The Long Shadow of the Spanish Civil War[*]

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Abstract: The Spanish Civil War (1936-1939) was one of the most devastating conflicts of the twentieth century, yet little is known about its long-term legacy. We show that the war had a long-lasting effect on social capital and voting behavior. We use geo-located data on historical mass graves, disaggregated modern-day survey data on trust, combined with current electoral results. For econometric identification, we exploit deviations from the initial military plans of attack, using the historical (1931) highway network. We also employ a geographical Regression Discontinuity Design along the front of Aragon. Our results reveal a significant, negative and sizable relationship between political violence and generalized trust. We further decompose the trust results, finding negative effects of conflict on trust in institutions associated with the Civil War, but no effects when looking at trust in post-1975 democratic institutions. We also find long-lasting results on voting during the democratic period from 1977 to 2016, corresponding to the sided political repression carried out in the region of Aragon. In terms of mechanisms—-using a specialized survey on the Civil War, street names and Francoist newsreels about the war– we find lower levels of political engagement and differential patterns of collective memory about this traumatic historical event.

Keywords: Conflict, Civil War, Political Repression, Spain, History, Trust, Voting, Collective Memory, Political Propaganda

JEL classification: D72, D74, N14, Z10

In Spain, the dead are more alive than the dead of any other country in the world.

—Federico García Lorca, 1933

1. Introduction

Social capital is a fundamental driver of economic performance and a key factor underpinning the workings of democratic institutions (Putnam *et al.* [1994], Knack and Keefer [1997], La Porta *et al.* [1997], Alesina and La Ferrara [2002], Guiso *et al.* [2016], Tabellini [2010], Algan and Cahuc [2010], Besley [2019]). Trust, in particular, has taken center stage in economics since the seminal work of Arrow [1972]. Given its economic and political importance, a vibrant literature has tried to uncover the deep determinants of trust (Nunn and Wantchekon [2011], Becker *et al.* [2016], Buggle and Durante [2017]). At the same time, conflict is known to bring widespread human, social and economic devastation to the populations involved, and its economic costs have been shown to be immense (Collier *et al.* [2003]). Given its damaging nature, civil conflict could be an important driver of social capital destruction.

In this paper we examine the relationship between conflict and social capital, focusing on the case of mistrust generated by the Spanish Civil War (1936-1939). The Spanish Civil War, pitting Nationalists against Republicans, was one of the most significant conflicts of the twentieth century. Though the exact numbers are still a matter of debate, it is estimated that up to 600,000 people died during the struggle, out of a total population of 23.6 million in 1930 (Balcells [2017]). Political repression was particularly severe, claiming almost 200,000 civilian victims: it is now estimated that about 140,000 people were killed by Nationalist troops in the so-called white terror, while the Republican red terror killed up to 50,000 people (Prada [2010]; Preston [2012]; Vera [2010]). Approximately 300,000 soldiers were killed in combat, an indeterminate number died of hunger, in bombings and related incidents, while up to 440,000 people were externally displaced (Rubio [1977]). Yet, despite these staggering human losses and the historical significance of this conflict, there appears to be a dearth of empirical studies examining its legacy.

Beyond trust, we also examine the potential *political* repercussions conflict might have had in the long run. The idea is to see whether the cultural aftereffects observed may have also translated into relevant political behavior. In this line of inquiry, Nunn *et al.* [2018] show that during downturns there is more political turnover in countries with lower levels of generalized trust, Nannicini *et al.* [2013] tie social capital to political account-

ability, and Giuliano and Wacziarg [2020] relate low social capital with populism in the United States. Recent contributions in economics have directly linked past conflict with subsequent political behavior (Fontana *et al.* [2018]; Iwanowsky and Madestam [2017]). Political scientists have pointed out the particularly deleterious long-term effects of political repression (Lupu and Peisakhin [2017]; Rozenas *et al.* [2017]; Rozenas and Zhukov [2019]). We build on these literatures to argue that beyond the cultural dimension, the *political* aftereffects of conflicts also linger on in a significant way—long after their official ceasefire.

To gauge the intensity of conflict, we use geo-located data on mass graves. This data was compiled by the Spanish Ministry of Justice, and has only become available recently, after the passing of the Spanish Historical Memory Law in 2007.[1] To test our hypotheses, we use geographically disaggregated data on trust from Spain's Sociological Research Center (CIS, or *Centro de Investigaciones Sociológicas*) and voting records from 1977 to 2016. We combine this data with additional economic, social, and geographic indicators from the Spanish National Institute of Statistics (INE), along with other sources. In our baseline trust specifications, we control for such individual and geographic characteristics, while netting out fixed effects at the regional (autonomous community) level.

