Legacies of Resistance:
Mobilization Against Organized Crime in Mexico

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Abstract

What are the legacies of armed resistance? Why do some communities engage in armed mobilization in response to violence, disorder, and insecurity, while others under very similar conditions do not? Focusing on mobilization against organized crime in contemporary Mexico, we argue that historical experiences of armed resistance can have lasting effects on local preferences, networks, and capacities, which can facilitate armed collective action under conditions of rampant insecurity in the long run. Empirically, we study the Cristero rebellion in the early twentieth century and grassroots anti-crime mobilization in Mexico during recent years. Using an instrumental variables approach, we show that communities that pushed back against state incursions almost a century earlier were more likely to rise up against organized crime in contemporary times.

1. Introduction

In armed conflicts around the globe, ordinary citizens organize civil militias to resist powerful armed actors, often with important and long-term effects (Bateson 2013; Jentzsch, Kalvyas and Schubiger 2015; Schubiger 2020). The *Autodefensas Campesinas de Córdoba y Urabá* in Colombia,[1] the *comités de autodefensa* in Peru, or the Civilian Joint Task Force in Nigeria, among many others, are cases in point. Such forces also play an important role *beyond* civil wars, in the context of pervasive criminal violence. Despite their prevalence, and despite the wide-ranging social, political and economic effects that they occasion at both the local and national levels, we know little about the conditions under which such mobilization is more likely to occur. Why do some communities engage in armed mobilization in response to violence and predation, while others under very similar conditions do not?

In this article, we argue that communities that have historically been affected by outside threats, and successfully fought back, may draw on these experiences even generations later to organize armed self-defense campaigns when facing contemporary threats. If institutional transmission belts persist, past experiences with armed mobilization can help communities overcome barriers to collective action via intra- and inter-generational political socialization, preserved organizational and tactical legacies, and cross-generational social networks of trust. This, we argue, can help explain variation in community resistance in the long run.

Empirically, we study the legacy of one particular armed political movement in 1920s Mexico—the *Cristero* rebellion—in which ordinary citizens took up arms to resist anti-Catholic repression efforts by the Mexican state. We contend that path-dependent processes following the *Cristero* rebellion produced enduring mobilizational legacies that, together with a particular confluence of events in the contemporary period, partially

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[1]The predecessor of the *Autodefensas Unidas de Colombia* (AUC).

explain variation in communities' participation in the Mexican self-defense (*autodefensa*) movement that emerged against organized crime.[2]

Using novel data on the *Cristeros* and contemporary self-defense forces, we find a positive relationship between the pro-Catholic *Cristero* rebellion in the 1920s and contemporary *autodefensa* mobilization. This result holds after controlling for an extensive set of potential confounders, including historical covariates from the 15th, 16th, 19th and early 20th centuries. Moreover, we rely on an instrumental variable approach that exploits variation in local Catholic bishops' ideologies at the time, and also address spatial interdependence. Alternative explanations—specifically, that communities historically engaged in the *Cristero* rebellion simply face more contemporary crime and more drug-trafficking organizations, or that self-defense mobilization is driven by inequality—produce inconsistent results.

This paper contributes to the literature on vigilante group formation (Phillips 2017; Bateson 2013, 2020); historical legacies of conflict (e.g. Balcells 2012; Weintraub, Vargas and Flores 2015; Lupu and Peisakhin 2017; Rozenas and Zhukov 2017); and the dynamics of order, repression, and criminal violence (Sullivan and Elkus 2008; Osorio 2015; Dell 2015; Osorio, Schubiger and Weintraub 2018*a*; Lessing 2015; Kalyvas 2015; Barnes 2017; Osorio, Schubiger and Weintraub 2018*b*). We address these contributions in turn. First, we add to an emerging literature self-defense group formation, which tends to posit either economic explanations for vigilante appearance (Phillips 2017) or the ineffectiveness of state institutions in providing justice (e.g. Godoy 2006). Few look to historical legacies to explain contemporary mobilization of self-defense forces (for important exceptions see Bateson 2013; Ley and Trejo 2019; Bateson 2020; Wolff 2020).[3] Second, we contribute to the literature on legacies of important historical events, particularly those involving

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[2]We use the terms *autodefensas*, vigilantes, and self-defense forces interchangeably.

[3]Wolff (2020) highlights the role of past conflicts in his ethnographic study of collective identities, strategies, and resistance narratives among self-defense groups in Mexico.

violence (e.g. Daly 2012; Rozenas and Zhukov 2017; Zhukov and Talibova 2018; Osorio, Schubiger and Weintraub 2018*a*; Bateson 2020). We study here a particular kind of historical legacy, and show that efforts to shield a religious group from state repression had lasting effects on local communities' propensity to rise up against radically different external threats.[4] This should invite a reflection about what kinds of historical events prime communities to engage in future instances of collective action, a question addressed below. Third, the paper contributes to the literature on the Mexican Drug War (Osorio 2015; Dell 2015; Kalyvas 2015), which has failed to explain why vigilantes are more likely to emerge in some places than others.[5]

We begin by developing a theoretical argument for explaining how legacies of high-risk resistance can shape future mobilization against disparate threats. The following section describes the Mexican context, particularly the *Cristero* rebellion in the 1920s, the shift toward predation by the cartels following the Mexican state's crackdown, and finally the "wave" of *autodefensa* mobilization in the early 2010s. Next, we describe our empirical strategy and the data we use to test the relationship between the *Cristeros* and *autodefensas*. The following section presents results and robustness checks, while the final concludes with avenues for future research.

Violence and Local Order

While the ideal-typic Weberian state is characterized by the legitimate monopoly of violence, in many contexts state presence is unevenly distributed geographically and state institutions frequently are captured by non-state armed groups (O'Donnell 1993; Risse and Stollenwerk 2018). Deals struck between armed actors can provide some measure of

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[4]Bateson (2013) shows how civil war-era forms of self-defense in Guatemala explain contemporary vigilantism.

[5]Two exceptions are Phillips (2017) and Ley and Trejo (2019).

predictability, yet the outcome may be violent and economically and socially stifling to local residents. In such cases, communities may opt to take matters into their own hands (Jentzsch, Kalvyas and Schubiger 2015). The militarization of civil society in the form of armed self-defense groups has occurred in countries as different as Sierra Leone (Civil Defense Forces), Iraq (Mahdi Army), Nigeria (Bakassi Boys), Peru (*rondas campesinas*), and South Sudan (self-defense forces in the tribal areas). While such groups display tremendous diversity in their organization, goals, ideology, and relationship to local and national elites, they are often politically autonomous—at least in their early stages—and yet are able to grow quickly in size and strength.

The type of armed resistance we theorize here is a particular form of collective action: it does not seek to advance a revolutionary political cause, as rebel groups often do, nor is it chiefly directed at achieving economic goals, as is the case for most criminal organizations. It is primarily protective and parochial in nature, seeking to return to a *status quo ex ante*, prior to radical changes in local security conditions, typically in response to external changes. Yet not all communities have the same propensity to challenge powerful actors that undermine predictability and stability, whether those actors are state agents, rebel groups, or drug trafficking organizations. We argue that historical processes of armed mobilization alter collective preferences, social networks, and mobilizational resources that shape whether communities opt to organize to construct new local orders in response to external predation and threats.

Regardless of history, we assume that communities are more likely to develop shared preferences for resistance where the *status quo* has deteriorated rapidly and such change can be attributed to an external threat. Where predatory actors severely disrupt daily activities, target community members with high levels of violence, and apply rules arbitrarily, we expect local communities to have incentives to rise up. While armed groups often use extortion and protection rackets to harness economic benefits (Moncada 2018), particularly exploitative armed groups can trigger substantial resentment among or-

dinary citizens and local elites, especially if local conditions worsen dramatically and rapidly. Thus, where armed groups are extremely violent and rapacious, such that even compliance with imposed rules is not rewarded, we should expect communities to be more willing to rise up.

Contemporary preferences, however, are not exclusively fashioned *de novo*, but are also shaped by the past. We build on the assumption that legacies of violence and collective action shape contemporary perceptions and behaviors in patterned and even inter-generational ways (Daly 2012; Bateson 2013; Finkel 2015; Lupu and Peisakhin 2017; Osorio, Schubiger and Weintraub 2018*a*; Zhukov and Talibova 2018; Ley and Trejo 2019).

An outside threat to the community provides a rupture in the quotidian practices of its inhabitants (Vargas Castillo 2019), creating uncertainty that demands an adaptation of communal practices and suggests the need to confront novel challenges. In determining whether and how to fight back, residents must decide what approach is likely to work and is socially acceptable at the same time. We argue that socially proximate instances of mobilization (e.g., from the same community) are likely to be assigned greater "weight"—even if temporally removed—than temporally proximate instances of mobilization from socially distant locales. Residents are likely to have greater access to discourses about prior mobilization that took place in socially proximate locales when compared to distant places. Moreover, a course of action that was part of a community's repertoire in the past is more likely to be socially acceptable in the present.

Shared preferences are insufficient to explain how communities overcome hurdles for high-risk collective action. Mobilizing such defense involves dangerous political activities, including clandestine organization and logistical support, even among those who may never formally take up arms. We argue that past experiences likely influence communities' *ability* to overcome these challenges as well. First, previous armed mobilization can help communities overcome barriers to collective action via inter-generational networks of trust (Tilly 2005). The shared experience of high-risk mobilization can forge

and consolidate strong social relationships loaded with a sense of mutual trust, and this trust can be transmitted from one generation to the next (Dohmen et al. 2011; Nunn and Wantchekon 2011; Ljunge 2014). Such networks play important roles in the sharing and protection of information necessary for organized resistance (Finkel 2015), and help sustain collective memories that facilitate mobilization later on (Villamil 2020). Social networks also shape collective notions of threat critical for mobilization decisions (Shesterinina 2016, 422). In short, high-risk mobilization has the potential to durably affect local networks, thereby facilitating armed mobilization against future — and distinct — external threats.

Second, armed mobilization requires know-how (Tilly 2003; Finkel 2015; Bateson 2016). Applying force against foes requires tactical and organizational skills such as training in firearms, patrolling, surveillance, and forcible detaining perceived enemies. We expect communities with prior armed activity to—through preserved organizational and tactical legacies—possess skills to help organizing and initiating armed self-defense. Repertoires are "learned cultural creations" that can revive and adapt for multiple purposes (Tilly 1995, 42). Thus, organizational legacies of violence — know-how for armed resistance, tactical repertoires, and collectively-shared blueprints for mobilization — are more available to communities that successfully mobilized against past threats.

Legacies of resistance do not always reactivate once external threats return. Preserving collective memories requires reliable transmission belts for conveying lessons learned, for example via the persistence of institutions that champion and lionize prior mobilizations (Acharya, Blackwell and Sen 2016, 37). Songs, rituals, and heroic tales of resistance preserved in community organizations and churches, for example, may provide a robust space for preserving collective identities centered around self-reliance and autonomy over time (High 2009). Where such transmission belts persist, past experiences with armed mobilization help communities overcome barriers to collective action via inter-generational socialization that preserves the networks and repertoires of con-

tention (Tarrow 1998; McAdam, Tarrow and Tilly 2001) described above.

The type and outcome of prior mobilization also matters: communities that *successfully* mobilized to protect themselves against a *major* and *external* threat in prior periods are more likely to reactivate mobilization should new threats emerge. By contrast, where historical threats were less alarming or where mobilization efforts met defeat, communities should be less likely to emulate the past, and the legacy of past mobilization efforts reduced.

In sum, we argue that communities that were historically targeted by a perceived outsider, and that have experience fighting back, are more likely to organize armed self-defense campaigns when facing contemporary threats. We expect this to hold even if current threats differ radically from those encountered in the past. If institutional transmission belts persist, past experiences with armed mobilization can help communities overcome collective action barriers via intra- and inter-generational political socialization, preserved organizational and tactical legacies, and cross-generational social networks of trust.

