negative binomial model is particularly useful in situations with omitted variables, which can be captured in the respecified error term. Year dummy variables capture unmodelled changes over time.

After extensive specification testing, the zero-inflated negative binomial regression was selected to model FARC violence. In this analysis, a zero-inflated negative binomial regression model is utilized because the dependent variable (FARC human rights violations) is a count, with excess zeros and overdispersion. Almost 32 percent of the departments do not have FARC activity at one time or another, making the data an appropriate candidate for the zero-inflated model. This model allows for different factors to account for zeros and non-zeros. In this case, the forces that contribute to an absence of FARC violence may be different from forces that explain the intensity of FARC violence. Additionally, the model allows different processes to determine the zero counts. In the Colombian case, there could be multiple reasons why there is no violence in a department—no exports to loot, high level of GDP or development, strong state presence, or other, unknown factors. (Table 1 presents the results.)

This is an original dataset, compiled from Colombian sources. The violence variables in the data set used for this analysis were constructed from raw departmental data collected by the Centro de Investigación y Educación Popular (CINEP) in Bogotá, Colombia and their Banco de Datos sobre Derechos Humanos y Violencia Política.[7] The dependent variable, FARC human rights violations, includes a spectrum of activity, ranging from threats to killings. The number of FARC human rights violations range from 0–93. This measure of violence facilitates an understanding of either an escalation or de-escalation of violence (Sambanis 2004). An important political factor, state strength, can be assessed by justice and security spending. Municipal justice and security spending (aggregated to the department level) are indicators of government police and military capability. These figures are provided by the Departamento Nacional de Planacion (DNP), in 1998 constant pesos and range from 0 to 313,000,000 pesos. Previous studies, such as that of Fearon and Laitin (2003), use per capita income as a proxy for these capabilities, instead of directly measuring actual security and justice expenditures as is done in this article. Gross domestic product per capita in constant 1994 pesos, obtained from Departamento Administrativo Nacional de Estadisticas (DANE), measures the general level of development. These estimates are provided at the department level and range from 624,787 to 6,872,523 pesos. Primary exports, on the other hand, are a measure of foreign exchange income streams, and are

Table 1

Zero-inflated negative binomial regression of human rights violations committed by the FARC 1993–1998

Independent variables	Logit		Negative binomial	
	Estimate	Z-score	Estimate	Z-score
Primary exports in millions US$1995	0.00949	0.52	.00102*	2.06
GDP in 1994 Pesos (Billions)	0.01496*	2.04	−.0003***	−3.34
Human rights violations by government forces	2.0500†	1.84	.0353**	2.74
Human rights violations by paramilitaries	1.4521†	1.92	.0052*	2.22
Population in millions	−9.1268	−1.55	.8156***	3.63
Coca cultivation	0.0068	0.00	.00001	1.46
Justice and security spending (Millions of 1998 pesos)	−0.6758*	−2.10	−.00396	−0.91
1994	3.569	0.90	0.7955***	3.25
1995	−6.696†	−1.82	0.6856**	2.57
1996	−0.2395	−0.06	0.5867*	2.33
1997	−0.5194	−0.15	0.5510*	2.13
1998	−0.4564	−0.17	0.8571***	3.39
Constant	−7.9118*	−1.94	0.3225	1.37
Ln α			−.6140***	−3.69
α			.5411	
Vuong test of zero inflated negative binomial standard negative binomial: z =	5.84***			
N	192			
(FARC H.R. Violations) > 0	138			
Mean FARC H.R. Violations	6.48			
LR χ^2 (12)	110.53***			

Logit model: Pr (Number of FARC human rights violations > 0).

*** $= p < .001$, ** $= p < .01$, * $= p < .05$, † $= p < .10$.

Note: The significant Chi-squared further reveals that taken as a group the estimated coefficients display a high degree of statistical significance.

theoretically easily captured for the support of rebellious activities. Primary exports, in constant 1995 U. S. dollars, are from the Ministerio de Comercio, Industria y Turismo and range from 0 to $642,987,000. Coca estimates are incorporated into the model because it is a special category of "lootable exports." Coca cultivations numbers, in hectares, are provided by the Colombian National Police and range from 0–39,400 hectares. Other important factors included as control variables are population (from DANE), which range from 25,083 to 6,112,196, paramilitary violations (from CINEP), which range from 0–315, and state violence from 0–40 violations.

