

# Aid For Peace: Does Foreign Aid Deter Violence?

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## Abstract

Does foreign aid deter violence? In this study I investigate the effect of foreign aid on violence in Africa. Most aid programs have an implicit or explicit goal of preventing violence, but we have surprisingly little evidence on the efficacy of aid to accomplish this goal. To answer this question, I utilize geo-coded data on the location of foreign aid programs and the location of violent events in Africa from 1989-2014. I then match geographic locations in Africa that receive aid programs with *extremely similar* geographic locations that do not receive aid programs and observe future levels of violence. My findings indicate that foreign aid is associated with a small *increase* in violence, but only when aid programs are not continued in future years. Better understanding of aid programs' effect on violence will contribute to our theoretical understanding of conflict prevention, to the successful implementation of individual aid programs, and to policy recommendations about aid programs generally.

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## Introduction

Do foreign aid programs deter violence? Violence and conflict threaten the safety, livelihoods, food supply, and health of millions of people around the globe. In places as diverse as Iraq (ISIS), Colombia (FARC), and East Africa (Al-Shabaab), extremist groups victimize local populations and launch deadly attacks in far-off targets. In North-Central Nigeria, Fulani pastoralists decimate settled villages and threaten Nigeria's primary food supply. In Southeast Asia, outbreaks of Buddhist-Muslim clashes threaten to send another region of the world into a state of emergency. The list goes on, to say nothing of armed conflict between countries and civil wars within countries. The instability from violent events prevents economic and social development, increases food insecurity and other material deprivations, instigates destabilizing mass migrations, and causes the loss of innocent life.

As a result, violence prevention is one of the top priorities of foreign aid programs and hundreds of billions of dollars annually are spent on aid programs with the explicit or implicit goal of decreasing violence. These programs *should* decrease violence and result in a positive impact on the lives of beneficiaries. Sound theories from social sciences motivate aid programs, experienced practitioners implement them, and the competitive nature of aid allocation should lead to more funding of successful organizations and less funding for unsuccessful organizations.

Though there are an abundance of well-designed and intentioned aid programs, there is a surprising dearth of evidence that these programs achieve one of their top goals: to deter violence. Despite its importance, quantifying the effects of foreign on violence has proven frustratingly difficult. First, aid's effects on violence are dogged by the problem of endogeneity and reverse causation. Because aid programs aspire to decrease and prevent violence, they are implemented in violent areas. A simple correlation between aid and violence is likely because aid follows violence, not because violence follows aid. Second, most aid programs are not designed to maximize causal inference – they are designed to maximize their effect on beneficiaries and to satisfy the requirements of donors. Thus, individual aid programs do not tend to generate the type of data that is conducive to analysis. Third, geo-coded data on locations of aid and violence were largely unavailable until recently and had very poor spatial and temporal coverage.

Due to these problems, prior research tends to evaluate aid at the national level and focus on aid to national governments. Even with these caveats, evidence for aid deterring violence is unfortunately sparse and

contradictory, and evidence for aid deterring conflict around elections is nonexistent. Studies by Esman and Herring (2003), Grossman (1991, 1992), Crost and Johnston (2014), and Nielsen et al (2011), argue that aid *increases* the likelihood of conflict. On the other side of the argument are authors like Collier and Hoeffler (2002), Ree and Nillesen (2006), and Savun and Tirone (2012), who all argue that foreign aid decreases the likelihood of conflict.

## **Foreign Aid Increasing Conflict**

Esman and Herring (2003) make a compelling and nuanced argument that aid increases violence by exacerbating extant ethnic cleavages. They theorize two primary mechanisms through which aid increases violence, one political and one economic. Politically, pressure for elections and multiparty democracy without antecedent political development leaves ethnic cleavages as the primary tool of mobilization for elites seeking votes. Economically, aid pours resources into deprived areas, often neglecting the need to allocate resources equitably between different ethnic groups. Since many countries rely heavily on foreign aid for domestic expenditures, aid programs that do not spread resources equally between all societal groups cause conflict by shifting a substantial amount of the country's resources to just a few groups. The economic problems are compounded by the political, as ethnic parties further shift resource allocation towards their ethnic groups at the expense of others. This theory of conflict caused by biased resource allocation rings true for the Fulani pastoralists in Nigeria's Middlebelt, who have witnessed the rise in prosperity of settled ethnic groups while their livelihoods have come threat from climate change and farm encroachment on their herding routes.