We evaluate the core empirical implication of our theory in Mexico, and argue that ordinary citizens' mobilization into the *Cristero* rebellion in the 1920s facilitated vigilante mobilization against organized crime nearly 100 years later. The *Cristero* rebellion was an uprising of pro-Catholic communities against Mexican authorities, directed against repressive government actions to curb the influence of the Catholic Church. The peaceful resistance of pro-Catholic citizens against anti-clerical measures enshrined in the 1917 Constitution and subsequent anti-Catholic laws escalated to armed rebellion in the mid-to-late 1920s. The legacies of this uprising, we argue, made it easier for citizens to overcome collective action problems in the name of self-protection when criminal violence spiked nearly a century later, a consequence of state-led crackdowns against DTOs.

It is important to underscore that we do not directly test the precise mechanisms connecting the *Cristero* rebellion to the *autodefensas* in the empirical section. We do,

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however, rule out prominent alternatives, leaving our mechanisms as strong potential contenders to explain the positive relationship between *Cristeros* and self-defense mobilization that we demonstrate empirically. Rather than arguing against the possibility that other armed movements might have produced similar legacies, we focus on the *Cristero* rebellion because of its particular substantive and theoretically salient characteristics, outlined below. Moreover, while empirically identifying the causal effect of other armed movements is outside the scope of our paper, in the conclusion we suggest avenues for future research.

The Cristero Rebellion

During the 19th century, successive Liberal governments in Mexico undertook efforts to regulate church and state relationships, intended to undermine the power of the Catholic Church (Espinosa 2003). The violence of the 1910 revolution paused these endeavors for more than a decade. Having coalesced under the National Revolutionary Party (PNR in Spanish), victorious post-revolutionary leaders resumed these efforts in a more combative manner following the revolution.

The so-called "Calles Law," signed on June 14, 1926 by President Plutarco Elías Calles, imposed penalties for priests and individuals violating anti-clerical provisions enshrined in the 1917 Constitution. Sanctions included fines for wearing clerical garb in public and the imprisonment of priests who spoke out against the government (Bailey 1974). Alongside these measures, the state weakened the Catholic Church by confiscating properties and closing religious institutions, including Catholic schools. These measures helped galvanize anti-government mobilization, most notably via the *Liga Nacional por la Defensa de la Libertad Religiosa* (LNDLR), uniting Catholic civil society and political organizations (Purnell 1999). A core feature of mobilization included standing guard against potential incursions by the government: "[i]t is the age of permanent assemblies, the moment in

which a whole town stands guard, night and day, men, women, children, and the elderly, in their churches. Meanwhile the pilgrimages, processions, and public displays of penitence bring many people together and become a kind of non-violent uprising that scoffs at the government's laws" (Meyer 1973, 102).[6]

Public discontent about anti-clerical policies magnified animosity caused by agrarian reforms. The parceling of large lands became highly disruptive for the traditional social organization of peasant communities, magnifying social exasperation (Sánchez Gavi 2009). The political conflict escalated quickly in 1926 following an anti-government economic boycott, Catholic teacher resignations at secular schools, and a wave of arrests and targeted assassinations of priests by the state (Meyer 1973).

By August of 1926, several Mexican states had armed uprisings. In Guadalajara, for example, Catholics entrenched in a church exchanged gunfire with government troops, resulting in 18 deaths. A day later in Sahuayo, Michoacán, over two hundred government troops stormed the town, killing its priest and vicar, while a week and a half later in Chalchihuites, Zacatecas government troops killed the local leader of the *Asociación Católica de la Juventud Mexicana* (ACJM) in an attempt to curtail pro-Catholic activities (Tuck 1982, 40). Rebel mobilization occurred swiftly. The main ACJM leader capitalized on popular discontent to mobilize what would become one of the central *Cristero* fronts (Young 2015, 55). In Guanajuato, after government troops defeated a local uprising, a retreat into the mountains allowed the group to reorganize as a guerrilla force. The uprising was particularly successful in Michoacán, which included 12,000 men, approximately 25% of the total insurgents (Meyer 1973, 17).

Rough terrain and lack of railroads for quickly mobilizing government troops favored the *Cristero*'s fighting style (Meyer 1973, 191). Initial rebel successes, staged from the *Sierra Madre* mountains, helped increase recruitment and drew concern from the United States: the American government provided arms to the Mexican government

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[6]Our translation.

and pushed for a negotiated agreement. The ultimate political settlement, reached in June 1929, allowed churches to reopen, provide religious education, and pursue legal reform. While difficult to reliably estimate the size of rebel forces, figures indicate that 50,000 combatants fought for the Catholics (Meyer 1973, 90).

Mexico had experienced several violent uprisings before, but the character of the *Cristero* rebellion was unparalleled in several ways. First, it was a mass movement driven by grassroots religious associations. The Catholic Church generally played a small role in organizing the military effort, and elites lacked the outsized role they had occupied in the Independence War. This grassroots character also had tactical implications: guerrilla warfare was paramount, in contrast to major Mexican military confrontations against the U.S. or France, and in contrast to the large armies in the Mexican Revolution. Moreover, the *Cristero* rebellion reacted against intrusive policies of the Mexican state, rather than specific rulers (e.g., Porfirio Díaz, Maximiliano I, or Victoriano Huerta), and it lacked a revolutionary or secessionist aim. Instead, communities rejected state intervention that was deeply disruptive to many communities' traditional ways of life, in which religion played a crucial role. The *Cristeros* fought to protect their communities and traditional practices, implementing tactics to shield them from external incursions. The *Cristero* movement was, in other words, parochial, in terms of its local orientation and religious connotation, thereby setting it apart from prior Mexican armed movements.

The War on Drugs and the Escalation of Violence

In December 2006, then-president Felipe Calderón launched a full-fledged offensive against drug-trafficking organizations (DTOs) in Mexico. In comparison to his predecessors, Calderón made the country-wide war on drugs the centerpiece of his administration, deploying the military in major operations against DTOs. Calderón's punitive approach played a major role in the escalation of violence between criminal groups

(Guerrero 2011*a*; Osorio 2015; Dell 2015; Lessing 2015; Duran-Martinez 2017). Punitive law enforcement disrupted transnational DTO operations, limiting their income. This increased not only violence between state actors and DTOs, but also violent competition between DTOs and DTO-led predation against host communities. External developments further escalated violence. First, Colombian interdiction efforts disrupted the Mexican cocaine market, hindering DTOs' income (Castillo, Mejía and Restrepo 2018). Second, the expiration of the U.S. assault weapons ban increased the availability of guns (Dube, Dube and Garcia-Ponce 2013). Racketeering and kidnapping grew to unprecedented levels (Guerrero 2011*b,c*).

This predatory shift transformed relationships between DTOs and their host communities. Before this escalation, drug lords were often considered benefactors by their communities, providing public goods (e.g. jobs, parties, building churches or sports facilities) in exchange for social protection and cooperation. Recent studies have revealed the extent of the social embeddedness of criminal organizations in Mexico and elsewhere (Magaloni et al. 2019; Arias 2017). Yet as a result of the government's punitive efforts, criminal organizations quickly replaced this symbiotic relationship with community predation, reinforced by exemplary violence against those refusing their terms.

Mobilization against Organized Crime in Mexico

Mexican self-defense groups emerged in at least two waves, responding to distinct sources of insecurity. The first emerged in the late 1990s, to counter common crime as well as harassment from government authorities. These groups—not precisely vigilantes, given their legal regulation under customary law—were geographically-contained, principally in Guerrero, and drew on experience garnered through communal policing and located in indigenous and agrarian communities (Gómez Durán 2012; Rea 2012; Ley and Trejo 2019). The second set mobilized in the early 2010s in response to violence and

crime perpetrated by DTOs, following the Calderón crackdown. These vigilantes had more maximalist goals, seeking to rid their communities of organized crime, to curtail extortion of local businesses, and to construct a different kind of political and social order that purged corrupt local politicians and law enforcement agents (Rea 2013). As Panel (a) in Figure 1 shows, *autodefensa* mobilization has been particularly concentrated in the states of Guerrero and Michoacán.[7] Yet similar self-defense groups mobilized in nearly *every* Mexican state, with concentrations in Jalisco, Chiapas, and Veracruz by 2012 and 2013. A heatmap of *autodefensa* prevalence appears in Panel (b) of Figure 1.

The massive surge of self-defense groups in 2013 generated ambivalent reactions of repression and support from the government, which eventually realized the advantages of collaboration. Initially, Mexican authorities repressed *autodefensas* in Michoacán but soon recognized their claims and began cooperating with them, gathering local intelligence and conducting joint patrols. After the governor of Michoacán resigned in 2014, the federal government appointed a "Commissioner for Security and Development," who served as *de-facto* governor. In this context, the government tried to regularize the disparate *autodefensa* groups by reviving an old statute of the post-revolutionary era to incorporate such groups into the Mexican Army as "Rural Defense Forces" (Sánchez-Talanquer 2018). Of the estimated 20,000 *autodefensa* members, only 3,000 or so individuals registered as *Rurales* (AFP 2014). These groups remained with unclear chains of command and operational protocols, and no regular resource transfers or salaries provided by the government (Comisión Nacional de Derechos Humanos 2016).
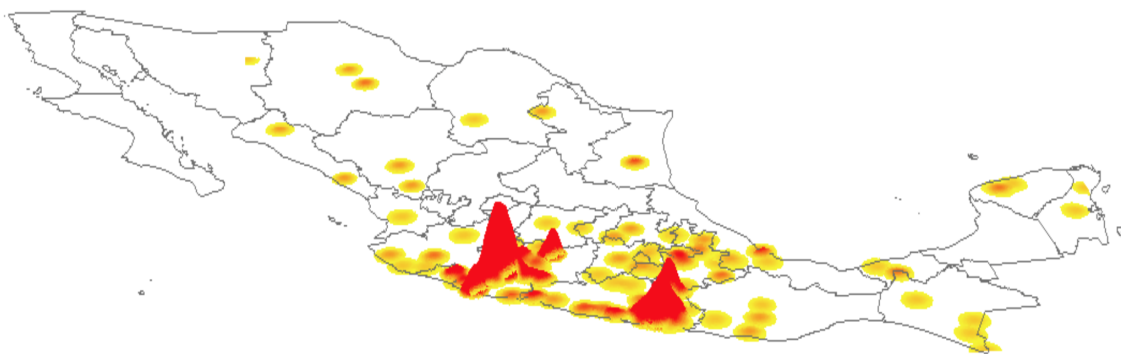
Despite their original goals and initial mobilization success, many *autodefensa* groups have since fragmented or been coopted by organized crime (García 2019; Wolff 2020).

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[7]We discuss coding procedures in the Appendix.

Figure 1: Concentration of *Autodefensas* in Mexico
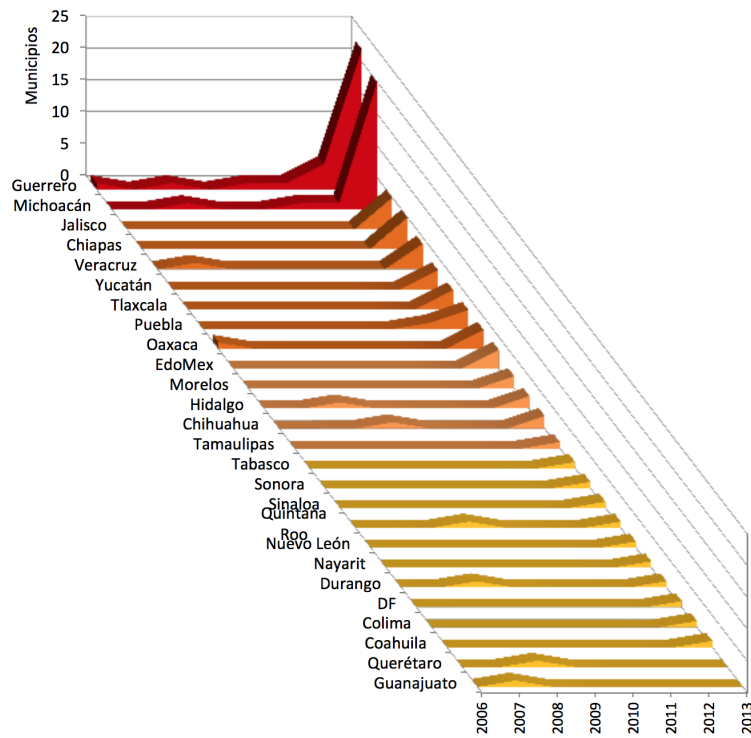
(a) Expansion of *Autodefensas* in Mexico, 2006-2013

(b) Hot-spots of *Autodefensas* in Mexico, 2006-2013

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Potential Legacies of the Cristero Rebellion

How might the *Cristero* rebellion help explain variation in contemporary mobilization of *autodefensas*? The *Cristero* uprising provided a successful experience of resistance against hostile external forces deemed disruptive to traditional social organization. At its core, the rebellion sought to maintain the religious, social, and economic *status quo* by confronting official anti-clerical policies. This experience likely generated lasting changes in local attitudes—a strong sense of self-determination, but also distrust and watchfulness towards the state and external actors—through knowledge transmission processes (Schönpflug 2008) and left imprints in patterns of collective violence in subsequent years (Meyer 2003; Guerra Manzo 2005; Santamaría 2019).