The results support the idea of a continuous cycle of violence. In general, it was found that for departments that have FARC violence in the initial year there is an increasing trend of FARC violence throughout the years from 1993–1998, reflecting an escalation

of violence. However, in the departments that do not already have FARC violence, the probability of experiencing FARC violence does not significantly increase in any year. The intensity of guerilla violence increases over time; yet, the probability that a region will be newly infiltrated does not change over time.

Now the results in relation to the hypotheses studied are examined. Economic factors do explain some degree of the violence. Hypothesis one theorizes that guerrilla violence is positively associated with exports because easily lootable exports (illicit or licit) provide an accessible source of funding for non-state violent groups. As theorized by Collier (2000) and others, primary exports appear to attract guerrilla operations. In the logit model, departments that do not currently have FARC violence will not have a greater probability of experiencing FARC violence in the future, regardless of their resource base. On the contrary, in departments that already have FARC violence, there is a positive relationship between primary exports and FARC violence. Contrary to expectations, illicit exports, as represented by coca cultivation, are insignificant in all of the models. These results suggest that at least in the case of Colombia while licit exports may be a source of funding, illicit exports were not found to be a significant source of funding for the FARC.

Hypothesis two states that higher levels of insurgency will be associated with low levels of GDP per capita or negative growth rates. In the logit model, which measures the probability that a department will move from a zero to non-zero state of FARC violence, it was found that the higher the GDP, the more likely that FARC violence will follow. However, in departments that already have FARC violence, a positive relationship was found between lower GDP and FARC violence. These seemingly contrary results reflect the historical propensity of the FARC to operate in relatively underdeveloped areas, while reflecting the more recent FARC strategy of extending its areas of operation outside of its historic stronghold. These results suggest that although the FARC finds its historical stronghold in lesser developed regions of Colombia, it is now strategically moving into regions with the higher GDP.

Hypothesis three, the notion that guerrilla violence is more common in areas with a weak state presence, is partially supported in the models as indicated by aggregated municipal justice and security spending.[8] When examining departments without initial FARC violence, it was found that justice and security spending reduces the probability of future FARC violence. However, in areas where FARC violence is established, levels of justice and security spending are insignificant in explaining intensity. This suggests that increased justice and security spending in currently peaceful departments would deter the spread of FARC violence. Another indicator of state presence based on the number of municipal officials per thousand inhabitants, is available (see Figure 1). The authors are unable to include it in the regression model because the data only exists for 1995, but the trends can still be visualized. There is no apparent relationship between FARC violence and state presence, in the maps. The authors address the question of hegemonic dominance later in the article utilizing a more qualitative approach.