Grossman (1991, 1992) follows a different paradigm and focuses on aid's effect on civil wars. The author follows a very rational-choice approach and asserts that aid heightens the likelihood of civil war because it increases the financial value of the state to rebels. Without aid programs, the government of a poor country has few resources and so rebels have little to gain by capturing the government. Foreign aid changes that calculus. Crost and Johnston (2014) similarly argue that aid programs increase the likelihood of violence. In their theory, insurgents realize that aid programs decrease their power and position for a variety of reasons. To prevent this decrease in power, insurgents target violence at locations of aid to derail the program and maintain their power position.

Nielsen et al (2011) also argue that aid programs increase the likelihood of civil war through a rational-choice framework, but their mechanism is the volatility in the budgets of government's that depend on aid. While aid money flows in freely, governments use that money to "pay off" rebels. When the money dries up, rebel groups bargaining position vis-a-vis the government is increased, and so governments must pay rebel groups even larger sums of money to ensure peace. The governments cannot afford that amount at present and cannot credibly commit to paying that amount when they can afford it. The government's bargaining position will increase when aid flows return, and so the amount they'll be willing to pay at that future time is less than the payoff rebels will receive from war at the present time.

## **Foreign Aid Decreasing Conflict**

On the other hand, studies by Collier and Hoeffler (2002), Ree and Nillesen (2006), and Savun and Tirone (2012) argue that foreign aid decreases violence, all focusing on the decreased likelihood of civil wars. Collier and Hoeffler (2002) and Ree and Nillesen (2006) follow a rational-choice approach similar to Grossman, but reach opposite conclusions. Whereas Grossman focuses on increased demand for government power, these authors focus on the increased costs a rebellion would face from challenging the government. Their hypothesis is that aid programs allow governments to use foreign aid for domestic expenditures, which frees up other revenue sources to increase their military capacity. Increased military capacity decreases opportunities for a successful armed rebellion, thus deterring conflict.

The theory of Savun and Tirone (2012) has less to do with aid increasing costs of rebellion and more to do with aid decreasing the demand for rebellion. Savun and Tirone tell a more narrow story of aid decreasing violence when allocated during times of economic turmoil. Making almost the opposite argument of Nielsen et al (2011), Savun and Tirone claim that aid, being separate from the domestic economy of the recipient,

can maintain government resources even when the economy slows and government revenue falls. They do not claim that all aid should deter conflict, but that aid has a strong capacity to decrease violent conflict when applied strategically.

At their heart, each of these stories about aid and conflict are about resource allocation. They view aid as a fixed economic quantity and not a program that could have effects of its own. While many effects of aid may be generalizable to a wide range of aid sectors, I propose that most effects of aid on violence depend on the type of aid. To do this, I move beyond the framework of “aid to national governments” as the explanatory variable and “civil war” as the outcome variable. I use geocoded aid and violence data to analyze sub-national aid and sub-national violence, and begin to disaggregate foreign aid into its constituent sectors, each of which should affect violence for different reasons and in different ways.

In the following section, I summarize issues with the literature about aid and violence, focusing on their aggregation of aid at the national level and as one monolithic concept. Then I discuss theories through which aid should decrease violence and theories through which aid should increase violence, emphasizing the distinct types of aid to which these theories apply. Third, I describe a research design to test these competing theories using matching to generate comparison cases worthy of comparison. Fourth, I present the results of this analysis for aid overall, for Democracy and Governance aid specifically, and for Democracy and Governance aid on electoral violence in particular. Fifth, I consider the implications of these results and conclude with ideas and extensions for future research.

## Localized Aid and Localized Violence

While prior studies on foreign aid and conflict have made important contributions to our understanding of aid and conflict, they are flawed in four ways. First, none of these studies differentiate between types of foreign aid, assuming aid is a tool for economic growth and must affect conflict through economics. As I’ll discuss in the theory section below, aid could affect violence through multiple mechanisms. Second, these studies focus on aid to *governments* and overlook *bypass* aid received by NGOs operating in a foreign country. Third, most research analyzes conflict at the country level, rather than the local level at which many aid programs are implemented. And fourth, these studies define conflict as civil war, missing small and non-governmental conflicts, which are the targets of many peace and security aid programs.