The attitudinal, social, and organizational legacies of the *Cristero* rebellion, we argue, made it easier for communities almost one century later to mobilize against organized crime. There are several indications of knowledge transmission mechanisms based on oral history connecting *Cristeros* with self-defense forces. Leaders of the *autodefensa* have made explicit reference to the *Cristero* rebellion: the autobiography of José Manuel Mireles, the most prominent leader of the *autodefensas* movement, underlined the importance of oral histories from the *Cristero* times: "[t]he following story about a bloody episode of Mexican history, the Cristero War, was told by grandpa in this way..."[8] (Mireles Valverde 2017, 32), which provided lessons learned about how to *do* mobilization. The rich Mexican folk music tradition includes several popular songs ("*corridos*") recounting the adventures of *Cristero* leaders (Ochoa Salazar 1993; INAH, 2002). Complementing these heroic tales, the Catholic Church likely provided another reliable institutional transmission belt for preserving a strong spirit of self-reliance and autonomy in communities that featured *Cristeros* (Meyer 1973; Tuck 1982). Moreover, Wolff (2020, 42) highlights, based on ethnographic research in Michoacán, how networks linked to *autodefensa* groups tended

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[8]Our translation.

to coalesce around the Catholic Church.[9]

Empirical Strategy and Data

We present two empirical approaches to estimate the effect of the *Cristeros* rebellion. First, we rely on simple OLS estimations to assess whether the *Cristero* rebellion is correlated with the presence of contemporary self-defense forces.

The main specification is:

$$Y_i = \beta Cristero_i + \delta X_i + \epsilon_{1i} \tag{1}$$

Here, Y_i represents whether a given municipality i experienced *autodefensa* mobilization in 2013, X_i is a vector of observables (we omit the intercept), ϵ_{1i} an error term, and *Cristero*$_i$ an indicator for past *Cristero* mobilization in municipality i. We include a range of historical covariates that are plausibly correlated with both the *Cristero* rebellion and subsequent dynamics of mobilization and violence. We describe these variables in the data section. Despite the inclusion of a large battery of controls, our largest concern remains unobserved confounding, such that cov $(Cristero_i, \epsilon_{1i}|X_i) \neq 0$.

In our second approach, we seek to address this challenge by relying on an instrumental variable (IV) approach. We exploit the fact that only three of thirty-eight Mexican bishops during the *Cristero* period supported what would become the *Cristero* rebellion,[10] and that residing close to a Catholic bishop who *did* support the rebellion likely increased

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[9]Describing narratives and repertoires of resistance in Michoacán, Wolff (2020) argues that indigenous self-defense leaders often invoked the Purépecha history, while the Cristero rebellion featured prominently in the mostly non-indigenous *autodefensa* leaders' mobilizing narratives.

[10]González y Valencia, archbishop of Durango, in the state of Durango; Leopoldo Lara y Torres, bishop in Tacámbaro, in the state of Michoacán; and José de Jesús Manríquez y

the probability that a municipality would rebel.

Bishops in Mexico were divided among three camps prior to the *Cristero* war: a) a majority who supported suspending mass as a protest against restrictive government measures and deferred to the Vatican on how to proceed; b) a minority who, in response to the Calles Law, believed it best to accept the restrictions imposed by President Calles and to maintain amicable dialogue with the government; and c) a minority who expressed a radical commitment to Church independence and a willingness to achieve "martyrdom" if necessary (Mutolo 2015, 165-166). Despite these divisions, the different factions sought to coordinate a unified response to the Calles Law, resulting in the decision to suspend mass as a symbolic protest against government efforts to curtail Church power. Yet the incipient armed mobilization undertaken by the LNDLR divided the priests even further: while three bishops had already spoken publicly in favor of armed revolt prior to the initiation of armed rebellion, they became increasingly vocal over time. These bishops provided political and moral support to insurgents, and eventually also supported the rebellion with access to crucial networks, money, and arms (Mutolo 2015, 176). Our approach exploits the fact that municipalities closer to a Catholic bishop who supported the rebellion were more likely to rise up. We address the relevant assumptions and potential threats to the validity of this approach below.

Our instrument, $Bishop_i$, is the distance from a municipal capital to the nearest of the three bishops who expressed support for the *Cristero* rebellion prior to the conflict's start, in kilometers (logged). In order to be a valid instrument, distance to a rebellious bishop has to be correlated with the *Cristero* rebellion: $\text{cov}(Bishop_i, Cristero_i | X_i) \neq 0$. Moreover, the instrument must not be correlated with the error term, such that $\text{cov}(Bishop_i, \epsilon_{1i} | X_i) = 0$.

Omitting again the intercept, the impact of the instrument on the "treatment" is

Zárate, bishop in Huejutla, in the state of Hidalgo.

assessed in the first stage as:

$$Cristero_i = \mu Bishop_i + \varphi X_i + \epsilon_{2i} \tag{2}$$

where $Cristero_i$ again represents whether a municipality i experienced the $Cristero$ rebellion in the 1920s, and $Bishop_i$ denotes the distance to the closest rebellious bishop prior to the start of the armed $Cristero$ campaign. The reduced form can be written as:

$$Y_i = \alpha Bishop_i + \eta X_i + \epsilon_{3i} \tag{3}$$

Finally, the second stage is obtained by replacing the endogenous regressor in (1) with the fitted values from the first stage (2):

$$Y_i = \gamma \hat{Cristero_i} + \rho X_i + \epsilon_{4i} \tag{4}$$

The covariates, captured in the X term, are consistent across equations.

For the IV approach to give valid estimates of the local average treatment effect, several assumptions must be met, not all of which are directly testable (Angrist, Imbens and Rubin 1996; Sovey and Green 2011; Keele and Minozzi 2013). First, as mentioned above, the instrument must be *relevant*, meaning that the bishops instrument has to be correlated with the *Cristero* mobilization. The relevance of the instrument can be assessed empirically in the first-stage relationship. As we show below, the relevance of our instrument is high and robust. Second, the assumption of *independence* requires the instrument to be "as-if" randomly assigned (Dunning 2012), or at least conditionally independent (Sovey and Green 2011). As our instrument is non-randomly assigned, and because we are able to control for a large number of covariates, we invoke the conditional independence assumption. Third, the instrument must meet the *exclusion restriction*, which is met if the distance to the nearest rebellious bishop has no effect on

contemporary *autodefensa* mobilization other than through the channel of the *Cristero* rebellion (Sovey and Green 2011).

We consider the conditional independence and exclusion restriction assumptions to be plausible for a few reasons. While bishop assignment is not random, and theoretically the Catholic Church may have sent particularly extreme, rebellious bishops to places where there was an increased likelihood of the Church successfully mobilizing against state authority, a number of facts speak against this explanation. Following the First Vatican Council in 1870, the Papacy sought to centralize authority, in response to perceived threats to its authority shroud in liberalism, secularism, and communism (Wright-Rios 2009). This meant increased control *from Rome* over the assignments of cardinals, archbishops, and even bishops. Attempts to remove local discretion over appointments were codified in the Church's 1917 Code of Canon Law, which synthesized and streamlined individual clergy rules and regulations, including those pertaining to "the law of persons" that established clear guidelines for clergy, religious people, and laity. The Pope would now exercise freedom to name *all* bishops throughout the world (Meyer 2005, 4). This centralization of the naming of bishops undercuts the likelihood that bishops were sent purposefully by Mexican Church officials to challenge the government in locations ripe for religious conflict, given that the Pope and others in Rome likely were not sufficiently well-versed on the particular social and political dynamics in Mexico at very local levels. Indeed, the naming of the three rebellious bishops had occurred years prior to the initiation of the *Cristero* rebellion.[11] The fact that the distribution of bishops' and priests'

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[11]González y Valencia was named archbishop of Durango by the Pope in 1924, and spent 1926 and 1927 as representative of Mexican bishops to the Vatican; Leopoldo Lara y Torres was named by Pope Benedicto XV as the first bishop of Tacámbaro in 1920, after having presided over a parish in Celaya, Guanajuato; and José de Jesús Manríquez was named the first bishop in the new diocesis of Huejutla in 1922. Manríquez and González were friends from seminary and stayed in close contact even as González

ideologies across space is plausibly exogenous to local dynamics has been leveraged in other contexts to study how resistance to dictatorships affects state repression (Edwards 2020) and the conditions under which opposition groups are able to organize against repressive regimes (Amat 2020).

Another reason to doubt this explanation is that the Catholic Church in Mexico in the years prior to the *Cristero* rebellion sought institutionally to *distance* itself from political fights with the Mexican state. Following a set of highly destructive struggles against liberal reformers in the late 1800s, which eviscerated much of the Church's political and economic clout in Mexico, the Church was dealt a stinging blow during the Mexican Revolution when it supported the reactionary and later-defeated Huerta regime (Wright-Rios 2009). This support increased acrimony towards the Church and contributed to the anti-Catholic measures enshrined in the 1917 constitution by the victorious revolutionary government, the enforcement of which by Calles would later ignite the *Cristero* rebellion (Andes 2016). In short, the Church had become risk-adverse when confronting Mexican state authority.

Moreover, we do not expect that the pro-*Cristero* bishops had a longer term effect on, or that their presence was correlated with unmeasured causes of, autodefensa mobilization. By 1927, the Mexican government had engaged in widespread expulsions of Catholic bishops, regardless of their political orientation, over and beyond the three rebellious bishops (Meyer 1973). Of the three pro-*Cristero* bishops, one was expelled by the Mexican government, one fled Mexico due to personal threats, and the third went into hiding prior to the *Cristero* rebellion (Bailey 1974). Two of the three rebellious bishops died in the ten years following the *Cristero* rebellion, and another did not return to Mexico until 1944 (Mutolo 2005), making it unlikely that they continued to have an effect on promoting communal organizational activity once the rebellion ended.

Is it possible that rebellious communities influenced the bishops' views towards the

went to Rome following his expulsion from Mexico in 1927 (Mutolo 2005).

conflict, rather than the other way around? This cannot *a priori* be ruled out. However, in addition to our ability to control for a wide variety of covariates, historical evidence does not seem to support this interpretation. The three rebellious bishops had expressed antipathy towards the government's efforts to undermine the Church before communal resistance emerged. José de Jesús Manríquez, for example, denounced the Calles Laws in 1925, despite general indifference to these actions in his home region prior to aggressive government efforts to implement them (Mutolo 2005). González y Valencia, despite serving as bishop in Durango, was living in Rome between 1926 and 1927, that crucial period when government actions fomented grassroots resistance and local populations became increasingly radicalized (Barquín et al. 1967); his positions on the Calles Laws were already known when he was named to serve as representative of the Mexican bishops to the Vatican in 1925, to begin in 1926. While political and financial support from his perch at the Vatican would ultimately provide symbolic and financial support for the *Cristeros* in his home territory of Durango and surrounding areas, it is unlikely that the local population would have helped radicalize him prior to the period of polarization in the run-up to the conflict. Leopoldo Lara y Torres was the only of the three rebellious bishops to remain in Mexico, in hiding, during the *Cristero* war; his early response to the Calles Law via a public letter to President Calles in March 1926 hearkened back to his support for the bishops' protest in 1917, at the moment of the Calles Law's passage nearly ten years before the conflict (Lara et al. 1954).

