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BASES, BULLETS AND BALLOTS:
THE EFFECT OF U.S. MILITARY AID ON POLITICAL CONFLICT IN COLOMBIA

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ABSTRACT

Does foreign military assistance strengthen or further weaken fragile states facing internal conflict? Aid may strengthen the state by bolstering its repressive capacity vis-à-vis armed non-state actors, or weaken it if resources are diverted to these very groups. We examine how U.S. military aid affects political violence in Colombia. We exploit the allocation of U.S. military aid to Colombian military bases, and compare how aid affects municipalities with and without bases. We use an instrument based on worldwide increases in U.S. military aid (excluding Latin America). We find that U.S. military assistance leads to differential increases in attacks by paramilitaries, but has no effect on guerrilla attacks. Aid also results in more paramilitary (but not guerrilla) homicides during election years, particularly in politically competitive municipalities. The findings suggest that foreign military assistance may strengthen armed non-state actors, undermining domestic political institutions.

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Each year, the world's most powerful nations expend substantial resources on weak states with the putative aim of shoring up governments facing internal strife.¹ From Colombia to Iraq to the Philippines, military aid is deployed with the view that it strengthens states against insurgents, drug cartels and other armed, non-state actors. While weak states may benefit from foreign military assistance if it strengthens the state's repressive capacity (Fearon and Laitin 2003), that same weakness may also enable substantial capture or diversion of external resources by illicit armed groups (Besley and Persson 2010). Yet, little attention has been devoted to how military aid can exacerbate conflict when diverted to non-state armed actors.

Influential examinations of military aid in the international relations literature have focused primarily on the behavior of sovereign states (e.g., Carleton and Stohl 1985; Cingranelli and Pasquarello 1985; Carleton and Stohl 1987; McCormick and Mitchell 1988; Poe 1991; Poe and Meernik 1995). However, a singular focus on the state may overlook an important link in the aid-conflict chain, given the marked rise in armed non-state actors in the post-Cold War era (Pearlman and Cunningham 2011). Indeed, these very actors may benefit from external resources if they are able to siphon aid or if it is funneled toward them via collusive governments. Thus, to complement existing work, the role of armed, non-state actors should be considered in evaluating how military aid affects political violence.

Our paper uses this approach in examining the impact of U.S. military aid on political conflict in Colombia between 1988 and 2005. Colombia serves as the ideal laboratory for this study as it has been embroiled in a decades-old civil war enmeshed with the international drug trade, and the United States has provided nearly \$5 billion in military aid with the stated aim of supporting the nation's counter-narcotics and counter-insurgency efforts. The key actors in the conflict are left-wing guerrillas, the state, and right-wing paramilitary groups, which have unofficially been allied with the government in countering the guerrillas.² We use rich conflict data disaggregated across these three

¹Military aid from the advanced nations exceeds all other forms of aid. For example, in 2008, the United States allocation for development aid, including official development assistance, USAID administrative expenses and the State Department Economic Support Fund, totalled \$4.7 billion. In contrast, \$5.2 billion was allocated for military aid to other countries, including Foreign Military Financing, International Military Education and Training and the Andean Counter-Drug Initiative (Congressional Budget Justification 2008).

²Realist scholars suggest aid operates in the interest of donors (e.g. Waltz 1979 pg. 159, Morgenthau 1962). Since the paramilitaries and guerrillas do not directly threaten the U.S., from the realist view, we would expect aid to primarily reduce narcotics activities and only secondarily suppress the guerrillas and paramilitaries (to the extent that the U.S. would actually like to eliminate the latter group). Since idealists posit that aid may be given in the interest of the receiving country, the emphasis here would be on suppressing both illegal armed groups, and only

actors to trace the role of armed non-state groups.

An important feature of U.S. military aid is that it is disbursed to brigades of the Colombian military, which operate out of bases located in particular municipalities. We find that increases in U.S. military aid increase paramilitary violence differentially in municipalities that have military bases, while exerting no significant effects on guerrilla violence. To address potential endogeneity in the timing of U.S. military aid we use an instrumental variables strategy which exploits general increases in U.S. military spending around the world (excluding Latin America). The rise in global U.S. military aid reflects the broad geopolitical outlook of the American government shaped by major world events such as 9/11, and can thus be considered exogenous to the Colombian conflict.

Consistent with paramilitary involvement in elections (Acemoglu et al. 2013), we also observe disproportionate increases in paramilitary homicides in base regions during election years, again, without equivalent increases in guerrilla homicides. In contrast to these effects on killings, we find no discernible impact of military aid on the cultivation of coca, the crop used to manufacture cocaine.

We delineate three mechanisms through which foreign military aid can influence paramilitary violence: resource sharing between the government military and paramilitary groups; complementarity in tactics between the military and the paramilitaries; and the repression of guerrilla groups by government forces. The pattern of our results strongly favor the resource sharing channel, as opposed to the explanations that rest on strategic interactions among the armed actors. Our findings and interpretation accord with qualitative work that has documented links between the Colombian military and paramilitary groups (Dudley 2004; Hristov 2009; HRW 1996; HRW 2000).

Perspectives on the potential consequences of aid strengthening paramilitary organizations could differ. First, if these groups are seen as a necessary means of fighting the guerrillas, then aid diversion may be considered beneficial if it enables the Colombian government to combat insurgents with greater flexibility (Dasgupta 2009). The potential utility stemming from government use of paramilitaries is also modeled in Mundler and Spagat (2005).

On the other hand, the well-documented human rights abuses of the paramilitary groups, including secondarily on narcotics, given the high cost of the war to Colombian citizens. Marxist or structuralist criticisms (e.g. Stokes 2005), however, would point to the U.S. involvement on behalf of transnational imperial motivations, and capital accumulation. Under this view, the U.S. interest would lie in securing property rights for both transnational and domestic owners against guerrilla expropriation and violence. As it is difficult to discern what is the "true" U.S. interest in this context, we take the stated aim of the U.S. government and evaluate military aid based on both the repression of non-state armed actors as well as the elimination of narcotics production.

ing explicit assassination of civilians and political leaders, have led other authors to argue that the Colombian government's ties to these groups undermines the legitimacy of the state (Watson 2000); and that financial support from the U.S. promotes political repression (Avilés 2001) and strengthens undemocratic elements within Colombian society (Delacour 2000). In addition, paramilitary involvement in the drug trade indicates that strengthening this group is at odds with the United State's counter-narcotics objective (Stokes 2001), while the very presence of a non-state armed group controlling territory weakens the Colombian state's monopoly on the legitimate use of violence. Through this route, donor countries may find themselves fueling the very groups that military aid is designed to suppress, prolonging conflict and further weakening the state. The breadth of potential consequences underscores the importance of understanding how foreign aid influences conflict dynamics involving armed non-state actors.

Related Literature

Our paper is situated within the literature examining the impact of foreign military aid on political outcomes, including human rights, democracy and conflict. Though the existing body of work encompasses a rich set of proposed theoretical channels, much of it is focused on the role of states, and very little of it formalizes the role of illicit armed actors. For example, within the human rights literature, it has been posited that security aid increases repression (Clark 1991; Danaher et al 1987; Meyer 1998) by enabling government elites to maintain power by suppressing the opposition (Callaway and Matthews 2008). Correspondingly, cross-national evidence suggests a negative relationship between military aid and human rights violations (*ibid*).

A closely related literature seeks to understand determinants of foreign aid allocations of the hegemonic United States. Meernik et al. (1998) show that in the post Cold-war era, U.S. foreign aid is less driven by security considerations and more influenced by statist ideological goals such as promotion of democracy and human rights. In fact, a large volume of studies have sought to analyze whether human rights conditions among recipient countries influence the distribution of U.S. military aid (Carleton and Stohl 1985; Cingranelli and Pasquarello 1985; Carleton and Stohl 1987; Poe 1991; Abrams and Lewis 1993; Apodaca and Stohl 1999; Poe and Meernik 1995; Neumayer 2003). Overall,

these studies have found mixed effects. Although assistance to repressive nations may exacerbate state abuses, it is difficult to infer the consequences of aid from analyzing its determinants, given the selection problem that arises when it is targeted to certain types of political contexts.

While little empirical work has identified the specific impact of military aid on civil conflict, third-party military interventions have been shown to lengthen conflict duration (Regan 2002). In fact, sustained civil wars and political repression have long been held as persistent legacies of superpower backing of armed groups (and states) in the Cold War era (Westad 2006, Easterly et al. 2008), with Latin America being a regular recipient of U.S. military assistance (Smith 2000, Grandin 2007).³ Yet intentional targeting by donors differs from indirect diversion of aid through the state, which remains largely unexamined.