Hypothesis four theorizes that higher levels of state repression will be associated with higher levels of insurgent violence. Mason and Krane (1989) highlighted the importance of examining both state and paramilitary violence. Consistent across all models is the finding that high levels of repression are associated with higher levels of insurgent violence, although the causality is unclear.[9] Both government human rights violations and paramilitary violence are associated with higher levels of insurgent violence. Colombia may be experiencing a pattern in which the government loses popular support as a result of indiscriminate repression against suspected rebels (Holmes 2001; Schock 1996).
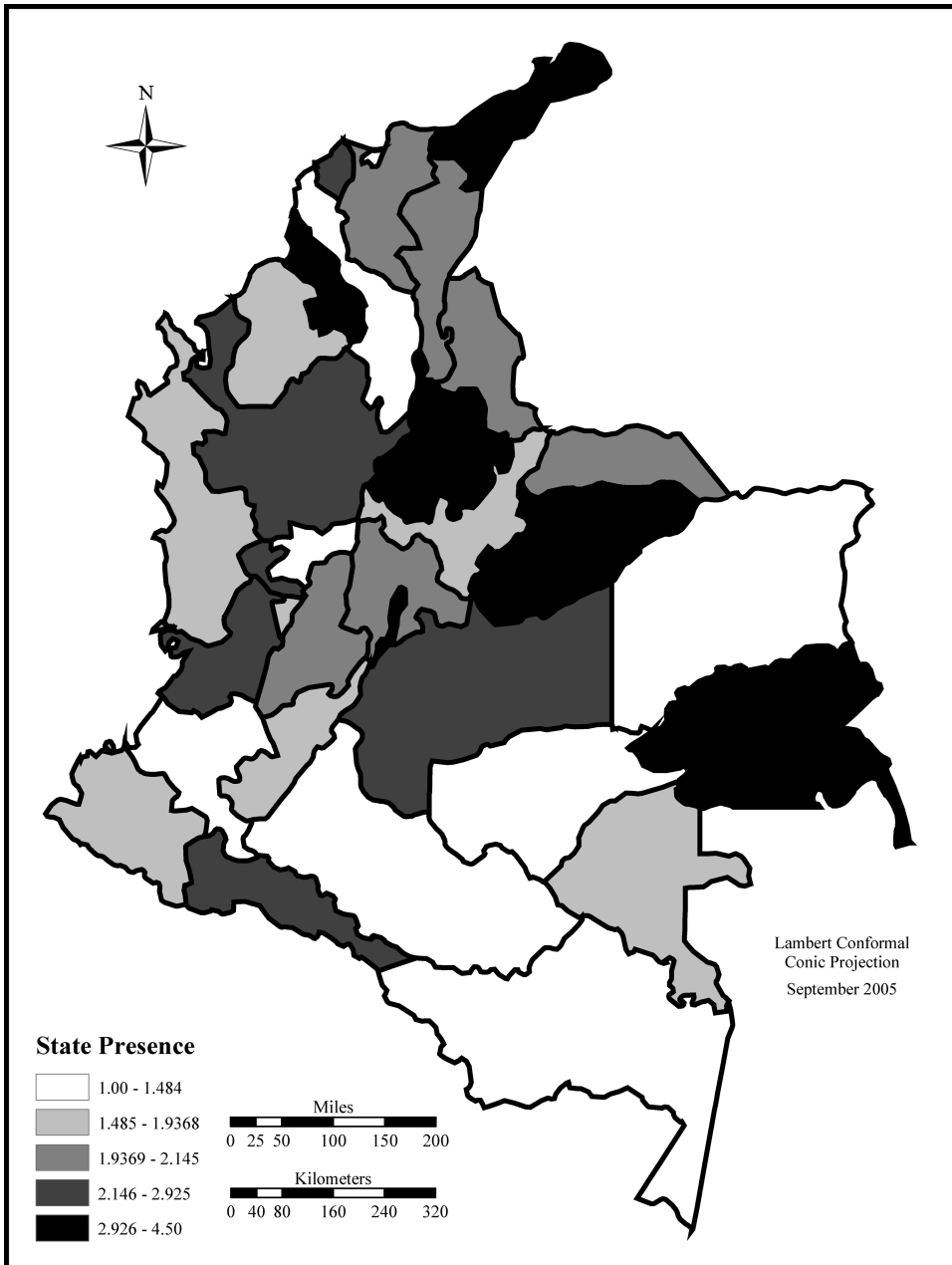
Figure 1. State presence in Colombia (in number of municipal officials per 1000 inhabitants). *Source*: Banco de Datos sobre Derechos Humanos y Violencia Politica Centro de Investigacion y Educacion Popular (CINEP) Bogota, Colombia, 2002.