In short, while it is impossible to prove the validity of our core assumptions — conditional independence and exclusion restriction — in a definite way, the qualitative evidence does not seem to support a bottom-up mechanism, and we are able to control for an extensive set of community characteristics. Nor does it seem likely that the rebellious bishops had a lasting effect beyond the *Cristero* uprising. Nevertheless, we recognize that we cannot conclusively dismiss these possibilities.

The fourth assumption, *monotonicity*, implies that there were no "defier" communities

that, in response to being closer to bishops favorable to the rebellion, were *less* likely to engage in the *Cristero* rebellion as a result (Angrist, Imbens and Rubin 1996).

Finally, the stable unit treatment value assumption (SUTVA) must hold, implying that the treatment of one unit has no effect on other units (Sovey and Green 2011). As in most social scientific research, this assumption is potentially problematic. Moreover, two-stage least squares (2SLS) is biased in the presence of unmodeled interdependence (Betz, Cook and Hollenbach 2019), even if the instrument is randomly assigned. Thus, while we cannot rule out all sources of SUTVA violations, it is crucial to account for spatial interdependence: Below we report results a from spatial two-stage least squares (S2SLS) approach in addition to approaches not accounting for spatial interdependence. In the S2SLS we (a) instrument for the endogenous predictor (*Cristeros*) using distance to the closest rebellious bishop; (b) do not restrict the spatial effect to be zero so we can estimate the magnitude of the spatial autocorrelation in the spatial lag and the error terms; and (c) use a spatial heteroskedasticity and autocorrelation consistent estimator that generates a matrix of spatial instruments from the exogenous variables to address potential endogeneity introduced by the spatial interdependence of the outcome (Betz, Cook and Hollenbach 2019; Kelejian and Prucha 2007; Piras 2010).

Data

Our dependent variable, *Autodefensas*, is coded dichotomously taking the value of 1 when the media reported vigilante group presence at the municipal level in 2013, and 0 otherwise. To build this variable, we used Eventus ID, a computerized protocol for event coding from news reports written in Spanish (Osorio and Reyes 2017). To minimize concerns of coverage bias from individual newspapers (Davenport and Ball 2002; Davenport 2009), we gathered daily reports from five Mexican newspapers[12] between

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[12]*La Jornada*, *El Sol de México*, *Milenio*, *Reforma*, and *El Universal*.

January 1st and December 31st of 2013. As Panel (a) in Figure 1 shows, 2013 marked an unprecedented surge of *autodefensas*. By focusing on *autodefensa* mobilization in 2013, we are able to distinguish between this earlier wave of more locally-generated, autonomous mobilization from the involvement of government and criminal groups in *autodefensa* activity in 2014 and subsequent years.

Eventus ID is a supervised coding protocol that relies on dictionaries of actors and toponyms to identify actors' presence in specific locations as mentioned in news stories. A similar approach has been used to geo-locate the violent presence of armed actors elsewhere (Osorio et al. 2019). To build the actors dictionary, we relied on our knowledge of the *autodefensas* movement and complemented it with Named Entity Recognition software (The Stanford Natural Language Processing Group 2014), which helped identify additional *autodefensa* groups. The locations dictionary relies on an exhaustive catalog of location names from the Mexican Census Authority (Instituto Nacional de Estadística y Geografía 2011). Applying this coding protocol[13] allowed us to process vast volumes of text and identify the presence of self-defense forces in 229 municipalities; most were geographically concentrated in the states of Michoacán (22.7%) and Guerrero (19.2%), while the rest are distributed across other states.

The main independent variable is *Cristero Brigades*, a dummy taking a value of 1 for municipalities that had the presence of *Cristero* brigades fighting in 1929, and 0 otherwise. To code this variable, we digitized and geo-referenced military maps of the *Cristero* rebellion presented by Meyer (1973, 12), the most authoritative work on the topic. Figure 2 displays the geographic distribution of this variable. The Appendix shows the robustness of our results using a different map of *Cristero* activity, to code the variable *Cristeros*, which provides a more aggregated measure of the same phenomenon.

As mentioned above, our instrumental variable *Distance to pro-Cristero Bishop* is the distance to the closest of the three rebellious bishops, measured in kilometers. We coded

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[13]See the Appendix for details.

Figure 2: Location of Cristero Brigades in 1929

individual bishop data using in-depth historical accounts from Mutolo (2005, 2015).

We include a range of historical covariates. For a more elaborate description of many of these covariates, see Osorio, Schubiger and Weintraub (2018*a*) where we present some of these data for the first time. The baseline specification considers a set of covariates related to infrastructure, prior armed campaigns, and geography. Other specifications additionally include information on socio-demographics of the early 20th century, as well as various colonial and pre-colonial characteristics.

Covariates related to infrastructure capture the state's historical ability to project power. *Railways* takes the value of 1 if a municipality included a railroad line in 1919, and zero otherwise.[14] *Telegraphs*, is a dichotomous variable measuring whether a given mu-

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[14]The Mexican Army could only deploy troops to areas well-connected by Mexico's limited railroad network (Meyer 1973), hindering its actions.

nicipality had a telegraph line in 1919.[15] Both variables are based on maps provided by Great Britain's Naval Intelligence Division that we digitized and geo-referenced (*A Handbook of Mexico* 1919). We also take into account episodes of violence, both insurrections and foreign invasions, that took place before the *Cristero* war. Four dummy variables indicate the municipalities where the main Mexican independence campaigns took place between 1810 and 1821: *Hidalgo and Allende insurgency* (1810-1811), *Morelos insurgency* (1810-1815), *Mina insurgency* (1817), and *Guerrero insurgency* (1816-1821). The maps for these data come from García de Miranda and Falcón de Gyves (1972). *French intervention* codes municipalities with operations of the French Army, the Imperialist Mexican Army, and the Republican Army during the French Intervention (1862-1867). We also used maps from García de Miranda and Falcón de Gyves (1972) to generate these data. *Rurales* indicates whether a given municipality had a rural police force in 1910, during the rule of Porfirio Díaz.[16] To code this variable, we digitized and geo-referenced maps from Vanderwood (1992, 123).

The analysis also considers geographic variables. *Elevation* indicates the altitude of each municipality, measured in meters above average sea level, serving as a proxy for rough terrain. *Distance to the state capital* measures a municipality's distance to the capital of its corresponding state. Both measures are logged. Not all geographic regions in Mexico offer equally fertile grounds for cross-border activities such as trafficking, which is relevant as it might be correlated both with historical armed uprisings and subsequent dynamics of violence and crime. *Gulf* and *Pacific* represent areas favorable to shipments arriving from South America and take the value of 1 for the three adjacent municipalities located along the Gulf of Mexico or the Pacific coast, and 0 otherwise. *North* indicates the belt of municipalities located along the Mexico–U.S. border; during the pre-*Cristero* period these municipalities were shaped heavily by cross-border trade, and were also

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[15]Telegraph lines located along railway lines are excluded.

[16]Rurales provided important policing functions (Sánchez-Talanquer 2018).

affected by the Mexico–United States Border War (1910-1919) and the "Pancho Villa Expedition" (1916-1917). We generated these variables using GIS data from INEGI (2011).

In addition to the basic covariates, we include socio-demographic controls, as well as colonial and pre-colonial characteristics. We rely on the 1930 Mexican Census (Instituto Nacional de Estadística y Geografía 1930), which includes data on *population density*, the percentage of *rural population*, *Catholic population*, as well as *illiterate population* as measured in 1921. We also include the number of federal *government officials* and the number of *police officers* per 10,000 inhabitants in 1928. Moreover, we add a measure of the average number of *members per workers' unions* in 1919, and the percentage of the *area dedicated to agricultural activities* in 1927. These variables are measured at the state level.

We further include a set of characteristics related to the Spanish Colony. *Localities XVI* indicates the number of settlements present in a municipality in the 16th century, from a set of maps by Cook and Simpson (1948), which we digitized and geo-referenced. We also consider religious settlements, measured by the number of *Franciscan*, *Dominican*, *Augustinian*, and *Jesuit* missions at the municipal level using data from Waldinger (2017).

Finally, to capture pre-colonial characteristics, we digitized a map produced by Mexico's *Instituto Nacional de Antropología e Historia* (INAH) indicating the location of archaeological zones (INAH 2013). We also include data on the Triple Alliance, a military alliance of city-states (México-Tenochtitlán, Texcoco, and Tlacopan) in the 15th and 16th century, as well as the location of the Chichimeca culture—a nomadic group known for fiercely resisting Spanish invasions in the 16th century (Gradie 1994)—using data from Waldinger (2017). Table A1 in the Appendix provides descriptive statistics for all variables.

Results

We begin with a linear probability model (OLS) applied to all Mexican municipalities where the 2013 *autodefensa* mobilization (0/1) is the outcome variable and the municipal presence of *Cristero* brigades in the early 20th century the main predictor. While we prefer OLS over logistic regression (Angrist and Pischke 2009), our results are nearly identical using a logit estimator.[17]

Model 1 in Table 1 provides results from a bivariate regression.[18] Models 2-5 progressively include more controls: Model 2 introduces the basic covariates (infrastructure, prior armed campaigns, and geography), Model 3 the sociodemographic variables, Model 4 colonial characteristics, and Model 5 pre-colonial variables. The results of the full specification (Model 5) indicate that municipalities with a history of engagement in the *Cristero* rebellion have a 6.6 percentage point higher probability of rising up against organized crime in the contemporary period. This is remarkable, given that the average probability of *autodefensa* mobilization is 9%.

Figure 3 offers an overview of the results of the *Cristero Brigades* variable across Table 1, with 90% confidence intervals marked with a thick line, and 95% confidence intervals with a thin line. The graph shows that the effect of the *Cristero* rebellion on autodefensas is highly consistent across the five model specifications.

One concern regarding the relationship between *Cristeros* and *autodefensas* is the spatial clustering of municipalities engaged in the *Cristero* rebellion. To mitigate the concern of spatial interdependence driving our results, we use a spatial lag model to take into consideration the geographic proximity of *autodefensa* groups. For space considerations, we present the results in Table A4 in the Appendix. The spatial lag approach replicates the procedure of accumulating sets of covariates prior to reaching the full model spec-

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[17]See Table A2 in the Appendix.

[18]See Table A3 for full results with coefficients reported for control variables.

Table 1: Cristero Rebellion and Autodefensas (OLS)

Model	(1)	(2)	(3)	(4)	(5)
Cristero Brigades	0.081***	0.065***	0.067***	0.059***	0.066***
	(0.016)	(0.016)	(0.018)	(0.018)	(0.018)
Infrastructure	No	Yes	Yes	Yes	Yes
Armed campaigns	No	Yes	Yes	Yes	Yes
Geography	No	Yes	Yes	Yes	Yes
Socio-demogr.	No	No	Yes	Yes	Yes
Colonial	No	No	No	Yes	Yes
Pre-colonial	No	No	No	No	Yes
Constant	0.073***	0.167**	0.370***	0.360***	0.363***
	(0.006)	(0.070)	(0.136)	(0.136)	(0.138)
Observations	2,456	2,456	2,456	2,456	2,456

+ p<0.10 * p<0.05 ** p<0.01 *** p<0.001. Robust standard errors in parentheses.
Infrastructure: Railways and telegraphs.
Armed campaigns: Rurales, insurgencies of Morelos, Mina, Hidalgo,
and Guerrero, and French invasion.
Geography: Elevation, distance to state capital, Gulf, North, and Pacific.
Socio-demographics: Population density, rural population, Catholics, illiteracy rate,
government officials, police officers, agricultural area, and members per union.
Colonial: Localities in XVI Century, Franciscan, Dominican, Augustinian,
and Jesuit missions.
Pre-colonial: Archaeological zone, Triple alliance, and Chichimecas.