An older literature has explored the role of U.S. military aid on democratic institutions more broadly, with some reporting insignificant relationships (Wolf 1969, Schmitter 1979) and others finding evidence of institutional deterioration (Muller 1985). More recent cross-national work by Finkel et al. (2007) also suggests an insignificant relationship between U.S. military aid and democracy.⁴ These mixed empirical estimates perhaps stem from differing samples as well as reliance on endogenous cross-country variation. In contrast, we use finer-grained within-country variation covering over 900 municipalities, and isolate exogenous variation in aid disbursement, which facilitate cleaner identification of the political consequences of military aid.⁵

A larger body of work has examined the effect of economic aid on civil conflict, spurred in part by the theoretical notion that aid increases the value of capturing the state (Grossman 1992). Two recent empirical analyses in this area are Crost et al. (forthcoming) and Nunn and Qian (forthcoming) which examine the impact of development aid and food aid, respectively. Both find that aid promotes conflict using explicit strategies to identify the causal relationship.⁶

³More recently, scholars have analyzed the efficacy of military assistance in pacifying insurgent populations (Branch and Wood 2010).

⁴Another branch of this literature has also examined the impact of U.S. military programs on militarism and military coups (Baines 1972, Fitch 1979, Ruby and Gibler 2010).

⁵Foreign aid more broadly defined has also been held to weaken democratic institutions by increasing the value of the state as a prize, thereby generating a resource curse (Djankov et al. 2008). However, empirical assessments of the aid-democracy relationship have yielded mixed results (Knack 2004; Wright 2009, Goldsmith 2001; Dunning 2004; Morrison 2009).

⁶Other studies, with less attention to the construction of control groups, have found different effects. de Ree and Nillesen (2009) find that official development assistance reduces conflict cross-nationally, while Collier and Hoeffler (2002) report insignificant effects.

Overall, there has been limited empirical work identifying the causal link between foreign military aid and violence related to civil war. Our paper advances the literature by documenting this link empirically, while highlighting aid diversion conceptually.

The Colombian Conflict

The Colombian civil war started with the launch of a communist insurgency in the 1960s. Officially, it is a three-sided conflict involving the government military, communist insurgents, and right-wing paramilitary groups, though typically, the government and the paramilitary groups have been allied against the guerrilla. The conflict remained low intensity throughout the 1980s, when it effectively served as a Cold War proxy, but escalated sharply during the 1990s for a number of different reasons, including guerrilla defeat of the narcotraffickers, and the emergence of paramilitary groups. This can be seen in Figure I, which shows the average number of attacks in municipalities by each of the three armed actors.

Both the guerrillas and paramilitaries have sought territorial dominance via warfare and targeted political killings. They are financed by kidnapping, extortion, and predation on natural resource rents, and rely heavily on the cocaine trade for financing purposes. Thus the drug trade is inextricably linked to the internal conflict.

Guerrilla Groups

The insurgency has been led by the Armed Revolutionary Forces of Colombia (FARC) and National Liberation Army (ELN), which had 16,000-20,000 and 4,000-6,000 combatants respectively, during the period of our analysis.⁷ Both groups fight with the stated aim of overthrowing the government, and also claim to represent the rural poor by supporting policies such as land redistribution. Despite the stated ideological motivation, the guerrillas today are perceived to be economically motivated, and profit from their involvement in the conflict (Richani 1997). These profits, stemming largely from the drug trade, finance attacks against their opponents as well as physical infrastructure. In comparison to the paramilitaries, these groups rely less on political assassinations, though they also

⁷Both organizations have seen their membership fall in the post-2005 period.

pursue some targeted political killings.

Paramilitary Groups

Paramilitary organizations in their current form emerged in the 1980s, as private armies for drug cartels and the rural elite who were targeted for extortion by the guerrillas. These were illegal armed groups for most of the period we analyze: they were not formally affiliated with the government, and received no official state support in their formation.⁸ However, they did receive informal assistance from military and police officers through unofficial channels. A prominent example occurred in 1983, when the defense minister in the Betancur administration launched a new military brigade in Puerto Berrío. This unit and associated battalions "worked closely with the paramilitaries (Dudley 2004, p. 52)", and Puerto Berrío became a focal point for paramilitary repression. However, these ties were not officially sanctioned and the judiciary subsequently prosecuted members of the brigade for their involvement with the death squads (Dudley 2004).

Independent paramilitary groups emerged separately across different regions of Colombia, but the organizations shared the same underlying view of violently opposing the guerrillas, as well as left-leaning politicians. As such, they began carrying out assassinations of political candidates during the 1980s (Dudley 2004). However, it was not until 1997 that the disparate groups became an organized national political force, forming an umbrella organization called the United Self-Defense Forces of Colombia (AUC), which had roughly 15,000 members at peak strength. As shown in Figure I, the 1997 consolidation corresponded to a sharp rise in paramilitary violence, as the groups expanded their activities nationally. It also marked the beginning of *parapolitica*—more direct paramilitary intervention in electoral politics. Besides funding pro-paramilitary politicians, this has entailed killings of civilians to coerce local populations into voting for such politicians, deterring would-be political competitors from entering races, or simply assassinating candidates.⁹

Around this time, the Judiciary started actively reigning in the paramilitary groups, effectively

⁸This is in contrast to historical phases in which the state provided official support for civilian groups that served as precursors of paramilitary organizations, or subsequently worked with paramilitary groups. This includes civil patrols armed by the Defense Ministry in the 1960s (Hristov 2009), civilian networks created by the Colombian Central Intelligence Agency in 1991 (HRW 1996) and the CONVIVIR in 1994 which resulted in the creation of rural security cooperatives some of which subsequently joined paramilitary groups.

⁹See Acemoglu et al. (2013) and the references therein for more details on paramilitary effects on elections.

declaring them illegal. In part, this policy decision was a response to striking spikes in civilian massacres, which was an explicit paramilitary strategy (Aranguren 2001). The policy also reflected the paramilitaries' involvement with the drug trade. However, unofficial collusion between the AUC and military continued throughout the 1990s and 2000s, though the degree and form of this collusion has been a point of debate.

In 2003, the AUC declared a partial cease-fire, and some paramilitary blocks agreed to participate in a demobilization program. However, the demobilization did not effectively disarm all paramilitary units: human rights groups have documented continued paramilitary violence.¹⁰ Today, like the guerrillas, Colombian paramilitary groups are on the U.S. government's watchlist of terrorist organizations.

Definition of Political Conflict

Given these conflict dynamics, our definition of political conflict encompasses two forms of violence. The first is unilateral attacks perpetrated by each of the armed actors as a part of the ongoing civil war. The second is targeted political killings undertaken by the two illegal armed groups, the guerrillas and paramilitaries.

U.S. Aid to Colombia

Owing to its position as the world's largest producer of cocaine, Colombia became a major recipient of U.S. military assistance after the "War on Drugs" was initiated during the late 1980s.¹¹ As shown in Figure II-Panel A, aid increased in 1990. This corresponded to the Andean Initiative which provided the country with a \$200 million aid package intended to combat drugs, but was comprised largely of resources to train and equip the Colombian military (Isacson 2005). Aid increased again with the 2000 launch of Plan Colombia, a \$1.2 billion package aimed again at training and equipping the Colombian military for counter-narcotics rather than counter-insurgency operations. However, given

¹⁰See "Evaluation of the Paramilitary Demobilization in Colombia," 2006 conference proceedings from *Corte a Impunidad - Colombia en la Mira de la Corte Penal Internacional*. http://www.kolko.de/downloads/evaluation_demobilization.pdf.

¹¹Throughout the 1990s it was the third largest recipient after Israel and Egypt, and today, ranks fifth in the list inclusive of Iraq and Afghanistan.

the guerrillas' involvement in the drug trade, the line between these two objectives is blurry, and it is difficult to distinguish the counter-narcotics and counter-insurgency components of U.S. aid (Stokes 2001). For this reason, our analysis aggregates these two aid categories.

One important characteristic of U.S. military aid is that it is disbursed to particular Colombian military brigades, each of which is attached to and operates out of a particular government military base. This disbursement method generates spatial variation across Colombian municipalities, as aid will be concentrated in municipalities with bases.

Mechanisms

Given the way in which U.S. military aid is disbursed, there are three potential channels through which aid can serve to strengthen paramilitary capacity and thus result in greater conflict perpetrated by paramilitary groups. The first involves aid diversion while the other two involve strategic interactions among the armed groups, and each imply different empirically verifiable patterns of conflict.

Resource Sharing

Colombian military brigades may share resources such as arms and ammunition with paramilitary groups, or provide other forms of logistical support funded out of military aid. Human rights organizations have provided extensive documentation of the military funneling weapons, uniforms, and transport equipment; providing training and intelligence; and assisting in the conduct of paramilitary operations (Hristov 2009 pg. 82; HRW 2000). Interviews with former military intelligence officials suggest that the sale of military arms to paramilitaries was common, and ex-paramilitary members have also described using military helicopters, and being flown in to military bases.¹² In addition, military intelligence has provided paramilitaries with lists of suspected insurgents or guerrilla sympathizers, who were subsequently threatened or killed.