Some scholars may instead look for patterns of hegemony of different violent groups. In the formal model, no evidence of this is seen in either the logit model predicting the probability of experiencing FARC violence for the first time or the negative binomial regression to explain intensity of FARC violence. However, to explore these relationships
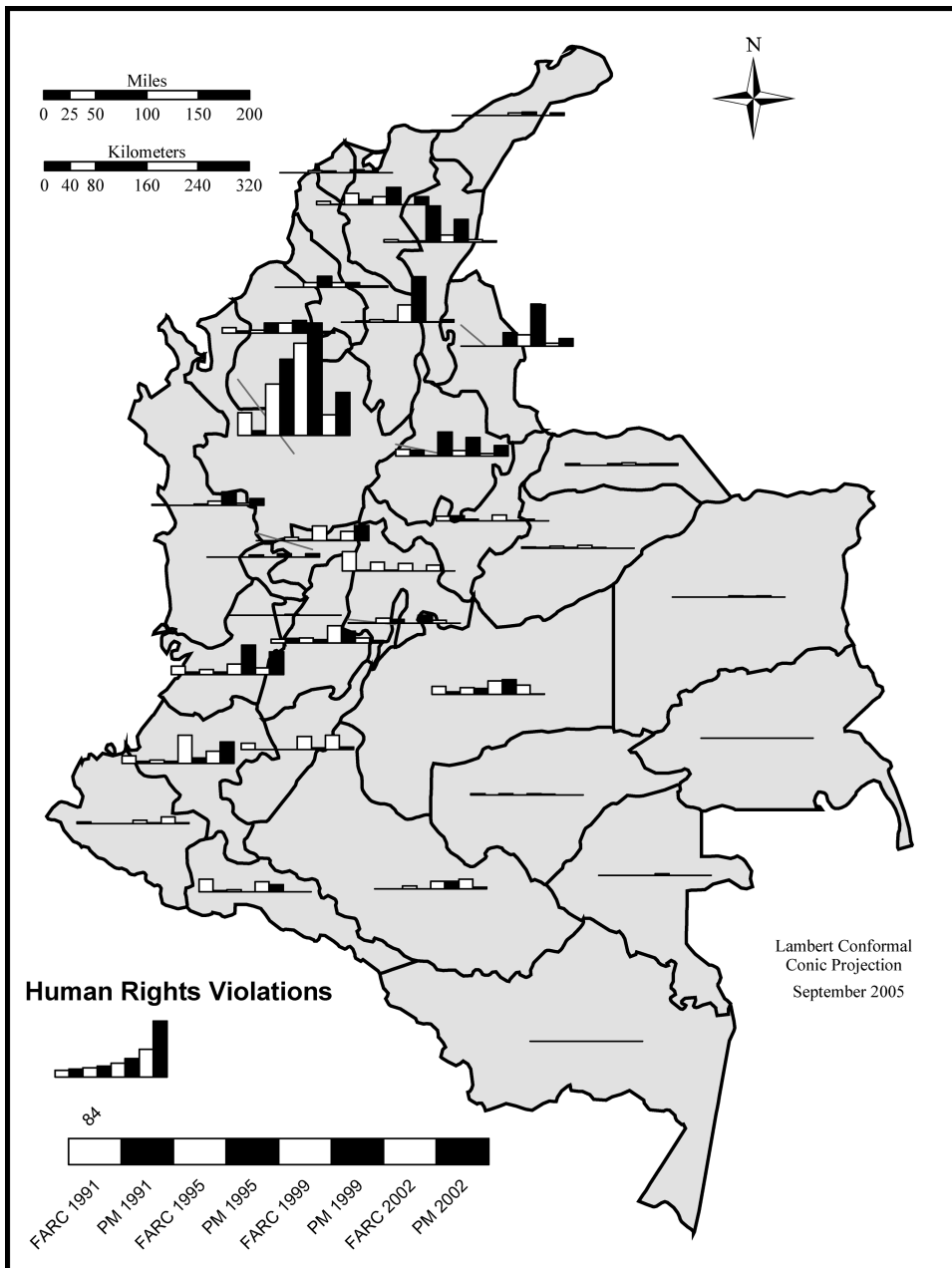
Figure 2. Incidents of FARC and Para military human rights violations in Colombia 1991, 1995, 1999, 2002. *Source*: Banco de Datos sobre Derechos Humanos y Violencia Politica Centro de Investigacion y Educacion Popular (CINEP) Bogota, Colombia, 2002.

further, the authors analyzed the patterns of conflict in departments that appeared to have a preponderance of one type of violence. Figure 2, maps FARC and paramilitary violence.