To overcome these flaws and determine aid’s effectiveness at preventing and mitigating conflict, I perform a quantitative study combining Uppsala Conflict Data Program’s (UCDP) Georeferenced Event Data (GED) on conflict events with AidData’s geocoded data on foreign aid. I use a matching algorithm to test whether foreign aid to a specific location decreases the likelihood and frequency of violence in and around that location, relative to a very similar location that did not receive aid. Further, I differentiate between categories of aid, separating out aid for Democracy and Governance in this analysis. Since democracy and governance aid should have the strongest effect on electoral violence, I isolate aid’s impact on electoral violence by estimating aid’s effect on conflict during the month elections are held<sup>1</sup>.

In the next section, I present competing theories for aid’s effect on violence. One theory leads to the hypothesis that areas receiving aid programs are less likely to experience violence and will experience violence less frequently than areas receiving no aid programs. The other suggests that areas receiving aid programs will become *more* violent due to aid programs. However, each of these theories makes hypotheses about specific types of aid, not just aid as a whole. Based on these theories, I expect that Democracy and Governance aid will have no effect on violence overall, but will decrease the likelihood of electoral violence occurring.

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<sup>1</sup>this is a very basic way to identify electoral violence, and subsequent research that is specifically focused on electoral violence should develop a more fine-grained method for identifying electoral violence

## How Aid Should Affect Violence

There are many ways that aid could affect violence, and those mechanisms depend on the type of aid program and the context in which the aid is given. For example, agricultural aid should affect violence differently than electoral aid, and electoral aid is likely to affect electoral and political violence but may not affect tribal or communal violence. Similarly, some contexts and some types of aid may be more or less prone to accidentally encourage violence. In the following sections I outline the primary mechanisms through which aid could decrease or increase violence.

### Aid Should Decrease Violence

Aid could decrease violence directly (i.e. through methods of conflict resolution) or indirectly (i.e. through increased economic prosperity or a more inclusive electoral process). Here I disaggregate aid into five types and analyze how each could decrease violence. The five types are: (1) Peace & Security, (2) Economic, (3) Democracy & Governance, (4) Education, and (5) Health aid.

**Peace & Security** Peace and Security aid should directly affect violence, both by changing attitudes towards violence and changing attitudes towards the potential targets of violence, and by teaching conflict resolution skills. For example, many Peace & Security programs utilize “Contact Theory” (Allport 1954; Pettigrew 1998), which theorizes that negative outgroup stereotypes can be deconstructed and replaced through positive contact with the outgroup. Other programs teach arbitration methods so that the inevitable conflicts that accompany intergroup contact do not devolve into violence. In both ways, Peace & Security aid should directly decrease the likelihood of violence.

**Economic** One theory of violence says that violence is caused by material deprivation and the resulting personal desperation (Messner and Rosenfeld 1999). By this theory, economic aid should indirectly affect violent conflict by improving materially the lives of the aid recipients. Materially improving an individual’s life should decrease their propensity to perpetrate violence in two ways. First, an individual with a satisfying life should be less likely to commit violent acts that could compromise that satisfying life. Second, an individual with a satisfying life is less in need of the money they could gain by committing violent acts. Any visitor to Africa has heard stories of young men paid to perpetrate violence – especially electoral violence. If these young men had other sources of income, they may be less likely to perpetrate violence against others.

**Democracy & Governance** Politics is often used to mobilize existing societal cleavages, and there are a number of ways in which Democracy & Governance aid can decrease the likelihood of political violence. A more inclusive electoral system could diminish violence by decreasing political grievances. And by assisting with stable and internationally acclaimed elections, Democracy & Governance aid can decrease the likelihood that a candidate feels the election was rigged or that the candidate could credibly make that claim to his/her supporters. Democracy & Governance aid can also make polling stations more secure, decreasing the likelihood of voter intimidation and violence. In these ways, Democracy & Governance aid can prevent violence that is encouraged (or even organized) by political actors and violence arising spontaneously between political opponents.