Military support for paramilitary operations has taken both indirect and direct forms. On some occasions, the military simply blockaded roads during paramilitary massacres. On other occasions,

¹²La Semana, Nov. 18, 2008. "Former paramilitary leader Salvatore Mancuso said that AUC received help from the police and the military in massacre."

joint operations have been alleged, including in connection with massacres in San José de Apartadó in 2005,¹³ and El Aro in 1997 (HRW 2000).^{14, 15}

Charges of resource sharing have raised concern among American policymakers that some part of U.S. aid may end up providing operational or material support to paramilitaries, through factors such as weapons supply, or sharing of intelligence from either the deployment of military advisors or technological assistance with surveillance.¹⁶ In 2000, a declassified cable from Secretary of State Albright to Ambassador Kammen indicated: "We note with concern persistent reports that the 24th Brigade, and the 31st Counter guerrilla Battalion in particular, has been cooperating with illegal paramilitary groups that have been increasingly active in Putumayo."¹⁷ A U.S. military Advisory Group inquiry in 1995 also revealed that military brigades associated with human rights violations that were conducted jointly with paramilitaries had received military assistance, including "vehicles, M6 and M60E3 machine guns, pistols, grenade launchers, 7.62mm and 9mm ammunition, and claymore mines" (HRW 1996).¹⁸

Partly in response to such documentation, in 1997 the United States Congress passed the "Leahy Amendment," which required Colombian military brigades to be vetted for human rights abuses before becoming eligible for U.S. assistance. However, the Colombian armed forces have largely evaded these requirements.¹⁹ Moreover, Plan Colombia was specifically exempted from having to

¹³El Espectador, Aug. 1 2008. "Verdades de la masacre de San José de Apartadó."

¹⁴It has also been posited that overlaps in the networks of military and paramilitary groups have facilitated the provision of this support. For instance, the Third Brigade officers helped to form the Calima Front, a paramilitary groups, with former officers assuming leadership positions (HRW, 2000).

¹⁵Allegations of resource sharing have led to the indictment of several high-level military officials, including General Mario Montoya, commander and highest ranking officer of the Colombian army, who was charged with supplying weapons to paramilitaries in Medellin in 2006. Six other high ranking officials were also indicted on similar charges in 2008, including the former director and deputy director of the Administrative Security Department (a key security agency). The list of accused is available at <http://www.colombiasupport.net/news/2007/05/hundreds-of-public-servants-implicated.htm>, last accessed: 10/24/09.

¹⁶For example, the U.S. provided \$340 million to help upgrade radar facilities in Southern Colombia used for gathering intelligence on guerrilla activity paramilitaries (Stokes 2005).

¹⁷National Security Archive: <http://www.gwu.edu/~symbol{126}nsarchiv/NSAEBB/NSAEBB69/col170.pdf>, last accessed: 10/24/09

¹⁸More recently, even direct examples of weapons supply have emerged. For example, in 2005, the Colombian government arrested two U.S. army officers near Melgar, Tolima, the site of one of the largest bases in Colombia, under charges of arming paramilitary groups with ammunition supplied by the U.S. government. (New York Times, May 5, 2005, "Ammo Seized in Colombia; 2 G.I. Suspects Are Arrested.")

¹⁹The mechanisms have included: reshuffling individuals accused of human rights violations across brigades; forming new brigades, which were subsequently vetted and "approved" by the U.S. State Department; and not cooperating in handing over information about human rights violations to the U.S. government. (See the National Security Archives Declassified document <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB69/col58.pdf>, last accessed: 12/08/08).

abide by this clause.²⁰ Since U.S. military aid is allocated to military brigades operating out of Colombian government military bases, municipalities with bases were best positioned to serve as physical points of diffusion of resources to paramilitary groups.

Complementarity in Tactics

The second potential channel is via complementarity in tactics between the government and the paramilitary groups. If the paramilitaries specialize in a form of fighting that complements government military efforts, then aid may lead to greater paramilitary violence in locations where the state expands its attacks. For example, the military has a technological advantage over the guerrilla, but the highly mobile paramilitary are relied on "as a rearguard that consolidates – with an antisubversive program – the territories taken by the army" (Gutiérrez Sanin and Baron 2005, pg. 6).

Guerrilla Repression

The third potential mechanism arises through the effect of aid on guerrilla repression. If foreign military aid strengthens the government's military capacity, this may facilitate more successful repression or expulsion of the guerrillas from a given territory. This, in turn, may unleash paramilitary violence if the guerrillas had previously held paramilitary aggression in check within these areas. It is also conceptually possible that increases in guerrilla attacks are met with increases in paramilitary attacks, as landowners and other pro-paramilitary constituencies react to left-wing violence. Indeed, the origins of the paramilitary lie in the demand of landowners to protect themselves from the FARC.

In the Supporting Information (SI) Appendix, we present a simple model of three-way conflict between paramilitaries, guerrillas, and the government that allows us to parametrize each of the three channels above. Our empirical analysis also enables direct examination of these three possibilities, as each of the potential channels implies a different pattern of results.

We summarize the empirical consequences of our discussion of mechanisms below.

²⁰The Washington Post, Aug. 23, 2000, "Clinton Clears Aid Package For Colombia; Human Rights Waiver Allows \$1.3 Billion to Fight Drugs."

1. If military brigades share resources with paramilitary groups, then an increase in U.S. military aid should lead to differential increases in paramilitary attacks in municipalities with bases.
2. If U.S. military aid leads to paramilitary violence via repression of the guerrillas, then increases in aid will also lead to differential reductions in guerrilla violence in municipalities with bases.
3. If U.S. military aid increases paramilitary violence owing to complementary tactics *or* government repression of the guerrilla, then aid increases should not lead to differential increases in paramilitary violence in base municipalities once government attacks are controlled for.

In addition, we consider the implications for violence during election years. Given the well documented electoral involvement of the paramilitary groups (Acemoglu et al. 2013), the effect of aid in times and places where electoral competition is salient may be qualitatively different. If resource sharing serves as the primary mechanism, we expect targeted paramilitary killings stemming from aid to change with the electoral objectives of paramilitary groups, rising differentially in election years and in politically competitive municipalities.

In addition, we posit that political homicides are a type of violence without strong tactical complementarities with government attacks, as they tend to target individual civilians and do not benefit as much from the operational support of the Colombian military as larger-scale attacks. In addition, direct government involvement in assassinations could risk undermining the legitimacy of the state, and so is likely to be restrained relative to attacks against the guerrillas. Thus, if complementarity with government forces is the key mechanism, we should not observe paramilitary political killings in response to aid to increase differentially during election periods.

Empirical Strategy

Our empirical strategy uses the fact that U.S. military aid is allocated to brigades which are headquartered in military bases located in particular municipalities. This creates municipal-level variation in the allocation of U.S. military aid. Importantly, we focus on the long-standing military bases that precede the period of the analysis, which precludes the possibility that they have been constructed as an endogenous response to conflict over this time.

We implement a basic difference-in-differences estimator. We estimate:

$$y_{jt} = \alpha_j + \beta_t + (USmil_t \times Base_j)\lambda + \mathbf{X}_{jt}\phi + \omega_{jt} \quad (1)$$

where y_{jt} are conflict-related variables including the number of paramilitary attacks, government attacks, or guerrilla attacks in municipality j and year t . α_j are municipality fixed effects which control for all time-invariant municipality characteristics that may be correlated with conflict, including geographic features such as rough terrain, the presence of the base itself, and historical municipal conditions. β_t are year fixed effects which also control for conflict levels that are common to all Colombian municipalities in a given year. \mathbf{X}_{jt} is a vector of control variables that varies across specifications but always includes the natural log of population, which accounts for the scale effect since our conflict-related dependent variables are the number of attacks. $Base_j$ is a dummy variable which equals one if the municipality has a military base. $USmil_t$ is the natural log of U.S. military and anti-narcotics aid to Colombia.²¹ The coefficient λ captures the extent to which changes in military assistance induce a differential change in violence in municipalities that have bases, relative to non-base municipalities. This approach enables us to examine the effect of aid on conflict outcomes, in the absence of data on how much aid is allocated to each of the bases individually. In our main specifications, equation (1) is estimated using OLS, with all standard errors clustered at the municipality level.

One concern with this empirical strategy is potential endogeneity in the timing of U.S. funding. Reverse causality could generate an upward bias on our estimates if U.S. military aid increases more in response to violence growth in municipalities with bases. For instance, attacks in base regions may be viewed as a strong threat to stability, and therefore galvanize more U.S. funding relative to attacks in other regions. On the other hand, the estimates could be downward biased if aid increases more in response to violence growth or other omitted variables correlated with violence in non-base regions. As an example, since reducing narcotics production is a stated U.S. objective, military aid may respond to trends in violence in the largest coca producing municipalities, which are non-base municipalities.

²¹Note that the α_j control for $Base_j$ and the β_t control for the overall level of $USmil_t$, which is why the constituent terms of the interaction do not appear separately.