Four departments appear to have a relative predominance of violence. In Cesar and Santander, there appears to be more paramilitary violence. In Cundinamarca and Huila, the
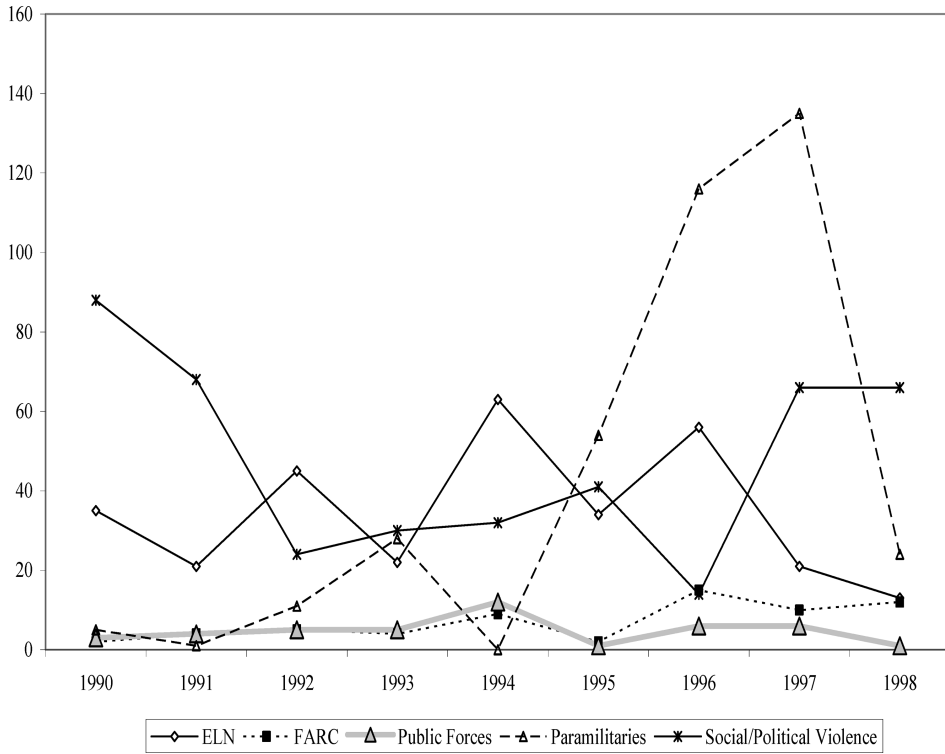
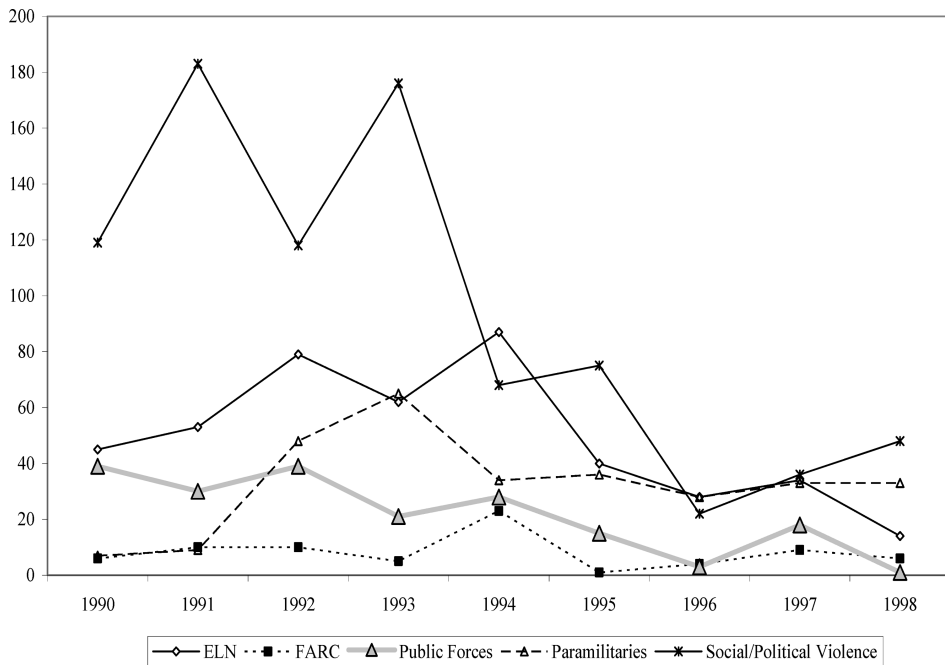**Figure 3.** Political violence in Cesar from 1990–1998.

Figure 4. Political violence in Santander from 1990–1998.

FARC appear to be more active. Presumably, if there is a hegemonic presence of one violent group, one would expect either generally low levels of conflict, reflecting an absence of conflict because effective monopoly of force had been established or a high level of one type of violence without violent challenges from other groups. To explore this, different types of violence were graphed from 1990 to 1998.