Figure 3: Cristero Rebellion and Autodefensas
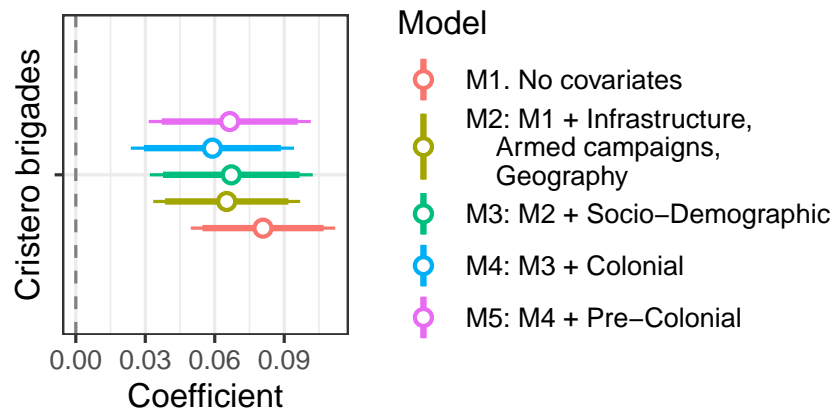
OLS estimates with 90% and 95% confidence intervals

ification, while considering the spatial autocorrelation of autodefensas in neighboring municipalities. The *Cristero* Brigades variable remains significant, and the full specification indicates a 5.7 percentage points increased probability of *autodefenss* mobilization.

Table 2 presents the results of a 2SLS approach using *Distance to Pro-Cristero Bishops* as the instrument. The first stage shows that municipalities closer to Pro-*Cristero* bishops are more likely to have *Cristero* Brigades; the Kleibergen-Paap rank Wald F-statistic indicates that the instrument is strong. In line with theoretical expectations, the second stage shows that *Cristero* mobilization (instrumented) significantly increases the propensity of contemporary *autodefensas* resisting criminal organizations. Finally, the reduced form results indicate that the instrument is negatively correlated with the outcome, as expected.

Table 2: Cristero Rebellion and Autodefensas (2SLS)

	First stage	Second stage	Reduced form
Dependent Variable:	Brigades	Autodefensas	Autodefensas
Model:	(1)	(2)	(3)
Distance to Pro-Cristero Bishop	-0.044^{***}		-0.016^{***}
	(0.004)		(0.004)
Cristero Brigades		0.359^{***}	
		(0.087)	
Infrastructure	Yes	Yes	Yes
Armed campaigns	Yes	Yes	Yes
Geography	Yes	Yes	Yes
Socio-demographics	Yes	Yes	Yes
Colonial	Yes	Yes	Yes
Pre-colonial	Yes	Yes	Yes
Constant	0.754^{***}	0.189	0.460^{***}
	(0.138)	(0.150)	(0.139)
Kleibergen-Paap rank Wald F statistic	136.66		
Observations	2,456	2,456	2,456

+ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Robust standard errors in parentheses.
See details about control variables in Table 1.

Finally, we use a spatial instrumental variables model that takes into account spatial autocorrelation both in the dependent variable and the error terms. Table 3 reports the results from the full specification with all controls. The first stage shows, again, that

localities closer to pro-*Cristero* bishops have a higher propensity of experiencing *Cristero* Brigade activity than municipalities further away. The second stage results indicate that *Cristero* mobilization (instrumented) significantly increases the probability of contemporary *autodefensa* presence, even after taking into account spatial autocorrelation. The reduced form results remain in line with our expectations as well.[19]

Table 3: Cristero Rebellion and Autodefensas (S2SLS)

	First stage	Second stage	Reduced form
Dependent Variable:	Brigades	Autodefensas	Autodefensas
Model:	(1)	(2)	(3)
Distance to pro-Cristero bishop	-0.039***		-0.011**
	(0.004)		(0.003)
Cristero brigades		0.192***	
		(0.045)	
Infrastructure	Yes	Yes	Yes
Armed campaigns	Yes	Yes	Yes
Geography	Yes	Yes	Yes
Socio-demographics	Yes	Yes	Yes
Colonial	Yes	Yes	Yes
Pre-colonial	Yes	Yes	Yes
Constant	0.629 ***	0.055 0	0.153 0
	(0.142)	(0.127)	(0.134)
λ	0.582***	1.182***	1.226***
	(0.134)	(0.143)	(0.156)
ρ	0.147	-0.690***	-0.541***
	(0.095)	(0.127)	(0.124)
Observations	2,456	2,456	2,456

+ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Robust standard errors in parentheses.
See details about control variables in Table 1.

Finally, as an additional robustness check, we consider an alternative measure of the *Cristero* variable, which implies a broader area associated with the *Cristeros*' presence, using data from Meyer (1973) (see Figure A1 in the Appendix). The results remain stable from the basic specification to the full model (see Table A9 in the Appendix). The estimate for the alternative *Cristeros* measure in the full model is smaller than the *Cristero* Brigade measure (3.4 percentage points), yet is still positive and significant.

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[19]Table A8 presents the Akaike Information Criterion (AIC) for the different models used in this study.

Alternative Explanations

Next, we consider alternative explanations for our findings. We explore correlations between our independent variable and several outcomes to tentatively evaluate competing claims. First, in keeping with the argument made by Phillips (2017) that inequality produces self-defense forces, the effect of *Cristeros* on self-defense formation may run through inequality. That is, the temporally distant *Cristero* rebellion may be associated with increased economic inequality over the long-term, which in turn may have increased the probability of a municipality mobilizing self-defense forces. To evaluate this possibility, we test whether, after controlling for the full set of control variables, the *Cristero* rebellion is associated with increased inequality at the municipal level in the contemporary period, using data from Phillips (2017). As the results in column 1 of Table A7 in the Appendix demonstrate, we do not find this to be the case: the presence of *Cristero* Brigades does *not* predict contemporary inequality.

Second, the *Cristero* rebellion may simply be positively correlated with crime in the long run, thus explaining higher levels of *autodefensa* mobilization against crime in formerly-*Cristero* areas. We assess this possibility by analyzing the effect of *Cristero* Brigades on the total number of crimes in 2013 with data from Mexico's *Sistema Nacional de Seguridad Pública* (SNSP 2015). We find no evidence that this is the case. As column 2 of Table A7 in the Appendix shows, after controlling for the full battery of controls, areas affected by the *Cristero* rebellion are neither more nor less violent in the contemporary period when compared to areas not affected by the *Cristeros*.

Following this line of thought, it may be the case that municipalities where the *Cristeros* were active are more severely affected by the presence of DTOs than other regions, which increased the *demand* for self-defense. To evaluate this possibility, we consider the total number of DTOs active in a municipality in 2010 with data from Osorio (2015). The lack of statistical significance in column 3 of Table A7 in the Appendix indicates that, after controlling for a rich set of confounders, the presence of *Cristero* Brigades is not

associated with higher levels of contemporary DTOs.

In the Appendix we perform parallel exercises to test these alternative explanations using a spatial lag, 2SLS, and S2SLS models, and using our two different measures of the Cristero rebellion. We find inconclusive evidence to either support or refute these alternative explanations. A summary of these additional results can be found in Table A10 and in our replication files.

Conclusion

Organized violence profoundly reshapes social networks and institutions (Wood 2008), often in lasting ways, both in civil wars and areas deeply affected by organized crime. We contribute to the research program on the legacies of violence by showing, for the case of anti-crime mobilization in Mexico, that where residual mobilizational resources from past collective action can be harnessed, armed resistance to urgent threats is more likely to emerge.

Future research can proceed along a number of parallel tracks. First, it is crucial to identify what types of armed mobilization are most likely to produce the kinds of long-lasting effects we describe. As stressed in the theory section, we should not expect all armed mobilizations to be "created equal": some likely have long-lasting effects while others do not. In the Mexican case, our contribution has focused on the legacy of the Cristero rebellion, both for theoretical reasons and since an isolation of the causal effect of other insurgencies was beyond the scope our empirical strategy. However, future work should more closely consider the legacy of other historical events. Likewise, it is important to study violent *and* non-violent forms of collective action side-by-side. We know little about the historical legacies of non-violent community protection strategies, so future work should push in this direction. Second, while our empirical strategy aimed to address core threats to causal inference, future research could scrutinize the

validity of the underlying assumptions of our approach in further depth. Third, the theorized causal mechanisms, and additional mechanisms suggested by the civil war and organized crime literature, ought to be tested empirically, both for the Mexican case and other contexts of widespread organized criminality (Kalyvas 2015; Barnes 2017). Teasing out additional observable implications to be tested quantitatively will also help evaluate the relative weight we should assign to different theoretical wagers. Finally, continuing to refine our theoretical mechanisms while establishing scope conditions for historical legacies' impacts on contemporary outcomes will help advance our understanding of substantively important processes and events.

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Appendix

Coding Autodefensas using Eventus ID

This section discusses in more detail the procedure used to generate the dependent variable. The measure of Autodefensas is coded as a dummy variable taking the value of 1 when there are indications of self-defense forces operating in a given municipality in a given year, as reported by local newspapers, and zero otherwise. To identify the presence of Autodefensas, we relied on Eventus ID (Osorio and Reyes 2017), a supervised event coding software capable of processing text written in Spanish.

To gather information about Autodefensa activity, we focused on Mexican media and reviewed the content of five national newspapers: *La Jornada, El Sol de México, Milenio, Reforma,* and *El Universal* in 2013. These five newspapers cover the full ideological spectrum of Mexican media, thus minimizing problems of ideological coverage bias. In addition, using multiple sources helps to ameliorate concerns of under-reporting that might emerge from considering a single newspaper (see Davenport and Ball 2002).

To gather news stories we used EMIS, a proprietary collection of newspapers. Using EMIS' internal search engine, we ran the following query to identify relevant news stories:

```
("policia comunitaria" OR "policias comunitarias" OR autodefensa OR autodefensas
OR "grupo de autodefensa" OR "grupos de autodefensa" OR "grupos de autodefen-
sas" OR "autodefensa comunitaria" OR "autodefensas comunitarias" OR "sistema de
justicia y seguridad comunitaria" OR "Union de Pueblos Organizados del Estado
de Guerrero" OR UPOEG OR "Coordinadora Regional de Autoridades Comunitarias" OR
"Coordinadora Regional de Autoridades Comunitarias-Policia Comunitaria" OR CRAC
OR "Union de Pueblos de la Costa Grande" OR UPCG OR "Coordinadora Regional de
Seguridad y Justicia-Policia Ciudadana y Popular" OR CRSJ-PCP OR "Policia Ciu-
dadana de Olinala" OR PCO-CRAC OR "Movimiento Aplaxtlense Adrian Castrejon" OR
MAAC OR "Consejo de Autodefensas de Michoacan") NOT (enfermedad OR enfermo* OR
epidemia OR Colombi* OR Guatemal* OR Chile OR "Centro America" OR "Centro Ameri-
cano" OR "Centro Americanos" OR "defensa personal" OR "en defensa personal")
```

In order to maximize the validity of the news stories, we relied on human coders

to select specific news stories relevant to the study. Research Assistants (RAs) were instructed to read the headline and lead of each news story and select only those directly related to autodefensa activities. We also paced particular emphasis on selecting only narratives pertaining factual events ("things that happened"), not opinions or declarations about events ("statements about what happened"). There was also particular attention to avoiding duplicate news stories. The resulting selection procedure yielded a total of 595 individual news reports on Autodefensas in 2013. This collection of news stories was then used to generate a corpus for event coding.