To address this potential endogeneity, we use an instrumental variables (IV) strategy that exploits changes in U.S. funding in countries outside of Latin America as an instrument for changes in U.S. funding to Colombia. Since Colombia is one of the largest recipients of U.S. anti-narcotics assistance, it is possible that the allocation of this line-item to Colombia determines the allocation of anti-narcotics assistance to other countries. To avoid this concern, we instrument the sum of anti-narcotics and military aid to Colombia solely with military aid to other nations. The instrument is valid since U.S. funding to the rest of the world is determined by the broad geopolitical outlook of the American government, reflecting factors such as the party of the president or other major world events, and can thus be considered exogenous to the conflict in Colombia. For example, Figure II-Panel A shows that there was a sharp increase in U.S. military assistance to countries outside of Latin America after 2001. This reflects both the start of the Bush administration, and the events of 9/11, which created an impetus to provide greater funding as a part of the "war on terror." This figure also shows that U.S. assistance to Colombia is positively correlated with military aid to non-Latin American nations. Indeed, a simple regression of these two time series confirm that there is a significant positive relationship. (See the SI Appendix Table A.I).²² Since our treatment is the interaction of U.S. military aid with the military base indicator, our instrument is aid to non-Latin nations interacted with the base indicator. We conduct 2SLS estimation in which the first stage is given by:

$$USmil_t \times Base_j = \alpha_j + \beta_t + (USmilnonlac_t \times Base_j)\gamma + \mathbf{X}_{jt}\rho + v_{jt} \quad (2)$$

where $USmilnonlac_t$ is the log of U.S. military aid to non-Latin American countries. The second stage is given by:

$$y_{jt} = \alpha_j + \beta_t + (USmil_t \widehat{\times} Base_j)\delta + \mathbf{X}_{jt}\eta + \omega_{jt} \quad (3)$$

While our main specifications use fixed effects least squares estimation, in the SI Appendix, we also use a fixed effects negative binomial estimator, implementing the IV strategy via a two-stage procedure and bootstrapped standard errors (Cameron and Trivedi 2009).²³

²²This table also shows that the relationship is robust to the inclusion of a linear time trend. However, we treat the inclusion of the trend and its square as an auxiliary check since we have time series with just 18 years of data, and this likely constitutes an over-control since these variables will be correlated with any effect of Plan Colombia.

²³We opt for OLS as the primary estimator as there are both excess zeroes in our data as well as overdispersion, which make it problematic to apply count models with fixed effects (Allison and Waterman 2002, Guimarães 2008). In

Equations (1) and (3) serve as the key equations of the analysis. But we additionally assess whether there are differential effects of military aid on homicides carried out by these groups during election periods, to test for political motivations. To analyze this, we estimate:

$$y_{jt} = \alpha_j + \beta_t + (USmil_t \times Base_j \times Ele_t)\theta + (USmil_t \times Base_j)\lambda + (Ele_t \times Base_j)\vartheta + \mathbf{X}_{jt}\phi + \omega_{jt} \quad (4)$$

where Ele_t is a dummy which equals one during the years in which elections were held in Colombia: 1988, 1990, 1991, 1994, 1997, 1998, 2000, 2002 and 2003. The coefficient θ captures the differential effect of U.S. military spending in base regions during election years relative to non-election years. The coefficient ϑ captures the differential effect of election periods on violence in base regions relative to non-base regions. All other two-way sub-interactions are absorbed by the municipality or year fixed effects.

Data and Empirical Results

Our data on civil war violence comes from the *Conflict Analysis Resource Center* (CERAC). This dataset is event-based, and includes over 21,000 war-related episodes in over 950 municipalities from 1988 to 2005. It is collected on the basis of 25 major newspapers and supplemented by oral reports from members of Catholic priest networks who describe incidents of political violence in nearly every municipality in the country. This expands the scope of data coverage to remote regions that may otherwise lack media coverage. The priests are regarded as neutral actors in the conflict, and often used as negotiators between the two sides. This minimizes potential over-reporting of violent events perpetuated by one side over another. The data are also cross-checked against other official sources, including a dataset by the National Police and reports by HRW and Amnesty International. The procedure used to collect the data is described more extensively in Restrepo et al. (2004).

The CERAC data record the number of attacks that are undertaken by each major actor in the

particular, the paramilitary attacks variable is zero for 15746 out of 16848 municipal year observations, suggesting that excess zeros are a problem. However, in the SI Appendix, we show that our results are robust to a variety of different functional forms with OLS, as well as a "hybrid" fixed-effects Negative Binomial estimator proposed by Allison (2005). We focus on Negative Binomial estimation over Poisson estimation as our data are overdispersed.

conflict, including the government, the paramilitaries, the guerrillas, and these are the main dependent variables of our analysis. The data are able to distinguish between unilateral *attacks*, which are one-sided events carried out by a particular group, versus two-sided events involving an exchange of fire among two or more groups. Attacks by the government primarily involve aerial bombardment, or anti-kidnap and anti-narcotics operations. Attacks by the illegal armed groups also include incidents such as village incursions; killing civilians; bombing pipelines and other infrastructure; destroying police stations or military bases; and ambushing military convoys. Two examples convey the richness of the underlying data.²⁴

1. January 12, 2004. Department: Antioquia – Municipality: Anza. Guerrillas from Front 34 of FARC-EP threw an explosive at a group of AUC paramilitaries, killing five and injuring seven of them.
2. December 24, 1999. Department: Valle – Municipality: Tulua. Between 30 to 40 heavily armed AUC paramilitaries arrived in the zone of Altaflor. Holding a list, they pulled five peasants out of their houses and executed them.

We also employ a number of conflict-related variables from a Center for Study of Economic Development (CEDE) dataset, which was collected from the Observatory of Human Rights of the Vice-Presidency of Colombia and is based on reports from the Colombian security agency, the *Administrative Department of Security*. This includes municipality-year level data on the number of paramilitary and guerrilla homicides, as well as killings of elected officials, candidates running for office, and community leaders, which we refer to as assassinations. The data also include several other measures including: paramilitary and guerrilla activity such as population displacement and theft; government military actions, such as rescue of kidnaps, seizure of arms and captives, and anti-narcotics operations such as dismantling of narcotics laboratories. We define our core sample based on the number of municipalities which include both the CERAC and CEDE conflict data, which yields a sample of 936 municipalities.

We construct an indicator of whether a municipality has a military base from two sources. We begin with the base locations reported in globalsecurity.org, which gives us a list of 37 municipalities with military bases. We cross-check each of these bases against information from the Colombian army,

²⁴We translate the events which are originally recorded in Spanish.

navy and airforce websites to determine which bases were newly built over our sample period.²⁵ We find and exclude new bases from the sample, since it is possible that these bases were built as an endogenous response to ongoing conflict.²⁶ This leaves us with 34 municipalities with military bases, of which 32 appear in the sample for which the conflict data is available. Map 1 in the SI Appendix shows the location of these bases.

We obtain data on municipal population from DANE, the Colombian statistical agency, and municipal geographic characteristics from CEDE. In addition, data on coca cultivation comes from two sources. *Dirección Nacional de Estupefacientes* (DNE) has a measure of land used for coca cultivation in each municipality in 1994. An equivalent measure for 1999 to 2004 comes from the *United Nations Office of Drug Control* (UNODC), which collects this data based on satellite imagery.

Data from the Registraduría Nacional De Colombia is also used to generate the Golosov index of political competitiveness (Golosov 2010). Data on vote shares disaggregated by party needed to create this index are only available after 1997 for mayoral elections and after 2000 for the local councils. We create separate indices for mayors and councils for each election year, and average these over the common election year sample (2000 and 2003). Our competitiveness indicator equals one if both the average mayoral index and average council index exceed the median values of these measures.

Finally, data on U.S. aid is from the USAID Greenbook. We use disbursements, which is money and resources spent that year, rather than commitments of future aid. Since much of U.S. assistance to Colombia, including the provision of training and equipment, falls under the category of anti-narcotics assistance, we look at the combined categories of military and anti-narcotics assistance. We also use data on Colombian military expenditures from the World Bank.

Table A.II in the Appendix shows the descriptive statistics of key variables, in municipalities with and without military bases. The means indicate that paramilitary, guerrilla and government attacks, as well as paramilitary and guerrilla political assassinations, tend to be higher in base municipalities relative to non-base municipalities. In addition, paramilitary assassinations exceed guerrilla assassinations, on average, in both types of regions. There are also differences in the population size,

²⁵The army website (last accessed 4/10/09): <http://www.ejercito.mil.co/?idcategoria=69>
The navy website (last accessed 4/10/09): <http://www.armada.mil.co/>
The air forces website (last accessed 4/10/09): <http://www.fac.mil.co/?idcategoria=391>

²⁶See SI Appendix for further information on new bases.

ruggedness, coca cultivation, and oil presence across these regions. As such, we control for these municipal characteristics interacted with year effects in the analysis below.