**Education** Education aid should affect violence through the same indirect mechanisms as Economic aid and the same direct mechanisms as Peace & Security aid. Similar to Economic aid, increasing education should increase economic opportunities, which should remove many of the incentives to perpetrate violence. Similar to Peace & Security aid, formal intellectual education is often accompanied by social and moral education. Thus, Education aid should also change attitudes towards violence and make the educated more tolerant of “others” who would be the targets of violence.

**Health** Health aid should affect violence through the same indirect mechanism as Economic aid. Poor health is often the cause of terrible material realities and much poverty and desperation. If material deprivation causes violence, Health aid should prevent violence by improving the material lives of recipients.

## Aid Could Increase Violence

Though their intent is never to increase violence, foreign aid programs could also increase violence. The mechanisms through which aid could increase violence are not so much about types of aid, but rather about aid programs in general. Foreign aid programs could increase violence by: (1) adding resources to an ongoing conflict, (2) increasing the value of zero-sum resources, (3) destabilizing local economies, or (4) simple mismanagement.

**Adding Resources** Foreign aid can increase violence very directly if the aid resources are somehow distributed to conflict actors. This can occur through poor oversight, since it's very hard to track resources in some aid environments, such as Afghanistan or Iraq. But it can also occur even with perfect oversight if the local population is sympathetic to conflict actors. Aid programs often transfers substantial amounts of money/resources into a local economy, and many conflict actors (for example, groups like Al-Qaeda and Hamas) are considered charities and receive donations from civilians. Further, currently inactive and unknown conflicts could be moved to activity if the would-be violent actors receive the resources to move the conflict from dormant to active.

**Increasing the Value of Resources** Foreign aid, especially economic foreign aid, aims to increase the value of an area's resources. Even if these increased resources do not make it into the hands of active or potential conflict actors, increasing the value of something will increase demand for that thing. If agricultural aid increases land productivity, an individual may fight to gain more land or fight to defend their own land. For example, cattle grazing on low-value farmland may go unpunished, but cattle grazing on high-value farmland results in a substantial loss of income and is unlikely to be ignored.

**Economic Volatility** Economies that rely on aid tend to be more volatile than economies that do not because aid allocations change from year to year much more so than domestic production. This affects national governments, but should also affect local areas that attract many aid dollars. Local workers develop the skills necessary to gain employment in aid organizations at the expense of other skills, and aid organizations "crowd out" local businesses. When aid organizations are no longer present these workers may find few local jobs, and that their skill set is unfit for these local jobs, leaving many people materially deprived. This is especially a concern for electoral aid, which is often give cyclically with the election cycle.

**Mismanagement** Even absent all of the other ways that aid could contribute to violence, aid programs could simple be mismanaged or poorly conceived and exacerbate existing tensions. Mismanagement can occur with any type of aid. For example, a peace & security program could bring together conflicting groups before they are ready to interact, creating rather than preventing opportunities for violence. Economic programs could accidentally favor certain societal groups, causing animosity from other groups, or giving that group the power to subjugate other groups. Any aid program implemented without proper knowledge of local context can exacerbate tensions and increase the likelihood of violence.

## Data and Research Design

In this paper I bring together three distinct datasets to shed light on the question of if and how aid affects violence. These datasets allow me to analyze aid allocations and violent events at the local level rather than the national or state-wide level, allow me to disaggregate sectors of aid, and allow me to dis-aggregate violence around elections from violence at other times. This study focuses exclusively on Africa, but could be expanded to other continents as well.

In the following sections I describe the data, explain my research design, and formalize hypotheses that will be tested in the results section.

## Data Sources and Description

The final dataset comprises almost 1,800 physical locations from the years 1989-2014, with most data in the 1995-2014 period. The unit of analysis is a single location in a given year: a location-year. The data contains about 45,000 location-year combinations. Aid programs and violent events are included in the data if they are geocoded to the second order administrative division<sup>2</sup> or lower. This means that data for aid/violence is included if it can be identified at an exact location (i.e. 2011 Crystal City Dr), a community (i.e. Crystal City, VA), or a small administrative area (i.e. the Capital Beltway). Aid or violence that cannot be pinpointed to that level (i.e. the state of Virginia) are not included in the data. All Presidential, Legislative, and Constitutional elections during this time period are all included in the data, with the vast majority of elections being either Presidential or Legislative.