The supervised character of Eventus ID requires researchers to develop dictionaries that are used as search criteria for event coding. In this particular study, we were only interested on identifying the geographic location of self-defense forces, and not their full behavior. Therefore, instead of coding the full set of event characteristics depicting who (`<source actor>`) did what (`<action>`) to whom (`<target actor>`), where (`<location>`) and when (`<date>`), we only focus on identifying source actors and their locations. To do so, the event coding protocol only relied on dictionaries of actors and locations.

The actors dictionary contains an exhaustive list of 114 names and acronyms of different self-defense organizations such as "Autodefensa Civil Armada," "Consejo de Autodefensas Unidas," or "Policía Comunitaria Indigena," among others. The locations dictionary comprises a list of 120 state names and their acronyms, as well as a comprehensive list of 3,025 names of municipalities and cities. In this way, the location dictionaries provide an exhaustive search criteria to identify toponyms mentioned in the corpus. Finally, in order to facilitate geographic disambiguation, the geo-tagging protocol includes a filter of locations containing 347 nouns that prevent false positives.

The event coding replication materials will be available online upon the publication of the article.

Variable	Mean	Std. Dev.	Min.	Max.	N
Autodefensas	0.09	0.29	0	1	2,456
Cristero Brigades	0.25	0.43	0	1	2,456
Cristeros	0.49	0.50	0	1	2,456
Distance to pro-Cristero Bishop	3.89	2.50	0	15.34	2,456
Railways	0.34	0.47	0	1	2,456
Telegraphs	0.40	0.49	0	1	2,456
Distance to state capital	11.10	1.52	0	13.17	2,456
Elevation	5.63	2.98	0	8.43	2,456
Distance to railroad	35.18	41.36	0.01	260.74	2,456
Gulf	0.11	0.32	0	1	2,456
North	0.05	0.23	0	1	2,456
Pacific	0.15	0.35	0	1	2,456
Rurales	0.28	0.45	0	1	2,456
Morelos insurg.	0.03	0.17	0	1	2,456
Mina insurg.	0.01	0.08	0	1	2,456
Hidalgo insurg.	0.02	0.13	0	1	2,456
Guerrero insurg.	0.01	0.11	0	1	2,456
French invasion	0.03	0.18	0	1	2,456
Pop. density 1921	18.96	49.26	0.22	610.96	2,456
Rural pop. 1921	0.80	0.12	0.09	1.00	2,456
Catholic pop. 1921	0.96	0.08	0.10	1.00	2,456
Agricultural area 1928	5.63	5.86	0.02	27.92	2,456
Federal employees 1929	23.08	36.51	0.00	559.00	2,456
Police oficers 1929	8.97	8.00	0.70	89.37	2,456
Iliteracy rate 1929	69.79	12.75	24.09	81.38	2,456
Members per union 1929	167.09	103.82	45.50	786.33	2,456
Localities XVI Century	0.25	0.43	0	1	2,456
Franciscan mission	1.98	5.90	0	68	2,456
Dominican mission	0.79	3.78	0	71	2,456
Augustine mission	0.66	3.76	0	93	2,456
Jesuit mission	0.52	3.84	0	66	2,456
Archeological zone	0.05	0.22	0	1	2,456
Triple Alliance	10.63	26.08	0	318	2,456
Chichimeca	9.72	38.48	0	694	2,456

Table A1: Summary Statistics

Table A2: Cristero Rebellion and Autodefensa Mobilization (Logistic Regression)

Model	(1)	(2)	(3)	(4)	(5)
Cristero Brigades	0.834***	0.751***	0.697***	0.597***	0.655***
	(0.144)	(0.169)	(0.205)	(0.206)	(0.207)
Railways		0.183	0.212	0.204	0.242
		(0.184)	(0.198)	(0.199)	(0.197)
Telegraphs		0.316**	0.264*	0.242	0.253
		(0.156)	(0.160)	(0.161)	(0.162)
Rurales		0.264	0.241	0.228	0.243
		(0.167)	(0.171)	(0.170)	(0.170)
Morelos insurg.		1.332***	1.197***	1.121***	1.045***
		(0.273)	(0.306)	(0.309)	(0.328)
Mina insurg.		−0.045	0.0001	0.081	0.671
		(0.972)	(0.970)	(0.980)	(0.996)
Hidalgo insurg.		0.482	0.636	0.495	0.648
		(0.475)	(0.504)	(0.519)	(0.509)
Guerrero insurg.		0.817*	0.533	0.467	0.426
		(0.467)	(0.490)	(0.490)	(0.484)
French invasion		0.204	0.166	0.137	0.156
		(0.376)	(0.390)	(0.399)	(0.419)
Distance to state capital		−0.114***	−0.112**	−0.113**	−0.124**
		(0.040)	(0.047)	(0.047)	(0.050)
Elevation		0.069**	0.079**	0.075**	0.075**
		(0.031)	(0.033)	(0.033)	(0.033)
Distance to railroad		0.004**	0.001	0.002	0.002
		(0.002)	(0.002)	(0.002)	(0.002)
Gulf		0.225	0.286	0.186	−0.092
		(0.277)	(0.400)	(0.404)	(0.438)
North		0.223	0.953**	0.968**	1.095**
		(0.348)	(0.428)	(0.443)	(0.464)
Pacific		0.993***	0.943***	0.929***	0.974***
		(0.178)	(0.200)	(0.206)	(0.210)
Pop. density 1921			0.014***	0.012***	0.009***
			(0.003)	(0.003)	(0.003)
Rural pop. 1921			−7.399***	−6.753***	−7.650***
			(1.822)	(1.830)	(1.933)
Catholic pop. 1921			1.759	0.884	1.250
			(1.667)	(1.711)	(1.752)
Agricultural area 1928			−0.055***	−0.050***	−0.036*
			(0.018)	(0.018)	(0.019)
Federal employees 1929			0.033***	0.028***	0.026***
			(0.006)	(0.006)	(0.007)
Police oficers 1929			−0.150***	−0.119***	−0.097***
			(0.033)	(0.034)	(0.035)
Iliteracy rate 1929			0.032***	0.035***	0.040***
			(0.010)	(0.011)	(0.011)
Members per union 1929			−0.005***	−0.005***	−0.005***
			(0.002)	(0.002)	(0.002)
Localities XVI Century				0.360**	0.257
				(0.171)	(0.172)
Franciscan mission				0.013	0.012
				(0.011)	(0.011)
Dominican mission				−0.118	−0.113
				(0.088)	(0.084)
Augustine mission				0.005	0.006
				(0.015)	(0.016)
Jesuit mission				−0.026	−0.022
				(0.022)	(0.021)
Archeological zone					0.192
					(0.321)
Triple Alliance					0.007**
					(0.003)
Chichimeca					−0.007**
					(0.003)
Constant	−2.536***	−2.451***	0.925	0.938	0.830
	(0.089)	(0.514)	(1.599)	(1.637)	(1.700)
Observations	2,456	2,456	2,456	2,456	2,456

+ p<0.10 * p<0.05 ** p<0.01 *** p<0.001. Robust standard errors in parentheses.

Table A3: OLS main results from Table 1 - Full Results

Model	(1)	(2)	(3)	(4)	(5)
Cristero Brigades	0.081***	0.065***	0.067***	0.059***	0.066***
	(0.016)	(0.016)	(0.018)	(0.018)	(0.018)
Railways		0.013	0.012	0.015	0.018
		(0.014)	(0.014)	(0.014)	(0.014)
Telegraphs		0.026**	0.024*	0.022*	0.022*
		(0.013)	(0.013)	(0.012)	(0.012)
Rurales		0.017	0.014	0.015	0.015
		(0.014)	(0.014)	(0.014)	(0.014)
Morelos insurg.		0.222***	0.206***	0.196***	0.184***
		(0.054)	(0.054)	(0.053)	(0.053)
Mina insurg.		0.002	−0.0003	0.012	0.051
		(0.093)	(0.091)	(0.091)	(0.095)
Hidalgo insurg.		0.063	0.081	0.071	0.082
		(0.059)	(0.060)	(0.060)	(0.060)
Guerrero insurg.		0.176**	0.154*	0.148*	0.141*
		(0.089)	(0.087)	(0.087)	(0.085)
French invasion		0.026	0.029	0.027	0.023
		(0.040)	(0.039)	(0.039)	(0.040)
Distance to state capital		−0.016**	−0.015**	−0.015**	−0.016**
		(0.006)	(0.006)	(0.006)	(0.006)
Elevation		0.004**	0.005***	0.005**	0.004**
		(0.002)	(0.002)	(0.002)	(0.002)
Distance to railroad		0.0004**	0.0002	0.0003	0.0003*
		(0.0002)	(0.0002)	(0.0002)	(0.0002)
Gulf		0.019	0.019	0.011	−0.008
		(0.016)	(0.018)	(0.018)	(0.019)
North		0.024	0.063**	0.064**	0.073**
		(0.027)	(0.030)	(0.031)	(0.031)
Pacific		0.108***	0.100***	0.102***	0.106***
		(0.021)	(0.022)	(0.022)	(0.022)
Pop. density 1921			0.001***	0.001***	0.001***
			(0.0003)	(0.0003)	(0.0003)
Rural pop. 1921			−0.551***	−0.513***	−0.556***
			(0.117)	(0.118)	(0.119)
Catholic pop. 1921			0.175	0.130	0.146
			(0.147)	(0.147)	(0.148)
Agricultural area 1928			−0.005***	−0.005***	−0.004***
			(0.001)	(0.001)	(0.001)
Federal employees 1929			0.003***	0.002***	0.002***
			(0.0004)	(0.0005)	(0.0005)
Police oficers 1929			−0.012***	−0.009***	−0.008***
			(0.002)	(0.002)	(0.002)
Iliteracy rate 1929			0.002***	0.002***	0.003***
			(0.001)	(0.001)	(0.001)
Members per union 1929			−0.0004***	−0.0004***	−0.0004***
			(0.0001)	(0.0001)	(0.0001)
Localities XVI Century				0.033**	0.024
				(0.015)	(0.015)
Franciscan mission				0.001	0.001
				(0.001)	(0.001)
Dominican mission				−0.004***	−0.004***
				(0.001)	(0.001)
Augustine mission				0.001	0.001
				(0.002)	(0.002)
Jesuit mission				−0.003*	−0.002*
				(0.001)	(0.001)
Archeological zone					0.017
					(0.031)
Triple Alliance					0.001**
					(0.0003)
Chichimeca					−0.0003**
					(0.0002)
Constant	0.073***	0.167**	0.370***	0.360***	0.363***
	(0.006)	(0.070)	(0.136)	(0.136)	(0.138)
Observations	2,456	2,456	2,456	2,456	2,456

+ p<0.10 * p<0.05 ** p<0.01 *** p<0.001. Robust standard errors in parentheses.