U.S. Military Aid and Violence in Base Municipalities

We first present visual evidence. We interact our base indicator with year dummy variables, and regress paramilitary attacks on these interaction terms, controlling for municipality and year fixed effects and the log of population. In Figure II-Panel B, we graph these interactions along with U.S. military and anti-narcotics aid to Colombia. The aid time series move in tandem during most years. In particular, differential attacks increased in 2000 when Plan Colombia was launched, fell in 2001 when military aid was scaled down and rose again in 2002 when aid started increasing.²⁷

Table I confirms this visual evidence. Columns (1)-(3) presents the OLS estimates of equation (1). The coefficients show that an increase in military assistance significantly increases paramilitary attacks as well as government attacks in base regions relative to non-base regions, but has no significant effect on guerrilla attacks. This result is consistent with our prediction that paramilitary violence will increase in response to aid. Moreover, the insignificant effect on guerrilla violence presents evidence against the notion that paramilitary attacks increase owing to successful government repression of the communist insurgents. Together this provides evidence for our first mechanism of resource sharing and against the second mechanism of government repression of guerrillas.²⁸

The OLS estimates imply substantial effects: the coefficient of .15 in column (1) suggests that a 1% increase in U.S. aid increases paramilitary attacks by approximately .0015 more in base municipalities, or by 1.5% more above the mean paramilitary attacks of .103 over the sample period. Similarly, column (2) implies that 1.2% more aid increases government attacks by approximately 1% more in base versus non-base areas. U.S. aid to Colombia increased by an average of 92% per year over 1988-2005. Thus the coefficients imply an associated differential increase of 138% in paramilitary

²⁷We posit that differential attacks fell in 2004 due to the paramilitary demobilization of 2003, which drastically reduced attacks by the AUC. This nation-wide reduction should also have reduced the differential number of attacks in base municipalities since the AUC is the most politically connected faction of the paramilitary groups with most direct links to the military. As discussed previously, the demobilization resulted in a temporary hiatus of attacks, and paramilitary violence (including by the AUC) resumed in 2005. This account is corroborated in Figure II-B, as the number of attacks spiked upward this year after falling in 2003 and 2004.

²⁸The non-effect additionally indicates that aid is not targeted to regions that have high overall levels of civil war violence.

attacks and 110% in government military attacks.

Given the sizable spike in military aid in 2000 (Figure II-A), we additionally verify that the estimates are robust to excluding this year from the sample.²⁹ In Appendix Table A.III, we also disaggregate narcotics and military aid, and show that the effects are driven by narcotics assistance. This likely reflects the fact that on average, narcotics assistance was nearly six times larger than military assistance over this period, and became a larger portion of overall security assistance with the advent of Plan Colombia.³⁰

Columns (4)-(6) in Table I present the IV estimates of equation (3), while columns (7)-(9) show the reduced form.³¹ The IV estimates are larger than the OLS estimates. They imply that a 1% increase in aid translates into 3% more paramilitary attacks and 2.6% more government attacks in base municipalities versus non-base municipalities. This is consistent with the idea that OLS downward biases the estimates since U.S. funding responds to differential increases in violence in non-base areas, such as the largest coca municipalities. It could also reflect heterogeneity in the effect of aid on paramilitary attacks. For example the aid that comes to Colombia as part of general U.S. aid increases may be less well-targeted to Colombian military troops facing the guerrilla, and thus more likely to be captured by paramilitaries or their sympathizers.

An important conceptual point is to discern the resource sharing channel from the use of complementary tactics between the government and the paramilitaries. As indicated by the third implication of our theoretical framework, if the effect on paramilitary attacks is driven primarily by complementarity, then the impact of aid on paramilitary attacks should be rendered small and insignificant when we control for government attacks. Yet doing so in Table II-Column (1) doesn't significantly affect the estimated coefficients, in both the OLS (Panel A) and IV (Panel B). In fact, the coefficients lie within the five percent confidence interval of the corresponding coefficients in Columns (1) and

²⁹The coefficient (standard error) on our treatment variable is 0.17(0.06) in the model of paramilitary attacks when the year 2000 is excluded.

³⁰In Table A.III, we also test for dynamic effects by interacting the base indicator with lag of the aggregate aid measure. The effect of lagged aid is smaller and less precise relative to the contemporaneous effect for both paramilitary and government attacks. We thus use the contemporaneous aid interactions in the remainder of the analysis.

³¹The first-stage F-statistic will be mechanically very large because the bases variable is interacted with the endogenous time series variable, the U.S. military aid to Colombia, and the instrument, U.S. military aid to non-Latin American nations. Since our IV strategy is designed to address endogeneity in the aid component, the strength of the first-stage is better reflected in the significant relationship between the two military aid time series (shown in Figure II-A and Table A.I). The reduced form estimates presented in Table I also show that the significant second-stage relationships are not driven by inclusion of interaction terms with the bases variable in the first stage.

(4) Table I.³² Thus, paramilitary attacks appear not to be driven purely by complementarities with government attacks.

In the remaining columns of Table II, we show that our results are robust to including a number of additional important controls. First, it is possible that other types of aid or security policy are set in particular department-years in a manner that is correlated with violence levels as well as military aid.³³ To account for this, Columns (3)-(5) control for department by year fixed effects, meaning we compare only municipalities within the same department within the same year. Since U.S. military assistance and differential paramilitary attacks in base areas increased in the post-2001 era (Figure II-B), columns (6)-(8) include separate linear time trends by base and non-base regions, and a post-2001 indicator variable interacted with the base variable. This allows the level effect of U.S. assistance on violence in base and non-base regions to vary for the period before and after 2001.

In columns (9)-(11), we also control for a number of other geographic and economic characteristics, all interacted with year dummies, including: a 1988 urban indicator (measured as population over 10,000), since bases tend to be located in larger cities; the standard deviation of height, since ruggedness may differ across base and non-base regions; whether municipalities produce or transport oil, since oil is Colombia's largest export and armed groups may fight to predate on resource rents (Dube and Vargas 2013); as well as coca cultivation in 2000 (when Plan Colombia was launched), as 11 of the base municipalities produce this drug crop over the sample period.³⁴

We find that the estimated effects on paramilitary attacks remain significant across the specifications in Table II, though several display insignificant impacts on government attacks. This further suggests that increased government attacks is not a prerequisite for greater paramilitary violence in response to aid increases, casting further evidence against the complementarity channel.

In Table III, we address the possibility that bases may have been built in regions with high levels of past violence, which creates the concern that they may respond more to any shock including aid flows, for reasons that have little to do with resource sharing. In columns (1)-(3), we add in controls for year dummies interacted with aggregate historical violence levels, measured as total war-related

³²Since contemporaneous government attacks is endogenous, we verify that these results are the same if we control instead for lag government attacks. These results are available upon request.

³³There are 32 departments in Colombia and these are analogous to U.S. states. Governors of departments have the power to set state-wide policies, and may do so on security matters or with the aim of attracting aid.

³⁴The results are also robust to controlling for interactions with coca cultivation in 1994, the earliest year for which coca data is available.

casualties over 1975-1987 (scaled by municipal population in the beginning of the sample period). Columns (4)-(6) control for year dummies interacted with population scaled guerrilla attacks over 1975-1987. The results are robust to the inclusion of these additional controls in both the OLS and IV specifications. This suggests that base location in regions with high levels of past violence, including high levels of past insurgency, cannot account for the estimated effects.

We also conduct a number of additional robustness checks in the SI Appendix. Leave-one-out estimation shows that the effects are not driven by any one base (Figure A.I). Estimates using discrete versions of the attacks variables in Table A.III show insensitivity to functional form, while Table A.IV demonstrates robustness to Negative Binomial estimation. Table A.V also addresses the concern that non-base regions may not serve as good controls for base regions by partitioning the sample on paramilitary presence in the beginning of the sample period, whether a municipality borders a base municipality, and whether it is recorded as growing coca. Table A.VI indicates that the results are robust to instrumenting base location with the average slope of the municipality, as military bases cannot be built in excessively steep regions. Finally, Table A.VII demonstrates that neither the emergence of new base locations over our sample period, nor the expansion of two base facilities in the post Plan Colombia period affect our estimates. These additional checks provide further evidence that our results are not driven by endogeneity in the spatial location of bases.

Aid, State Strength and Coca Cultivation

A core issue of importance to our analysis is the role of the state. Clearly, military efforts by the Colombian government will influence violence outcomes. Moreover, U.S. military aid allocation may be correlated with state strength if the Colombian government receives more aid when it spends more domestic resources on the conflict, and concentrates its fighting efforts in the base regions.

To account for this potential effect, columns (1)-(6) of Table IV present estimates controlling for (log) government military expenditures interacted with the base variable. In columns (7)-(12), we control for its interaction with various presidential administrations, which have differed in the degree to which they prioritized defense. For example, the hallmark of the Uribe administration (2002-2010) was allocating greater resources toward suppressing the guerrillas. The omitted category is President Virgilio Barco of the Liberal party, who served from 1986-1990. The IV estimates are larger in

magnitude after we include the administration controls, and these results indicate that most of the later administrations witnessed relatively fewer paramilitary attacks in the base regions.³⁵ These results establish that our findings are not driven by a Uribe effect.³⁶

The stated aim of U.S. military assistance to Colombia has been promoting counter-narcotics efforts and lowering drug crop production. However, after 2001, the U.S. government authorized the use of military assistance for counter-insurgency purposes in this country. To investigate what types of activity U.S. aid influences, we analyze the effect of military aid on different types of operations undertaken by the Colombian military, as well as overall levels of municipal coca cultivation. Table V presents these estimates.³⁷ Columns (1)-(3) examine counter-insurgency operations – the number of armed group captives taken by the Colombian military, the number of weapons seized (including recaptured arms and deactivated explosives), and the number of kidnap victims rescued from the illegal armed groups. In addition, columns (4)-(5) examine municipal coca cultivation and the number of counter-narcotics operations undertaken by the Colombian military.