The 1,800 physical locations are condensed from about 45,000 specific latitude/longitude points. The location of aid programs and violent events are rounded to their nearest latitude/longitude point to generate spatial overlap. This rounding collapses everything within a ~30 mile radius into one point, which represents the maximum distance an aid program's effects should spatially diffuse. The analysis is robust to rounding locations to their nearest half latitude/longitude point, which amounts to about a 15 mile radius around the central point.

The data contain 21,000 individual aid programs<sup>3</sup> and 25,000 violent events<sup>4</sup>. The data on foreign aid comes from AidData and contains variables such as the aid sector, the total disbursement, and the donor. Just over half of the aid programs in the data come from the World Bank, with most of the remaining aid coming from the European Union, African Development Bank, United States, United Kingdom, and Scandinavian countries. Appendix 1 contains graphs of aid by sector for different donors.

The data on violent events comes from the Upsalla Conflict Data Program's Georeferenced Event Dataset. This data includes non-war armed force used at a specific location at a specific date and contains variables such as the estimated number of dead and the actors involved. All countries in Africa are represented, with Algeria (12%), Somalia (11%), DRC (11%), and South Africa (9%) the most represented in terms of number of individual conflict events. Appendix 2 contains graphs of conflict and violence over time.

The data on elections comes from National Elections across Democracy and Autocracy (NELDA). 289 total elections occurred in Africa during this time period. The NELDA data contains many variables about the elections, but here I use only the date of the election.

## Making Observational Data Look Like an Experiment

When designing research, it is often beneficial to first develop an ideal but unfeasible research strategy and then work your way down to feasibility from there. In this case, an ideal research design would be a large-scale randomized experiment. We would (1) obtain list of 1,000 locations that could receive aid, (2) monitor all 1,000 locations for violent events for 10 years, (3) administer aid programs to a randomly selected<sup>5</sup> 500 of those locations, (4) monitor all 1,000 locations for violent events for duration of aid program and 10 years post-program, and (5) compare violence in aid locations to non-aid locations.

Unfortunately (from a research perspective, at least), we cannot create this counterfactual world in which aid is randomly assigned to possible locations. However, we can *simulate* this counterfactual world by matching locations that received aid with *very similar* locations that did not receive aid. We then compare subsequent violent conflict in these areas as if aid were randomly assigned, as it would be in an experiment. For this comparison to be valid, the matched areas must be (1) equally likely to receive aid and (2) equally likely to have future violence.

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<sup>2</sup>A second order administrative division (ADM2) is a district, municipality, or commune.

<sup>3</sup>About 11,000 are removed for insufficient spatial precision.

<sup>4</sup>About 6,000 are removed for insufficient spatial precision.

<sup>5</sup>Block assignment could also be used to ensure covariate balance.

To ensure that matched locations are similar on factors that affect receiving an aid program and potential for violence, the matching algorithm pairs locations based on the following factors:

1. Number of conflicts in the year prior to the aid program
2. Number of conflicts in the decade prior to the aid program
3. Sub-region of Africa
4. Within five years of each other

For a concrete example, let us consider a location in Kenya that received aid in the year 2000 and had 10 violent conflicts in the ten years before the aid program was administered. Due to the sub-region restriction, this location-year in Kenya could be matched with location-years in Tanzania, but not location-years in Nigeria. Due to the time-period restriction, this location-year in Kenya could be matched with location-years in Tanzania from 1998, but not location-years in Tanzania in 1994. Once these restrictions are satisfied, the algorithm will match the Kenyan location-year with eligible location-years that also have ~10 violent conflicts in the previous ten years. Location-years that have no comparable match are dropped from the analysis, so we are left with two groups that look identical, except that all the location-years in one group received an aid program and none of the location-years in the other group received an aid program<sup>6</sup>. Let us now call the group that received aid the “treatment” group and the group that did not the “control” group.