Table A4: Spatial Lag Analysis - Full Results

Model	(1)	(2)	(3)	(4)	(5)
Cristero brigades	0.079 ***	0.062 ***	0.059 ***	0.049 **	0.057 ***
	(0.017)	(0.016)	(0.017)	(0.017)	(0.017)
Railways		0.007	0.007	0.010	0.013
		(0.013)	(0.013)	(0.013)	(0.013)
Telegraphs		0.019	0.019	0.017	0.017
		(0.012)	(0.012)	(0.012)	(0.012)
Rurales		0.011	0.010	0.010	0.010
		(0.013)	(0.013)	(0.013)	(0.013)
Morelos insurgency		0.220 ***	0.203 ***	0.190 ***	0.176 ***
		(0.052)	(0.051)	(0.050)	(0.050)
Mina insurgency		0.020	0.019	0.030	0.066
		(0.083)	(0.080)	(0.080)	(0.082)
Hidalgo insurgency		0.052	0.063	0.055	0.065
		(0.056)	(0.056)	(0.056)	(0.056)
Guerrero insurgency		0.172 *	0.146 .	0.137 .	0.130
		(0.085)	(0.082)	(0.081)	(0.080)
French invasion		0.000	-0.001	-0.001	-0.006
		(0.038)	(0.037)	(0.036)	(0.037)
Distance to state capital (log)		-0.015 *	-0.015 *	-0.015 *	-0.016 **
		(0.006)	(0.006)	(0.006)	(0.006)
Elevation (log)		0.003 *	0.004 *	0.003 .	0.003
		(0.002)	(0.002)	(0.002)	(0.002)
Distance to railroads		0.000	0.000	0.000	0.000 .
		(0.000)	(0.000)	(0.000)	(0.000)
Gulf		0.024	0.031 .	0.022	0.000
		(0.015)	(0.018)	(0.018)	(0.019)
North		0.007	0.047 .	0.047	0.053 .
		(0.026)	(0.028)	(0.029)	(0.029)
Pacific		0.096 ***	0.093 ***	0.097 ***	0.100 ***
		(0.020)	(0.020)	(0.020)	(0.020)
Population density 1921			0.001 ***	0.001 ***	0.001 *
			(0.000)	(0.000)	(0.000)
Rural population 1921			-0.404 ***	-0.368 ***	-0.407 ***
			(0.101)	(0.102)	(0.101)
Catholic population 1921			0.268 .	0.238 .	0.254 .
			(0.138)	(0.138)	(0.138)
Agricultural area 1928			-0.003 **	-0.003 **	-0.002 *
			(0.001)	(0.001)	(0.001)
Federal government officials 1929			0.002 ***	0.002 ***	0.002 ***
			(0.000)	(0.000)	(0.000)
Police officers 1928			-0.009 ***	-0.007 ***	-0.005 *
			(0.002)	(0.002)	(0.002)
Literacy rate 1921			0.002 **	0.002 **	0.002 ***
			(0.001)	(0.001)	(0.001)
Worker union members 1929			0.000 **	0.000 *	0.000 *
			(0.000)	(0.000)	(0.000)
Localities XVI Century				0.035 *	0.025 .
				(0.014)	(0.014)
Franciscan mission				0.001	0.001
				(0.001)	(0.001)
Dominican mission				-0.004 **	-0.004 **
				(0.001)	(0.001)
Augustinan mission				0.001	0.001
				(0.002)	(0.002)
Jesuit mission				-0.003 *	-0.003 .
				(0.001)	(0.001)
Archeological zone					0.026
					(0.031)
Tripple Alliance					0.001 **
					(0.000)
Chichimeca					0.000 *
					(0.000)
Constant	0.039 **	0.139 *	0.118	0.094	0.088
	(0.014)	(0.068)	(0.130)	(0.129)	(0.129)
Lambda	0.974 *	1.053 ***	1.226 ***	1.242 ***	1.261 ***
	(0.476)	(0.174)	(0.152)	(0.149)	(0.142)
Rho	-0.039 0.00	-0.413 **	-0.630 ***	-0.625 ***	-0.678 ***
	(0.262)	(0.140)	(0.126)	(0.123)	(0.123)
Observations	2,456	2,456	2,456	2,456	2,456

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

Table A5: Instrumental Variables Analysis from Table 2 - Full Results

Dependent Variable:	First stage Brigades (1)	Second stage Autodefensas (2)	Reduced form Autodefensas (3)
Distance to Pro-Cristero Bishop	−0.044***		−0.016***
	(0.004)		(0.004)
Cristero Brigades		0.359***	
		(0.087)	
Railways	−0.018	0.026*	0.019
	(0.019)	(0.015)	(0.014)
Telegraphs	0.006	0.018	0.020
	(0.016)	(0.013)	(0.013)
Rurales	−0.055***	0.029*	0.009
	(0.017)	(0.015)	(0.014)
Morelos insurg.	0.194***	0.117**	0.187***
	(0.055)	(0.057)	(0.052)
Mina insurg.	−0.139	0.084	0.034
	(0.114)	(0.111)	(0.093)
Hidalgo insurg.	0.096	0.052	0.087
	(0.076)	(0.064)	(0.061)
Guerrero insurg.	0.236**	0.065	0.150*
	(0.103)	(0.097)	(0.084)
French invasion	−0.011	0.014	0.010
	(0.044)	(0.042)	(0.040)
Distance to state capital	0.005	−0.019***	−0.017***
	(0.005)	(0.006)	(0.006)
Elevation	0.004	0.001	0.002
	(0.003)	(0.002)	(0.002)
Distance to railroad	0.0003*	0.0003	0.0004**
	(0.0002)	(0.0002)	(0.0002)
Gulf	−0.157***	0.040*	−0.016
	(0.018)	(0.024)	(0.019)
North	−0.192***	0.154***	0.085***
	(0.025)	(0.037)	(0.031)
Pacific	0.052**	0.108***	0.127***
	(0.021)	(0.023)	(0.023)
Pop. density 1921	−0.0002	0.001**	0.001**
	(0.0003)	(0.0003)	(0.0003)
Rural pop. 1921	−0.130	−0.510***	−0.556***
	(0.171)	(0.127)	(0.119)
Catholic pop. 1921	0.076	0.106	0.133
	(0.146)	(0.153)	(0.148)
Agricultural area 1928	0.019***	−0.011***	−0.004***
	(0.002)	(0.003)	(0.001)
Federal employees 1929	0.00000	0.002***	0.002***
	(0.001)	(0.0005)	(0.0005)
Police oficers 1929	0.001	−0.005**	−0.005**
	(0.004)	(0.003)	(0.002)
Illiteracy rate 1929	−0.006***	0.005***	0.003***
	(0.001)	(0.001)	(0.001)
Members per union 1929	−0.0002**	−0.0003***	−0.0004***
	(0.0001)	(0.0001)	(0.0001)
Localities XVI Century	0.108***	−0.013	0.026*
	(0.021)	(0.019)	(0.015)
Franciscan mission	0.004**	−0.0004	0.001
	(0.002)	(0.001)	(0.001)
Dominican mission	−0.0001	−0.003**	−0.003**
	(0.001)	(0.001)	(0.001)
Augustine mission	−0.006***	0.002	0.0002
	(0.002)	(0.002)	(0.002)
Jesuit mission	−0.008***	0.0001	−0.003**
	(0.001)	(0.002)	(0.001)
Archeological zone	0.061*	0.004	0.026
	(0.034)	(0.032)	(0.031)
Triple Alliance	−0.002***	0.001***	0.001*
	(0.0003)	(0.0004)	(0.0003)
Chichimeca	0.0003	−0.0005**	−0.0003**
	(0.0002)	(0.0002)	(0.0002)
Constant	0.754***	0.189	0.460***
	(0.138)	(0.150)	(0.139)
F-statistic	138.5***		
	(0.00)		
Observations	2,456	2,456	2,456

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors in parentheses.

Table A6: Spatial Instrumental Variables Analysis - Full Results

Dependent Variable:	First stage Brigades (1)	Second stage Autodefensas (2)	Reduced form Autodefensas (3)
Distance to pro-Cristero Bishop	-0.039 ***		-0.011 **
	(0.004)		(0.003)
Cristero brigades		0.192 ***	
		(0.045)	
Rurales	-0.051 **	0.018 0	0.006 0
	(0.017)	(0.013)	(0.013)
Morelos insurgency	0.184 ***	0.143 **	0.179 ***
	(0.054)	(0.052)	(0.050)
Mina insurgency	-0.128 0	0.077 0	0.053 0
	(0.112)	(0.090)	(0.081)
Hidalgo insurgency	0.083 0	0.049 0	0.072 0
	(0.076)	(0.057)	(0.058)
Guerrero insurgency	0.219 *	0.097 0	0.139 .
	(0.104)	(0.084)	(0.079)
French invasion	-0.007 0	-0.006 0	-0.015 0
	(0.041)	(0.037)	(0.038)
Railways	-0.018 0	0.017 0	0.014 0
	(0.019)	(0.013)	(0.013)
Telegraphs	0.011 0	0.016 0	0.016 0
	(0.016)	(0.012)	(0.012)
Distance to state capital (log)	0.004 0	-0.017 **	-0.016 **
	(0.005)	(0.006)	(0.006)
Elevation (log)	0.003 0	0.001 0	0.002 0
	(0.003)	(0.002)	(0.002)
Distance to railroads	0.000 0	0.000 .	0.000 *
	(0.000)	(0.000)	(0.000)
Gulf	-0.138 ***	0.024 0	-0.010 0
	(0.017)	(0.020)	(0.019)
North	-0.174 ***	0.097 **	0.057 *
	(0.025)	(0.031)	(0.029)
Pacific	0.041 .	0.099 ***	0.116 ***
	(0.021)	(0.020)	(0.021)
Archeological zone	0.064 .	0.019 0	0.033 0
	(0.033)	(0.031)	(0.031)
Triple Alliance	-0.002 ***	0.001 ***	0.001 *
	(0.000)	(0.000)	(0.000)
Chichimeca	0.000 0	0.000 *	0.000 *
	(0.000)	(0.000)	(0.000)
Localities XVI Century	0.097 ***	0.006 0	0.028 *
	(0.020)	(0.015)	(0.014)
Franciscan mission	0.003 *	0.000 0	0.001 0
	(0.002)	(0.001)	(0.001)
Dominican mission	0.000 0	-0.003 **	-0.003 *
	(0.001)	(0.001)	(0.001)
Augustinan mission	-0.006 **	0.002 0	0.000 0
	(0.002)	(0.002)	(0.002)
Jesuit mission	-0.007 ***	-0.001 0	-0.003 *
	(0.001)	(0.001)	(0.001)
Population density 1921	0.000 0	0.001 *	0.000 .
	(0.000)	(0.000)	(0.000)
Rural population 1921	-0.116 0	-0.387 ***	-0.407 ***
	(0.169)	(0.101)	(0.104)
Catholic population 1921	0.095 0	0.202 0	0.255 .
	(0.143)	(0.138)	(0.141)
Agricultural area 1928	0.018 ***	-0.006 ***	-0.002 .
	(0.002)	(0.002)	(0.001)
Federal government officials 1929	0.000 0	0.002 ***	0.002 ***
	(0.001)	(0.000)	(0.000)
Police officers 1928	0.000 0	-0.004 *	-0.003 0
	(0.004)	(0.002)	(0.002)
Literacy rate 1921	-0.006 ***	0.003 ***	0.002 ***
	(0.001)	(0.001)	(0.001)
Worker union members 1929	0.000 0	0.000 *	0.000 *
	(0.000)	(0.000)	(0.000)
Constant	0.629 ***	0.055 0	0.153 0
	(0.142)	(0.127)	(0.134)
λ	0.582 ***	1.182 ***	1.226 ***
	(0.134)	(0.143)	(0.156)
ρ	0.147 0	-0.690 ***	-0.541 ***
	(0.095)	(0.127)	(0.124)
Observations	2,456	2,456	2,456

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001. Robust standard errors in parentheses.