The category of social/political violence contains human rights violations that appear to be politically or socially motivated and where attributions of responsibility cannot be made. It is not included as an independent variable because these acts may contain incidents of unattributed FARC violence and also likely contain incidents of paramilitary or public forces violence. Including this category of violence in the regression analysis would affect the interpretation of the existing attributed violence variables of the paramilitary or public forces.[10] Although social/political violence cannot be included in the regression model, it does add to the qualitative analysis presented.

In Cesar and Santander, there appears to be a predominance of paramilitary violence in 1991, 1995, and 1999. When analyzed over time, however, the trends are more complex. In Figure 3, although paramilitary violence is higher in those three years, there is still seen significant ELN violence, persistent modest levels of FARC violence, and high levels of unattributed violence. As paramilitary violence escalates in 1995 and 1996, ELN violence decreases in 1997 and 1998, and FARC violence increases in 1995. Moreover, unattributed violence spikes in 1997 and remains constant in 1998.

Trends of violence in Santander also appear to be significantly more complex than a simple story of hegemonic dominance (see Figure 4). In fact, unattributed social and political violence is the most dominant form of violence during this time period. FARC violence remains at a low level of activity, as does the ELN, despite a general decline after
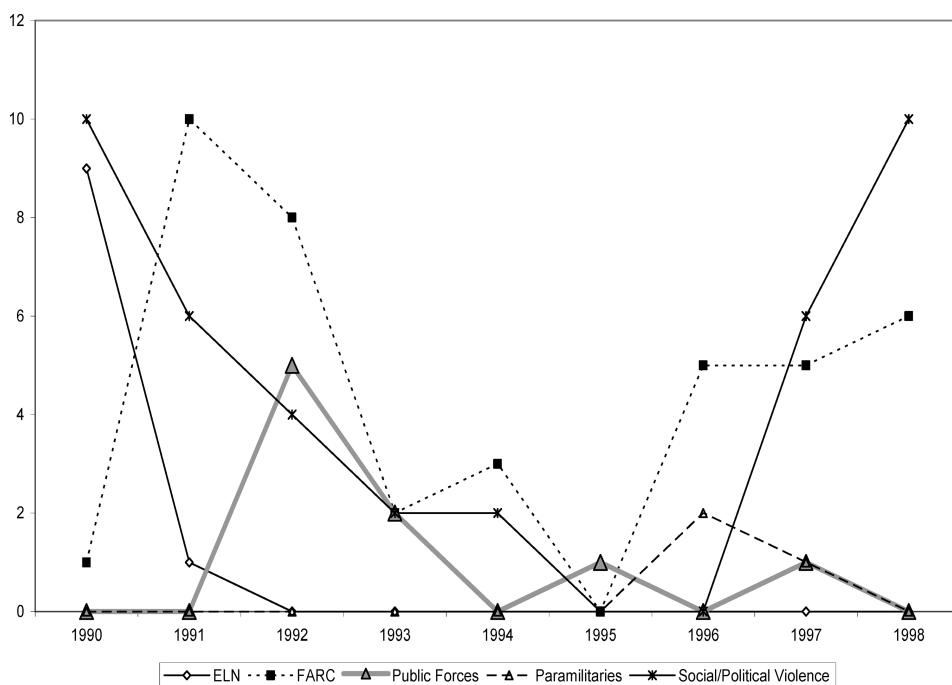