This type of matching is important because aid tends to be allocated to violent areas. Before matching the mean number of violent events in places that received aid was 1.91 violent events per year; the mean number of violent events in places that never received aid was just 0.51 violent events per year. After matching, the mean number of violent events in the treatment group is 0.35 violent events per year and the mean number in the control group 0.41 – a statistically insignificant difference. The mean number of violent events in the 10 years before the paired location-year changed similarly. Location-years that received aid averaged 11.38 violent events in the decade before the aid program was administered; location-years that did not receive aid averaged just 4.37 violent events over the same period. After matching, the treatment group averaged 4.83 violent events in the previous decade and the control group averaged 4.78 violent events – again, a statistically insignificant difference.

To summarize: this analysis matches location-years with very similar location-years. The algorithm matches locations in the first year an aid program is administered with location-years that do not receive aid in the next five years but are identical in terms of time period, sub-region, and conflict history. The outcome of analysis is violent conflict in the next 5 years. The data are analyzed like an experiment, with “aid recipient” being the treatment variable. This analysis allows us to identify how aid affects violence on average.

In the next section, I formalize hypotheses. After that, I present the results of the analysis.

## Hypotheses

In this paper I analyze the effects of foreign aid on violence overall, the effect of Democracy & Governance aid on violence, and the effect of Democracy & Governance aid on electoral violence specifically. I expect that:

1. Foreign aid decreases the likelihood of violence overall. Location-years that receive foreign aid programs are associated with fewer violent conflicts in the subsequent five-year period than similar location-years that did not receive aid.
2. Democracy & Governance aid programs have no effect on violence overall. Location-years that receive Democracy & Governance aid are associated with the same amount of violent conflict in the subsequent five-year period than similar location-years that did not receive any aid.
3. Democracy & Governance aid programs decrease the likelihood of electoral violence. Location-years that receive Democracy & Governance aid are associated with fewer violent conflicts in the subsequent five-year period than similar location-years that did not receive any aid.

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<sup>6</sup>This analysis uses a full matching algorithm, so one location can be matched with multiple other locations

## Results

The following sections present the results for each distinct hypothesis. First, aid’s effect on violence overall. Second, Democracy & Governance’s affect on violence overall. And third, Democracy & Governance’s affect on electoral violence.

### Aid’s Affect on Violence

Table 1 below presents the results for hypothesis 1: how does foreign aid affect violence overall? As the table shows, aid is associated with an *increased* likelihood of violence for the five years following the start of the aid program. The effect amounts to about a 12% increased likelihood in the chance of violence for locations that receive aid compared to locations that do not. By comparison, each additional conflict from the previous decade is associated with a 1.2% increase in conflict over the next five years.

When looking at the previous conflict coefficient, one should remember that this model likely minimizes the effect of previous conflict on future conflict. Since pairs are matched on conflict history, this variable is merely capturing the increased likelihood of future conflict for the minute difference in previous conflict leftover after matching. Without matching, previous conflict is a very strong predictor of future conflict.

Though receiving an aid program is associated with increased conflict, the insignificant coefficient on “Future Aid Programs” indicates that the increased likelihood of violence fades to nothing for areas in which aid programs are continued. It appears that aid increases violence, but only when the aid program lasts for a short amount of time.

Finally, note that this model explains about 1/3 of the variance in violence. Though aid, previous violence, and the other factors in the matching algorithm explain some of the reasons that violence occurs, there are many causes of violence that are not in our model.

Table 1: Aid’s Effect on the Presence of Future Conflicts

	<i>Dependent variable:</i>			
	Presence of Conflicts In Next 5 Years			
	(1)	(2)	(3)	(4)
Aid Recipient	0.120** (0.053)	0.126** (0.053)		
Conflicts Prior 10 Years		0.012*** (0.001)		0.012*** (0.001)
Future Aid Programs			0.003 (0.025)	-0.007 (0.025)
Observations	8,825	8,825	8,825	8,825
R <sup>2</sup>	0.373	0.378	0.373	0.378
Adjusted R <sup>2</sup>	0.324	0.329	0.323	0.329

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Next we take a preliminary step at moving past the idea that aid has an average treatment effect across all aid recipients regardless of circumstance. Rather than looking at all aid, we analyze the effect of Democracy & Governance aid on violent events. Democracy and Governance aid does little to increase government resources that would be useful to rebels and it could de-legitimize claims of electoral malfeasance that often escalate into violence.