Table A7: Testing Alternative Mechanisms: Inequality, Crime, and DTOs

	Inequality (1)	Crime 2013 (2)	DTOs 2010 (3)
Cristero Brigades	0.001	145.551	0.038
	(0.002)	(134.969)	(0.041)
Railways	0.004**	487.128***	0.069
	(0.002)	(123.908)	(0.051)
Telegraphs	0.005***	43.479	0.075*
	(0.002)	(111.852)	(0.042)
Rurales	−0.0003	−266.188**	0.006
	(0.002)	(128.927)	(0.042)
Morelos insurg.	0.018***	534.839	0.260**
	(0.005)	(581.616)	(0.101)
Mina insurg.	0.011	−1,457.494*	0.722
	(0.007)	(834.253)	(0.710)
Hidalgo insurg.	0.008	−390.949	0.173
	(0.005)	(479.145)	(0.163)
Guerrero insurg.	0.019**	−527.577*	−0.047
	(0.008)	(287.404)	(0.084)
French invasion	−0.001	295.041	0.567**
	(0.004)	(546.631)	(0.239)
Distance to state capital	−0.001***	−737.903***	−0.114***
	(0.0004)	(139.548)	(0.029)
Elevation	0.001**	−2.722	0.011*
	(0.0003)	(20.268)	(0.006)
Distance to railroad	0.0002***	7.875***	0.002**
	(0.00003)	(2.617)	(0.001)
Gulf	0.010***	−32.063	0.052
	(0.003)	(193.312)	(0.094)
North	0.001	1,301.359***	0.590***
	(0.004)	(398.598)	(0.188)
Pacific	0.013***	595.373***	−0.049
	(0.003)	(155.790)	(0.050)
Pop. density 1921	0.0001**	8.655**	−0.001
	(0.00003)	(3.920)	(0.001)
Rural pop. 1921	0.007	4,206.567**	−0.531
	(0.014)	(2,022.478)	(0.434)
Catholic pop. 1921	−0.003	−4,065.491**	0.013
	(0.016)	(1,852.841)	(0.606)
Agricultural area 1928	−0.00002	27.278	−0.002
	(0.0002)	(20.213)	(0.004)
Federal employees 1929	0.0001	−10.335	−0.002
	(0.0001)	(6.556)	(0.002)
Police oficers 1929	−0.0001	70.315**	0.012
	(0.0003)	(31.325)	(0.009)
Illiteracy rate 1929	−0.00004	−14.248	−0.005
	(0.0001)	(11.723)	(0.003)
Members per union 1929	0.00001	2.277***	−0.00002
	(0.00001)	(0.864)	(0.0004)
Localities XVI Century	0.003	323.509***	−0.015
	(0.002)	(116.693)	(0.029)
Franciscan mission	0.001***	16.207	−0.004
	(0.0001)	(15.206)	(0.004)
Dominican mission	0.001***	−5.694	−0.009**
	(0.0002)	(12.342)	(0.004)
Augustine mission	0.001***	0.108	0.003
	(0.0002)	(8.174)	(0.003)
Jesuit mission	0.0003	16.393	0.029**
	(0.0002)	(15.646)	(0.011)
Archeological zone	0.009***	192.125	0.059
	(0.003)	(372.836)	(0.082)
Triple Alliance	0.0002***	2.959	−0.001**
	(0.00003)	(3.055)	(0.0005)
Chichimeca	0.00002	10.781**	0.0004
	(0.00002)	(4.381)	(0.001)
Constant	0.402***	8,479.813***	2.038***
	(0.015)	(1,900.140)	(0.689)
N	2,454	2,454	2,454

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

Table A8: Akaike Information Criterion (AIC) model comparison

	(1) OLS	(2) Spatial	(3) IV (2nd stage)	(4) Spatial IV (2nd stage)
AIC	67.21	71.20	67.35	71.23

Figure A1: Alternative measure of Cristero militias in 1929

Legend

Municipality

Cristeros military zone

☐ No Cristero militias

■ Presence of Cristero militias
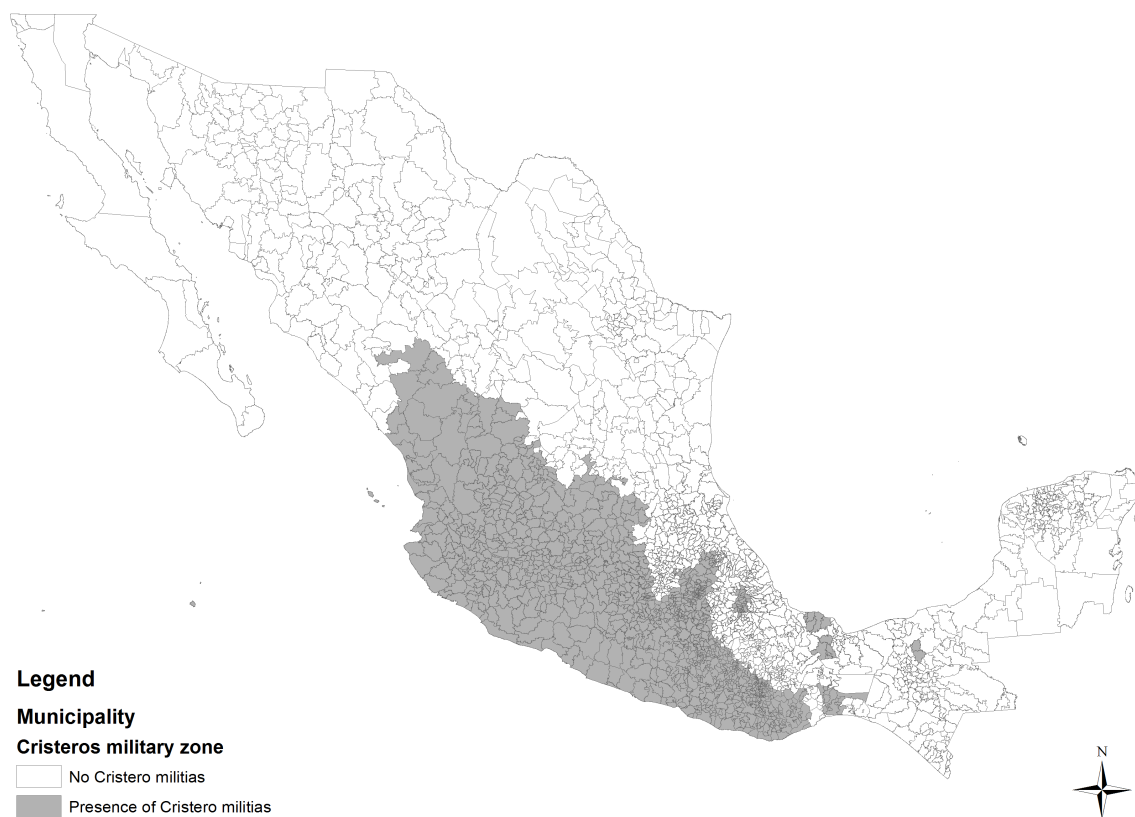
Table A9: Cristero Rebellion (alternative measure)

	(1)	(2)	(3)	(4)	(5)
Cristeros	0.060***	0.035***	0.037***	0.034***	0.034***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Railways		0.017	0.014	0.016	0.018
		(0.014)	(0.014)	(0.014)	(0.014)
Telegraphs		0.026**	0.025**	0.023*	0.023*
		(0.013)	(0.013)	(0.013)	(0.013)
Rurales		0.008	0.007	0.009	0.009
		(0.014)	(0.014)	(0.014)	(0.014)
Morelos insurg.		0.229***	0.214***	0.201***	0.192***
		(0.054)	(0.054)	(0.053)	(0.053)
Mina insurg.		−0.0002	−0.006	0.008	0.043
		(0.089)	(0.088)	(0.089)	(0.092)
Hidalgo insurg.		0.072	0.087	0.075	0.085
		(0.059)	(0.061)	(0.061)	(0.061)
Guerrero insurg.		0.187**	0.166*	0.158*	0.154*
		(0.088)	(0.086)	(0.086)	(0.084)
French invasion		0.025	0.028	0.026	0.023
		(0.040)	(0.040)	(0.039)	(0.040)
Distance to state capital		−0.016**	−0.014**	−0.014**	−0.015**
		(0.006)	(0.006)	(0.006)	(0.006)
Elevation		0.005**	0.006***	0.005***	0.005**
		(0.002)	(0.002)	(0.002)	(0.002)
Distance to railroad		0.0003*	0.0002	0.0002	0.0003
		(0.0002)	(0.0002)	(0.0002)	(0.0002)
Gulf		0.018	0.015	0.008	−0.010
		(0.016)	(0.018)	(0.018)	(0.019)
North		0.024	0.055*	0.059*	0.064**
		(0.027)	(0.030)	(0.030)	(0.031)
Pacific		0.102***	0.096***	0.098***	0.101***
		(0.021)	(0.022)	(0.022)	(0.022)
Pop. density 1921			0.001***	0.001***	0.001***
			(0.0003)	(0.0003)	(0.0003)
Rural pop. 1921			−0.573***	−0.526***	−0.565***
			(0.118)	(0.119)	(0.120)
Catholic pop. 1921			0.188	0.136	0.152
			(0.148)	(0.147)	(0.149)
Agricultural area 1928			−0.004***	−0.004***	−0.003**
			(0.001)	(0.001)	(0.001)
Federal employees 1929			0.003***	0.002***	0.002***
			(0.0005)	(0.0005)	(0.0005)
Police oficers 1929			−0.012***	−0.009***	−0.008***
			(0.002)	(0.002)	(0.002)
Iliteracy rate 1929			0.002**	0.002***	0.002***
			(0.001)	(0.001)	(0.001)
Members per union 1929			−0.0004***	−0.0004***	−0.0004***
			(0.0001)	(0.0001)	(0.0001)
Localities XVI Century				0.038**	0.031**
				(0.015)	(0.015)
Franciscan mission				0.002	0.001
				(0.001)	(0.001)
Dominican mission				−0.004***	−0.004***
				(0.001)	(0.001)
Augustine mission				0.001	0.001
				(0.002)	(0.002)
Jesuit mission				−0.003**	−0.002*
				(0.001)	(0.001)
Archeological zone					0.019
					(0.031)
Triple Alliance					0.001**
					(0.0003)
Chichimeca					−0.0003*
					(0.0002)
Constant	0.064***	0.165**	0.396***	0.380***	0.384***
	(0.007)	(0.072)	(0.137)	(0.137)	(0.139)
Observations	2,456	2,456	2,456	2,456	2,456

+ p<0.10 * p<0.05 ** p<0.01 *** p<0.001. Robust standard errors in parentheses.

Figure A2: Cristero Rebellion (alternative measure) and Autodefensa Mobilization
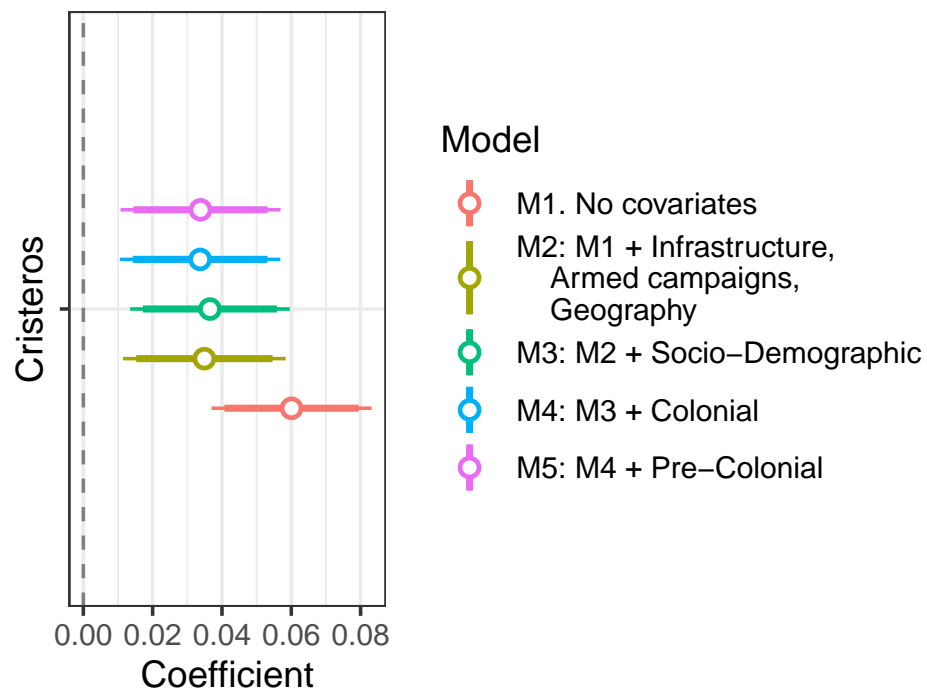OLS estimates with 90% and 95% conf. intervals.

Table A10: Robustness Test for Alternative Explanations

	Brigades			Cristeros		
	IV (2nd stage) (1)	Spatial Lag (2)	Spatial IV (2nd stage) (3)	IV (2nd stage) (4)	Spatial Lag (5)	Spatial IV (2nd stage) (6)
Income	+		+	+	-	
Crime			+		-	
DTOs	+		+	+		

Signs report the direction of statistically significant coefficients at $p < 0.10$ or less.