To see which type of aid influences these outcomes, we also disaggregate the combined military and narcotics aid into each component. For the IV estimates in Panel B, narcotics (military) aid from the U.S. to Colombia is instrumented by narcotics (military) aid from the U.S. to all other non-Latin American nations. The results indicate that the influx of security assistance does significantly increase some types of government military operations, with the impact of narcotics aid on weapons seizures displaying greatest robustness across OLS and IV. The coefficient of 1.169 in Column (2) of Panel B implies that a 1% increase in U.S. aid increases arms seizures by 2.8% more in base regions.

In contrast, the coefficient on the aid interaction is close to zero and statistically insignificant for the coca outcome, suggesting aid does not have a disproportionate effect on drug crop production

³⁵The earlier administrations were those of Presidents Gaviria and Samper, both of the Liberal Party. President Pastrana (in office over 1998-2002) was from the Conservative Party. President Uribe was an Independent who had helped to form the National Unity Party.

³⁶The OLS results appear to suggest that military aid does not affect government attacks significantly when military expenditure is accounted for, or any of the dependent variables when administration dummies are included. However, this is likely to reflect overcontrolling: U.S. military aid varies with idiosyncratic relationships among various Colombian presidents and the United States, and controlling for unrestricted presidential effects thus eliminates a lot of this variation in aid. If presidents are also pursuing base-specific counterinsurgency strategies that affect paramilitary groups, then including the presidential controls would confound the OLS estimates. However, we circumvent this potential bias with the IV strategy. Since endogenous time-varying U.S. military aid is exactly the type of problem that the IV estimate solves, the robustness of the results to the IV strategy in Table III helps ensure that this potential over-controlling bias does not invalidate our account.

³⁷Because we look at the coca outcome, we restrict the sample to the set of municipal year observations for which the coca variable is available, but the results do not change if we analyze the military operations for the full sample.

in base regions (even though they have higher coca cultivation on average, relative to non-base regions). Moreover, there is a significant negative effect on anti-narcotics operations, across both the OLS and IV specifications, which is influenced by both military and narcotics aid. These effects are substantial: for example, the coefficient in Column (5) of Table V-Panel B implies that a 1% increase in aid implies that anti-narcotics operations fall by 7% more in base municipalities. In other words, when U.S. military aid increases, there is a *decrease* in counter-narcotics operations in base regions relative to non-base areas. One interpretation of this effect is that it reflects a shift from counter-narcotics to counter-insurgency in the use of U.S. military aid. In column (6) we re-analyze the anti-narcotics operations for the set of municipalities that have been known to produce coca at some point, which includes 11 military base municipalities. The results remain effectively unchanged with this sample restriction.

Aid, Assassinations and Elections

If the leakage of resources from the military strengthens paramilitary organizations, this should boost their capacity to undertake a range of activities, including attacks that are politically targeted. To test this idea, we next analyze whether military aid has differential effects on paramilitary and guerrilla killings during election periods. We look at total homicides and political assassinations, a sub-category that includes the killing of elected officials, candidates and community leaders, and thus reflects political targeting.

Columns (1)-(4) of Panel A in Table VI presents the estimates for total homicides in all sample municipalities. While military aid has no significant effect on homicides during non-election years, it leads to a significant differential increase in homicides conducted by paramilitaries in election years relative to non-election years. Adding the coefficients together in the first two rows gives the total effect of military aid on homicides in election years. While positive, the noisiness of the coefficient in the second row does not allow us to rule out a zero total effect in the OLS estimates. However, the effect is positive, significant and larger in the IV, indicating that military aid leads to significant increases in homicides during election years. As in previous tables, there is no effect on homicides committed by guerrillas, either in election or non-election years.

Columns (5)-(8) in Panel A looks specifically at assassinations in the full sample. The positive

estimate on the three-way interaction in the first row again shows that there is a differential effect of military aid on paramilitary assassinations in election years. However, the estimate in the second row indicates that military aid has a negative effect on assassinations in non-election years, and the sum is also negative. In other words, military aid reduces paramilitary political assassinations in base regions, but this reduction is smaller during election periods.

Overall, these results suggest that the influx of U.S. military aid has a composition effect on the type of violence employed by paramilitary groups. During election years, there is a net increase in total paramilitary homicides, but a substitution away from assassinations, which are the highest profile killings. Moreover, this "security effect" of U.S. aid is attenuated during election years, when the net political returns to violence against political candidates and leaders is arguably the highest.

Columns (6) and (8) also show that there is no differential effect on guerrilla assassinations during election periods. Thus the compositional change in killings induced by U.S. military aid solely influences killings by paramilitaries, not the guerrillas. These effects are unlikely to be arising via complementary tactics since targeted killings don't require large-scale operations and the Colombian military is not tasked with carrying out political homicides. As such these homicide effects point to the importance of the resource sharing channel.

These differential impacts in election years also suggest that paramilitary behavior responds to political incentives, which is consistent with evidence of electoral manipulation by paramilitaries presented in Acemoglu et al. (2013). To provide further support for the idea of political targeting, we examine whether effects are larger in the most politically competitive municipalities, where there are greatest potential gains from carrying out this type of elections-related violence. We use the Golosov index³⁸ of the effective number of political parties for candidates competing in the mayoral and local council elections, averaged over the set of years for which this data is available for both offices, 2000 and 2003. We split the sample based on whether the municipality lies above or below the median of this competitiveness measure for both types of elections. Panels B and C in Table VI present the OLS and IV estimates, respectively. The results show that paramilitary homicide effects are significant only in the politically competitive sample (even though the sample size is much smaller for this group). For targeted political assassinations, the magnitude of the coefficient on

³⁸See Golosov (2011) for a description of this measure and arguments for why it is preferred over other measures of party competition in multiparty environments.

the three-way interaction is also larger in the competitive sample in both the OLS and IV estimates. These results further confirm political incentives as a determinant of paramilitary violence.

Conclusion

Although substantial amounts of military assistance have been disbursed to countries facing internal conflict, little work has evaluated the impact of military aid on political violence. This paper has examined the effect of U.S. military assistance on conflict in Colombia, a country embroiled in civil war over the past four decades.

We find evidence that increases in U.S. military aid lead to higher levels of paramilitary attacks, even after controlling for government attacks. There are also no corresponding reductions in guerrilla violence. As such, neither tactical complementarities with government forces nor indirect repression of the insurgency can account for this effect. Instead, our results are consistent with the diversion of foreign military aid from the Colombian military to illicit paramilitary groups, which accords with extensive qualitative documentation of collusive resource sharing between these entities.

Turning to the implications for Colombian politics, we find that there are differential paramilitary killings in election periods, with largest effects emerging in competitive municipalities. These results point to a political cycle of paramilitary violence that is exacerbated by U.S. military aid. Finally, we find no evidence of aid increasing counter-narcotics activities, which is one of the stated goals of U.S. assistance to Colombia.

Though we focus on Colombia, our results speak to broad questions in political development and international assistance. Military aid is sometimes proposed as a cure for weak states, as it is presumed to enhance the government's repressive capacity, and facilitate its ability to secure a "monopoly on the legitimate use of violence." Yet our results suggest that, in environments such as Colombia, international military assistance can strengthen armed non-state actors, who rival the government over the use of violence.

As such, our findings hold obvious relevance for several other major recipients of U.S. military aid, including Iraq, Afghanistan, Mexico, and Indonesia. In these nations, links between the military and informal armed militias have led to the use of foreign military resources by illegitimate armed groups,

and sometimes been accompanied by severe human rights abuses. Massacres in East Timor preceding the 1999 referendum on independence from Indonesia were led by militias tightly connected to the Indonesian military, which has been a large recipient of U.S. military assistance. In recently occupied Iraq, informal Shiite militias conducted joint operations with the U.S. backed Iraqi army against suspected insurgents, despite accusations of torture and other human rights violations.³⁹ Over 2008-2012, the United States disbursed nearly \$2 billion to Mexico as a part of the Mérida Initiative to assist in combating the well-armed private armies of drug cartels. However, a 2001 Global Exchange report notes that "the Mexican army has been infiltrated by narcotics traffickers at the highest ranks, and is increasingly dependent on U.S. weapons, training, and ideology" (p. 46). The results in this paper suggest that informal links between a state's armed forces and armed non-state actors need to be taken into account for the effective deployment of military aid to conflict-torn societies.