## Governance Aid’s Affect on Violence

Table 2 below presents the results for hypothesis 2: how does Democracy & Governance aid affect violence overall? As the table shows, receiving a Democracy and Governance aid program does not make a location more or less likely to experience violent events in the five years following the start of the aid program.

Table 2: Governance Aid’s Effect on the Presence of Future Conflicts

	<i>Dependent variable:</i>			
	Presence of Conflicts In Next 5 Years			
	(1)	(2)	(3)	(4)
Aid Recipient	-0.001 (0.170)	-0.002 (0.169)		
Conflicts Prior 10 Years		0.021*** (0.002)		0.021*** (0.002)
Future Aid Programs			-0.075*** (0.028)	-0.081*** (0.028)
Observations	8,260	8,260	8,260	8,260
R <sup>2</sup>	0.251	0.260	0.251	0.260
Adjusted R <sup>2</sup>	0.244	0.253	0.244	0.253

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

However, as with aid programs overall, the story changes when one considers locations that hosted an aid program for multiple years after the start year. The negative and significant coefficient on “Future Aid Programs” suggest that the continuation of Democracy and Governance aid programs for one additional year is associated with about an 8% decrease in the likelihood of violence occurring in the next five years. Since this variable’s maximum value is 5, we can say that receiving a Democracy and Governance aid program in year one and then continuing to receiving Democracy and Governance aid programs in each of the next five years is associated with a 40% decrease in the likelihood of violence to occur in those five years. This is more evidence that aid continuity is important and perhaps supports the idea from the theory section that aid can encourage violence after the aid program finishes because aid programs can destabilize local economies.

It should be noted that this model is only explaining about 25% of the variation in violent conflict over the five year period of analysis. This should be interpreted as the model missing many factors that encourage or discourage violence. Also note that this is comparing locations that received Democracy & Governance programs *and no other type of aid program* with areas that did not receive any aid program. This model provides no information about how Democracy and Governance programs may interact with other types of aid programs.

In the final results section this paper takes another step at looking beyond an average effect of aid on violent conflict. Instead of looking at aid, or even one type of aid, across all types of conflict, this analysis is about Democracy and Governance aid’s effect on *electoral* violence specifically.

## Governance Aid’s Affect on Electoral Violence

Table 3 below presents the results for hypothesis 3: how does Democracy & Governance aid affect electoral violence? Data for this question are far more scarce than for others, since the treatment group is now only locations that received Democracy & Governance programs and no other type of aid program, *and* saw violence around election time. These subsets leave us with far fewer observations in the treatment group

than for previous hypotheses. Notice that the Conflict variable is now the amount of conflict in the previous five years, instead of ten years. To keep enough treatment cases to achieve acceptable match balance, the location-years available for comparison had to be expanded. And again we should note that this model only explains about 25% of the variance in electoral violence.

As the table shows, there is no statistical evidence that receiving a Democracy and Governance aid program affects a location’s likelihood of experiencing electoral violent events in the five years following the start of the aid program. The coefficients on “Aid Recipient” and on “Future Aid Programs” are small and insignificant, though the sign of “Future Aid Programs” is in the expected direction. Still, none of this evidence points towards any effect of Democracy and Governance aid on electoral violence.

Table 3: Governance Aid’s Effect on the Presence of Future Election Conflicts

	<i>Dependent variable:</i>			
	Presence of Election Conflicts In Next 5 Years			
	(1)	(2)	(3)	(4)
Aid Recipient	0.029 (0.163)	0.043 (0.155)		
Conflicts Prior 5 Years		0.081*** (0.002)		0.081*** (0.002)
Future Aid Programs			-0.072 (0.131)	-0.009 (0.124)
Observations	11,823	11,823	11,823	11,823
R <sup>2</sup>	0.174	0.258	0.174	0.258
Adjusted R <sup>2</sup>	0.168	0.253	0.168	0.253

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

## Implications of Results

These data tell two main stories. First, funding and implementing an aid program should not be undertaken haphazardly. In these data, receiving an aid program overall is associated with *more* violent conflict, and the amount is fairly substantial. Receiving an aid program seems to increase the likelihood that a location experiences violence in the next five years by about 12%. Aid can be a powerful tool for good, but with great power comes great responsibility.