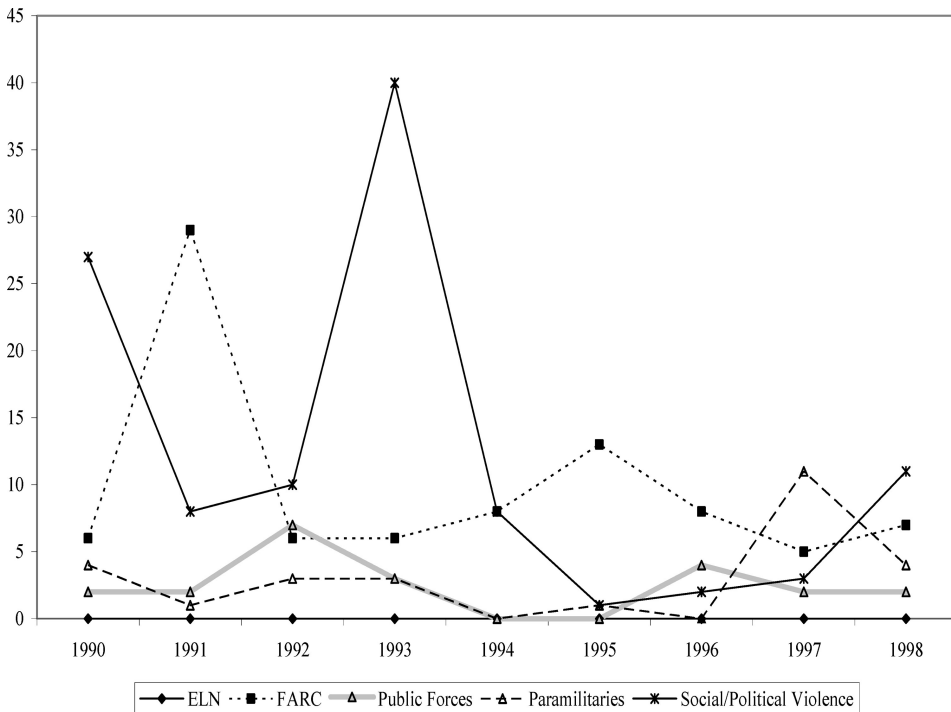**Figure 5.** Political violence in Huila 1990–1998.

Figure 6. Political violence in Cundinamarca 1990–1998.

1994. Even though violence appears to be generally tapering off in the later time period, all types of violence remain.

Figure 5 presents trends of violence in Huila. Here, as FARC violence greatly increases in 1991, unattributed and ELN violence fall. Furthermore, violence by public forces increases in 1992, as FARC violence begins to fall. However, by 1996, both FARC and paramilitary violence increase. In 1997 and 1998, unattributed violence drastically increases, whereas FARC violence remains stable and paramilitary violence declines.

In Cundinamarca, spikes in FARC violence accompany declines in both government human rights violations and paramilitary violence (Figure 6). However, the significant increase in unattributed violence is accompanied by stable FARC and paramilitary violence. A closer examination of these four departments demonstrates the difficulty of inferring hegemonic dominance of one group over another. Ideally, to examine the possibility of local control or hegemonic dominance by one group, municipal level data would be needed. Although some violence data is available at that level, the economic indicators necessary for a complete analysis are not. Moreover, Ortiz (2002, 140) noted that the FARC internal structure is unusual in that resources flow from the bottom of the organization up to general staff, who still maintains control of strategy and decisions. This further complicates a municipal level analysis.

Conclusions

This analysis of Colombian FARC violence both sharpens the larger debate on insurgency and provides insight to the particular Colombian case. In Colombia, the utilization of a department level analysis is essential to uncover the factors fueling FARC insurgency.

Theories of violence posit the importance of economic resources to explain the funding and activity of violent groups. Contrary to the expectations of many scholars and government officials, coca production does not explain either the onset of FARC violence or its intensity. Primary exports tend to increase the intensity of FARC violence, but do not make a department more likely to experience it if it was previously peaceful. As expected among areas with preexisting FARC, more FARC violence is present in areas of a low level of development or negative growth. However, consistent with FARC plans to move the conflict to new parts of the country, previously peaceful areas are more likely to experience FARC violence as their GDP rises. This analysis also suggests that FARC violence is positively correlated with both state and paramilitary violence in both initial and latter stages. Although the causality is not clear, this result suggests a possible counterproductive effect of repression or paramilitary violence on guerrilla activity.

In addition to increasing understanding of the Colombian conflict, this study refines general theory in the following ways. First, a more accurate measure of state strength or capacity should be used. The Colombian subnational analysis provided a precise measure—actual security and justice spending and a ratio of public officials to the population. Second, a subnational analysis provides an opportunity for increased rigor, through increasing the number of comparable cases, while encountering fewer problems associated with cross national studies. Finally, the importance of model specification in studying conflict is revealed. The zero-inflated negative binomial is a more appropriate model in that it allows both the analysis of zero and non-zero states in addition to the examination of the factors that lead to an increased probability of movement from a zero to non-zero state. Traditional OLS and Poisson models are inadequate in capturing the underlying dynamics of both intensity and onset of violence.