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Table I
U.S. Military Aid and Violence: Baseline Estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Paramilitary attacks	Government attacks	Guerrilla attacks	Paramilitary attacks	Government attacks	Guerrilla attacks	Paramilitary attacks	Government attacks	Guerrilla attacks
U.S. Mil and Narc Aid X Base	0.150** [0.060]	0.133** [0.060]	-0.078 [0.112]	0.315** [0.121]	0.297** [0.102]	-0.274 [0.249]	- -	- -	- -
U.S. Non-Latin American Mil Aid X Base	- -	- -	- -	- -	- -	- -	1.116*** [0.429]	1.052*** [0.361]	-0.971 [0.883]
Estimator	OLS	OLS	OLS	IV	IV	IV	Reduced Form	Reduced Form	Reduced Form
Observations	16,606	16,606	16,606	16,606	16,606	16,606	16,606	16,606	16,606
Number of municipalities	936	936	936	936	936	936	936	936	936

Notes. Variables not shown include municipality and year fixed effects and log of population. Robust standard errors clustered at the municipality level are shown in parentheses. U.S. Mil and Narc Aid is the (log) sum of U.S. military and narcotics aid to Colombia. U.S. Non-Latin American Mil Aid is the (log) U.S. military aid to countries outside of Latin America. *** is significant at the 1% level, ** is significant at the 5% level, * is significant at the 10% level.

Table II
U.S. Military Aid and Violence: OLS and IV Estimates with Controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Paramilitary attacks	Guerrilla attacks	Paramilitary attacks	Government attacks	Guerrilla attacks	Paramilitary attacks	Government attacks	Guerrilla attacks	Paramilitary attacks	Government attacks	Guerrilla attacks
<i>Panel A: OLS Estimates</i>											
U.S. Mil and Narc Aid X Base	0.129** [0.053]	-0.133 [0.110]	0.134** [0.061]	0.082 [0.056]	-0.094 [0.107]	0.090** [0.045]	0.060 [0.045]	0.136 [0.123]	0.148** [0.059]	0.136** [0.059]	-0.067 [0.112]
Government Attacks	0.157*** [0.046]	0.414*** [0.106]	-	-	-	-	-	-	-	-	-
<i>Panel B: IV Estimates</i>											
U.S. Mil and Narc Aid X Base	0.269** [0.109]	-0.399 [0.263]	0.235** [0.098]	0.198** [0.090]	-0.327 [0.243]	0.295* [0.157]	0.321*** [0.045]	-0.106 [0.299]	0.305** [0.121]	0.301*** [0.102]	-0.266 [0.250]
Government Attacks	0.154*** [0.045]	0.420*** [0.106]	-	-	-	-	-	-	-	-	-
Department X Year FE			Y	Y	Y						
Year X Base						Y	Y	Y			
Post-2001 X Base						Y	Y	Y			
Other time-Varying Controls									Y	Y	Y
Observations	16,606	16,606	16,606	16,606	16,606	16,606	16,606	16,606	16,588	16,588	16,588
Number of municipalities	936	936	936	936	936	936	936	936	935	935	935

Notes. See Table I. In addition, columns 3-5 include department X year fixed effects. Columns 6-8 include a separate trend as well as a differential post-2001 level for base municipalities. Columns 9-11 include time-varying effects of 1988 urbanization, coca production, oil, and the standard deviation of height.*** is significant at the 1% level, ** is significant at the 5% level, * is significant at the 10% level.

Table III
Accounting for Historical Violence

	(1) Paramilitary attacks	(2) Government attacks	(3) Guerrilla attacks	(4) Paramilitary attacks	(5) Government attacks	(6) Guerrilla attacks
<i>Panel A: OLS Estimates</i>						
U.S. Mil and Narc Aid X Base	0.147** [0.059]	0.136** [0.059]	-0.067 [0.112]	0.147** [0.059]	0.136** [0.059]	-0.072 [0.112]
<i>Panel B: IV Estimates</i>						
U.S. Mil and Narc Aid X Base	0.305** [0.121]	0.304*** [0.103]	-0.262 [0.249]	0.305** [0.121]	0.304*** [0.103]	-0.264 [0.250]
Historical Casualties Control	Y	Y	Y			
Historical Guerrilla Attacks Control				Y	Y	Y
Other time-Varying Controls	Y	Y	Y	Y	Y	Y
Observations	16,457	16,457	16,457	16,457	16,457	16,457
Number of municipalities	921	921	921	921	921	921

Notes. See Table I. In addition, all columns include time-varying effects of 1988 urbanization, coca production, oil, and the standard deviation of height. Columns 1-3 also control for the time varying effects of total casualties 1975-1987 scaled by population in 1988, and columns 4-6 control for the time varying effects of total guerrilla attacks 1975-1987 scaled by population in 1988. *** is significant at the 1% level, ** is significant at the 5% level, * is significant at the 10% level.

Table IV
Accounting for State Strength

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Paramilitary attacks	Government attacks	Guerrilla attacks	Paramilitary attacks	Government attacks	Guerrilla attacks	Paramilitary attacks	Government attacks	Guerrilla attacks	Paramilitary attacks	Government attacks	Guerrilla attacks
U.S. Mil and Narc Aid X Base	0.116** [0.046]	0.105** [0.053]	0.045 [0.110]	0.337** [0.137]	0.321*** [0.109]	-0.267 [0.277]	0.055 [0.045]	0.046 [0.033]	0.170 [0.157]	0.514*** [0.185]	0.350*** [0.118]	0.449 [0.302]
Col. Mil Expenditure X Base	-0.106 [0.071]	-0.085 [0.056]	0.382 [0.277]	0.135 [0.137]	0.151** [0.066]	0.041 [0.299]	- -	- -	- -	- -	- -	- -
Gaviria X Base	- -	- -	- -	- -	- -	- -	-0.023 [0.068]	0.098 [0.095]	2.406*** [0.882]	-0.224** [0.106]	-0.034 [0.091]	2.283** [0.945]
Samper X Base	- -	- -	- -	- -	- -	- -	-0.008 [0.073]	0.121 [0.079]	0.728** [0.341]	-0.110 [0.086]	0.054 [0.074]	0.666* [0.345]
Pastrana X Base	- -	- -	- -	- -	- -	- -	0.121 [0.167]	0.104 [0.127]	0.580 [0.544]	-0.711** [0.342]	-0.446** [0.196]	0.073 [0.715]
Uribe X Base	- -	- -	- -	- -	- -	- -	0.392* [0.208]	0.502*** [0.194]	-0.140 [0.437]	-0.753** [0.351]	-0.255 [0.213]	-0.837 [0.753]
Estimator	OLS	OLS	OLS	IV	IV	IV	OLS	OLS	OLS	IV	IV	IV
Observations	16,606	16,606	16,606	16,606	16,606	16,606	16,606	16,606	16,606	16,606	16,606	16,606
Number of municipalities	936	936	936	936	936	936	936	936	936	936	936	936

Notes. See Table I. In addition, Columns 1-6 control for the (log) Colombian government military expenditures interacted with Base. Columns 7-12 control for each Colombian presidential administration interacted with Base, where the Barco administration of the Liberal Party is the omitted category. *** is significant at the 1% level, ** is significant at the 5% level, * is significant at the 10% level.

Table V
U.S. Military Aid, Coca Cultivation and Colombian Military Operations

	(1)	(2)	(3)	(4)	(5)	(6)
	Captives Taken	Weapons Seized	Freed Kidnaps	Coca	Antinarcoitics Operations	Antinarcoitics Operations
	<i>Panel A: OLS Estimates</i>					
U.S. Mil and Narc Aid X Base	2.164** [0.940]	0.566** [0.236]	0.411*** [0.150]	-0.007 [0.016]	-0.462*** [0.142]	-0.702** [0.281]
U.S. Narc Aid X Base	2.431*** [0.926]	0.587** [0.234]	0.333** [0.133]	-0.006 [0.016]	-0.465*** [0.143]	-0.682** [0.278]
U.S. Mil Aid X Base	-3.055** [1.304]	-0.075 [0.143]	0.068 [0.110]	-0.014 [0.015]	-0.132** [0.062]	-0.317*** [0.115]
	<i>Panel B: IV Estimates</i>					
U.S. Mil and Narc Aid X Base	-5.542 [4.369]	1.169* [0.612]	0.037 [0.211]	-0.002 [0.029]	-1.372*** [0.338]	-1.569*** [0.552]
U.S. Narc Aid X Base	-1.450 [2.934]	1.154** [0.537]	-0.179 [0.253]	-0.010 [0.021]	-1.140*** [0.304]	-1.552*** [0.545]
U.S. Mil Aid X Base	-4.377 [3.452]	0.924* [0.484]	0.029 [0.166]	-0.002 [0.023]	-1.083*** [0.267]	-1.251*** [0.440]
Observations	7,454	7,454	7,454	7,454	7,454	2,003
Number of municipalities	936	936	936	936	936	252

Notes. Each cell represents a different regression. Variables not shown include municipality and year fixed effects and log of population. Coca years sample refers to years in which there is data on coca production:1994, 2000-2005. Coca region refers to municipalities that were recorded as having grown coca at any point in the sample period. Dependent variables are discussed in the text. Robust standard errors clustered at the municipality level are shown in parentheses. *** is significant at the 1% level, ** is significant at the 5% level, * is significant at the 10% level.