Second, the data speak to the importance of aid continuity in preventing violence. Locations that continue receiving aid programs are no more likely than other locations to experience violence in the five years following the onset of their first aid program. For democracy and governance aid, continuing aid programs is associated with a substantial decrease in the likelihood of an area experiencing violence. However, Democracy and Governance aid does not appear to affect electoral violence. This could be due to the small number of locations that are classified as experiencing electoral violence, and could be due to inaccuracy in the definition of electoral violence used here. Electorally motivated violence could occur further from elections than the definition used here, and violence that occurs near election time may not be electorally motivated! A more fine-grained method of determining electoral violence from other types of violence is called for in future studies.

The mechanisms through which aid affects violence are not clear in these data, but this analysis suggests that aid programs may increase violence by destabilizing local economies. When aid programs operate in an area

for a brief period of time and then quickly depart, they might leave an employment vacuum and so are more likely to cause problems than when an aid program operates in an area for a sustained number of years.

For scholars, this paper also challenges the convention that we should focus analyses on aid to governments and civil war conflict. The target of many aid programs are local-level areas and the aid money is never touched by the national government. We need to look at lower-level aid flows and violent events to understand aid's effect on violent conflict.

## Future Research

This paper is merely a first look at aid's effects on violence at the sub-national level. Future research should focus on elucidating some key areas. First, scholars should focus on the mechanisms through which aid can affect violence. Research cited in this paper proposed innovative ideas about aid timing (during an economic downturn) and rebel incentives, but it considered aid as a monolithic concept and aggregated all aid and violence to the national level, ignoring smaller-scale violent events or the spatial allocation of aid.

Second, this paper talks a lot about disaggregating sectors of aid, but only takes a small step forward by isolating Democracy and Governance aid. Future research should analyze other types of aid, and spend more time toward the effort of separating the effects of one type of aid from another. Here I simply look at locations that received *only* Democracy and Governance aid vs. locations that received no aid at all. However, most locations that receive Democracy and Governance aid also receive some other type of aid, and many Democracy and Governance programs are administered at a national level.

Beyond an average treatment effect, future research should put more energy into understanding the conditions under which aid is effective and not effective. For instance, is aid effective in very violent areas or in less violent areas? Are particular sectors of aid more effective than other sectors at preventing certain types of violence? The theories from this paper (like most theories from other scholars) have context-specific hypotheses, but I look at data in the framework of an average treatment effect across all aid recipients, rather than an effect in a narrowly-tailored context.

Future work should also disaggregate "violence" into different types of violence, and perhaps bring in other forms of nonviolent protest into the analysis. It could be that some types of aid divert the energies and animosities that often manifest as violence into a nonviolent protest event.

Lastly, the matching algorithm can be improved and the findings can be confirmed with alternative matching decisions. Towards showing robustness to other matching decisions, confirming these results with a pair-matching algorithm instead of a full-matching algorithm is a first step. For improving the matching algorithm with more covariates, intra-country migration of population increases could be taken into account. Locations with rapidly growing populations are more likely to receive aid programs than areas not growing so rapidly, and that growth also makes these locations more likely to be the sites of violence than other locations. Population growth is not taken into account by the matching analysis in this paper, which only takes into account previous instances of violence in each location.

## Conclusion

This paper proposes competing theories explaining how aid programs could decrease violent or increase violence, respectively. These theories make predictions about specific types of aid, not just foreign aid programs in general. This paper then presents a first look at aid's effect on violence at the sub-national level. I utilize matching to pair locations that received aid with very similar locations that did not receive aid, and then compared violence in those paired locations for five years after the onset of an aid program.

The analysis suggests that aid programs *increase* the likelihood of violence in their target areas. This effect is fairly large. However, increased violence is not observed when the location receives future aid programs. In fact, for the Democracy & Governance sector of aid, sustaining aid programs into future years appears to be associated with decreases in violence overall, though they have no effect on electoral violence specifically.

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