Notes

1. For the purpose of this article, only the FARC is included in the analysis. Another main group, the ELN, is smaller and concentrated in the oil-producing part of the country. The ELN has publicly criticized the FARC for its connection to the coca trade.

2. Special thanks to Thomas A. Marks for a current 2005 assessment of the FARC.

3. For the debate about violence and inequality, see Sigelman and Simpson (1977), Muller (1985), Muller and Seligson (1987), Boswell and Dixon (1990), and Schock (1996). For a relevant discussion of the debate as it pertains to Colombia, see Sanin, Francisco Gutiérrez, "Crimen e impunidad. Precisiones sobre la violencia" en *Revista de Estudios Sociales* (June 1999, no. 3), pp. 133–136.

4. For a discussion of these factors and homicide rates, see Sarmiento y Becerra (1998); Alfredo Sarmiento Gómez (1999) "Violencia y equidad," *Planeación y Desarrollo* 30(3), pp. 47–62; and, Echandía Castilla, Camilo (1999) "El conflicto armado y las manifestaciones de violencia en las regiones de Colombia," (Bogotá, Colombia: Oficina del Alto Comisionado para la Paz). A Colombian classic work attributing violence to poverty is Comisión de Estudios sobre la Violencia (1987).

5. See also *Semana* 354, 20 February 1989.

6. For a discussion of the role of subnational comparison in comparative research, see Arend Lijphart (1971, 689). *American Political Science*. More recently, see Snyder (2001) or Peters (1998, 44).

7. Some commentators and U.S. embassy officials have challenged the validity of CINEP's data. For example, Mary Anastasia O'Grady (2004) repeats State Department allegations that CINEP "methodology creates a heavy bias against the Colombian government while it grants a wide berth to guerrilla insurgents" (p. A17). O'Grady quotes an embassy report that claims that CINEP "follows legal conventions that define 'human-rights violations' as crimes that can only be committed by the state or state-sponsored actors, which it presumes paramilitaries to be" (p. A17). In reality, CINEP

tallies human rights violations among both state and non-state actors and differentiates between human rights violations committed by different actors, ranging from the FARC to the police. At times, CINEP includes incidents in multiple categories (see CINEP 2001), however, this issue is not relevant for this analysis because only one category is employed in this study. As with any dataset, the potential for bias exists. However, the authors believe any bias is consistent throughout time in this study because the included data were generated directly from CINEP's Base de Datos using consistent categories. Especially in politically sensitive areas such as violence statistics, it is prudent to compare nongovernment and government numbers because different groups may have incentives to over or under report, respectively. Because of this possibility and the controversy surrounding CINEP figures, this study compared official government data on terrorism with CINEP figures for this period. The correlations between CINEP numbers of total leftist guerrilla group violations and government numbers of terrorism is high (.7424) from 1991–1998. A comparison of terrorism incidents with human rights violations is not a direct comparison of exact same phenomenon, but the relatively high correlation provides confidence in CINEP numbers. Moreover, the CINEP database differentiates attribution of responsibility, which is essential when analyzing the violence of distinct groups with different goals.

8. Ideally, other factors, such as military presence, or a ratio of officials to citizens, would be incorporated into the model. However, these data are unavailable for each time period.

9. Different types of violence exist in Colombia, with distinct origins and effects. Because this study included different types of violence, it is prudent to check for multicollinearity—especially considering human rights violations by paramilitaries and government forces. To this end, all models were run using OLS to generate variance inflation factors (VIFs) for the independent variables specified in the models. In model one, the average VIF was 1.62. In model two, the average VIF was 1.61. Model three had an average of 1.59. Model four had an average VIF of 1.58. Only one variable had a score over 2—model 3 with human rights violations by public forces scoring 2.01. All others were under two. None of the scores indicate problems with multicollinearity.

10. During the years of 1990–1998, the correlations between unattributed social/political violence and attributed human rights violations is as follows: FARC .4790, ELN .5728, Paramilitary .2940, and Public Forces .6108.

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