Table VI
U.S. Military Aid, Homicides and Assassinations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Homicides				Assassinations			
	Paramilitary	Guerrilla	Paramilitary	Guerrilla	Paramilitary	Guerrilla	Paramilitary	Guerrilla
<i>Panel A: OLS and IV Estimates in all Municipalities</i>								
U.S. Mil and Narc Aid X Base X Election Year	2.178**	0.053	7.066***	0.141	0.312*	0.029	0.272***	0.053
	[0.888]	[0.056]	[2.349]	[0.111]	[0.167]	[0.023]	[0.095]	[0.033]
U.S. Mil and Narc Aid X Base	-0.861	-0.054	-1.534	-0.044	-0.741***	-0.035**	-0.445***	-0.017
	[1.337]	[0.066]	[1.297]	[0.092]	[0.284]	[0.016]	[0.151]	[0.012]
Election Year X Base	7.904***	0.158	18.323***	0.342	0.801***	0.040	0.667***	0.089
	[2.842]	[0.149]	[5.859]	[0.275]	[0.297]	[0.039]	[0.254]	[0.070]
Estimator	OLS	OLS	IV	IV	OLS	OLS	IV	IV
Observations	16,606	16,606	16,606	16,606	16,606	16,606	16,606	16,606
Number of municipalities	936	936	936	936	936	936	936	936
	Above median		Below median		Above median		Below median	
	competition		competition		competition		competition	
<i>Panel B: OLS Estimates Disaggregated by Competitive Municipalities</i>								
U.S. Mil and Narc Aid X Base X Election Year	2.181**	0.052	2.205	0.041	0.434**	0.039	0.027	0.004
	[0.879]	[0.067]	[2.255]	[0.108]	[0.211]	[0.026]	[0.223]	[0.049]
U.S. Mil and Narc Aid X Base	-1.178	-0.051	-0.678	-0.058	-0.850**	-0.035*	-0.391	-0.028
	[1.829]	[0.091]	[0.805]	[0.056]	[0.378]	[0.018]	[0.249]	[0.033]
Election Year X Base	7.311***	0.139	9.381	0.185	0.925**	0.041	0.443	0.035
	[2.827]	[0.187]	[7.116]	[0.253]	[0.379]	[0.049]	[0.395]	[0.062]
Observations	5,335	11,271	5,335	11,271	5,335	11,271	5,335	11,271
Number of municipalities	297	639	297	639	297	639	297	639
<i>Panel C: IV Estimates Disaggregated by Competitive Municipalities</i>								
U.S. Mil and Narc Aid X Base X Election Year	6.881***	0.128	6.596	0.207	0.295**	0.047	0.194	0.078
	[2.298]	[0.143]	[5.932]	[0.154]	[0.120]	[0.041]	[0.144]	[0.053]
U.S. Mil and Narc Aid X Base	-1.708	-0.012	-1.522	-0.127	-0.533***	-0.015	-0.178	-0.026
	[1.766]	[0.125]	[1.028]	[0.094]	[0.199]	[0.011]	[0.133]	[0.031]
Election Year X Base	17.338***	0.294	18.708	0.545	0.579*	0.053	0.754*	0.188*
	[5.757]	[0.360]	[14.696]	[0.356]	[0.313]	[0.086]	[0.438]	[0.110]
Observations	5,335	11,271	5,335	11,271	5,335	11,271	5,335	11,271
Number of municipalities	297	639	297	639	297	639	297	639

Notes. See Table I. In addition, the dependent variables in 1-4 are homicides, and in 5-8 are homicides of candidates, elected officials and community leaders. Regressions in Panel A include all sample municipalities. Panels B and C disaggregate the sample based on political competition. The above median competition sample is comprised of municipalities where the Golosov index for mayoral and local council elections in 2000 and 2003 exceeds the median values of these measures. *** is significant at the 1% level, ** is significant at the 5% level, * is significant at the 10% level.

Figure I
Attacks by Armed Actors in the Colombian Conflict

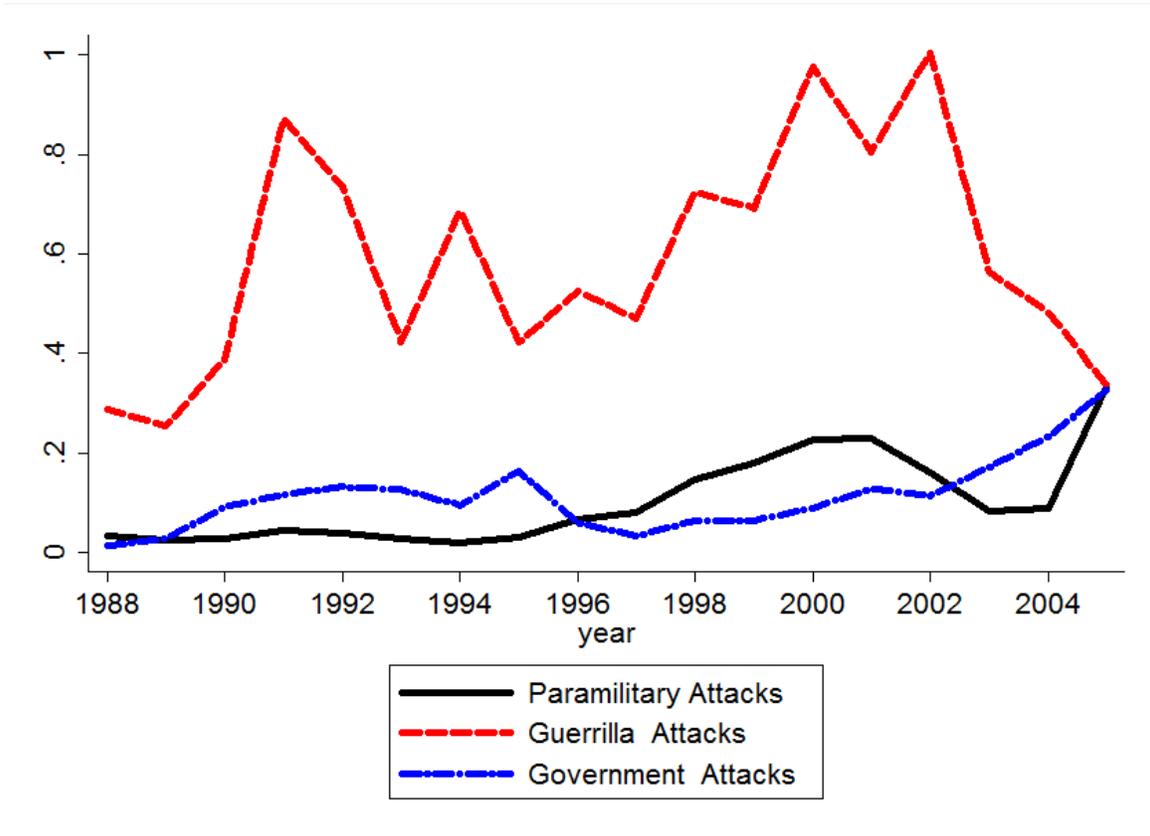
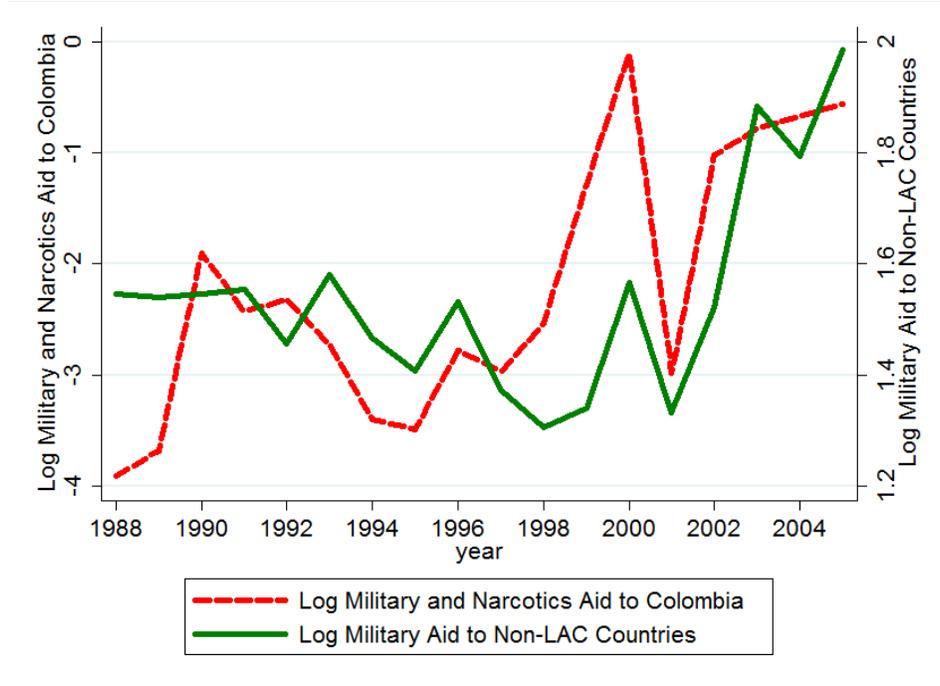


Figure II
U.S. Military Assistance and Differential Attacks in Base Municipalities

Panel A: U.S. Military Assistance to Colombia and Non-Latin American Countries



Panel B: U.S. Military Assistance and Differential Paramilitary Attacks in Base Municipalities