The historical setting offers important features for the empirical analysis. More than 80 years have passed since the conflict ended in 1939, making it an appropriate scenario to study questions of cultural persistence and intergenerational transmission. Unlike more recent and ongoing struggles, mostly happening in developing countries, the Spanish Civil War occurred in what today is an advanced Western democracy, with well-functioning institutions and a strong civil society. Still, due to the internecine nature of the conflict, people had to live alongside the enemy, and the ensuing turn-in-thy-neighbor actions may have eroded trust in the long term. To carry out repression on a massive scale, authorities relied on collaborators, who often informed against their neighbors to allay suspicions or avoid reprisals (Vico [1998]). We hypothesize that this practice may have had long-term consequences. Though in a different context, the underlying mechanism, whereby individuals turned on other community members to protect themselves, generating a culture of mistrust, is similar to the one expounded by Nunn and Wantchekon [2011] for transatlantic slavery in Africa and by Lichter *et al.* [2020] for the East German Stasi.

Because the occurrence of war was presumably non-random, we employ an Instrumental

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[1]We have, in turn, supplemented these data with regional sources from the historical memory project for the region of Aragon, as well as with the comprehensive forensic work of Francisco Etxebarría, containing the universe of modern exhumed mass graves.

Variables (IV) identification strategy based on military plans of combat and the actual marching of troops. For it, we use the initial plan of attack devised by General Mola for the taking over Madrid. Here it is important to note that the war started as a military uprising against the elected Republican government. The insurgents, also called Nationalists, planned to converge on Madrid using troops from several peripheral cantonments, including the Spanish protectorate of Morocco. To reach Madrid, the rebel troops were constrained by the existing highway network, which we have digitized using historical maps from 1931. Due to unforeseen and last-minute circumstances, explained later in further detail, the rebel military leaders deviated in some cases from the initial military plan. Hence, we implement a "road-not-taken" type of identification strategy. Conditional on the initial plan of attack, we take deviations from the planned routes as plausibly exogenous shocks to the intensity of conflict (in the spirit of Baum-Snow [2007]; Card and Dahl [2011]). Namely, we use as instrument for conflict the distance to the marching of rebel troops in their way to Madrid, controlling for General Mola's plan. To implement this empirical strategy, and to disentangle potential confounders, we further restrict the sample to places historically covered by the 1931 primary road network.

Overall, we find that victimization type matters for the aftereffects of conflict. First, our results show a negligible impact of total casualties (battlefield and civilian) on generalized trust. This null effect becomes significantly *negative* when we turn to exhumed mass graves, our proxy for political violence against civilians, consistent with the mistrust hypothesis. The results are strongly present in both the Ordinary Least Squares (OLS) and the IV specifications. In our preferred IV specification, a one standard deviation increase in our measure of exhumed mass graves is associated with a 0.37 standard deviation decrease in generalized trust, a sizable effect.[2] Since exhumed mass graves combine earlier conflict with later exhumation, we run a series of empirical tests and find that our baseline results are *not* driven by the exhumation process itself. Instead, these mass graves proxy for historical political repression against civilians, as explained later.

We further scrutinize the trust results by looking at trust in different types of institutions: those already present before the war and more closely associated with it (such as the Army, the Civil Guard and the Church) and those pertaining to the post-1975 democratic period (such as the Constitutional Court, the Ombudsman and the Parliament). We find negative results for the former set only, suggesting that the effect is associated

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[2]Our preferred measure of conflict is the number of corpses divided by the district population in 1930. Our results are robust to other measures of conflict at the extensive margin, such as number of mass graves and a dummy indicating their presence in a given district.

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with the war rather than capturing broader trends. Overall, our cultural results indicate that civil conflict can have a significant and negative impact in the long run, through increased interpersonal suspicion and mistrust in certain institutions.

To see whether the cultural effects observed transcend into politically relevant actions, we use data from congressional and municipal elections. For econometric identification, we focus on the region and front of Aragon, which suffered disproportionately from the war. At this key battlefront, Nationalist and Republican troops were enmeshed in a trench warfare that lasted almost two years, from 1936 to 1938. Hence, we can apply a Regression Discontinuity Design (RDD) to the opposing sides of the frontline. This setting offers the key advantage that information regarding which side caused the repression (Nationalist or Republican) is available from regional sources. It provides the additional advantage of having detailed municipal data for pre-war elections, collated by Balcells [2011].[3] We first show that the boundary was binding, leading to political repression by the faction in power on each side of the border. Using municipal data for congressional elections (1977-2016), we find long-lasting effects on voting for the left or the right as a function of the political repression implemented. People vote more for the (moderate) right in places formerly occupied by Nationalist troops and for the (moderate) left in those where Republican soldiers were stationed historically. The results are not only statistically significant, but also sizable, in the order of 10% of the vote. Furthermore, the effects appear concentrated on moderate parties as opposed to extreme ones (cf. Tabellini [2010]), and extend as well to municipal elections. We defer a full discussion to Section 5.3.

To study potential mechanisms of transmission, we make use of a specialized survey on the Spanish Civil War, focusing on political participation and collective memory. Though more limited in coverage, the survey asks specific questions regarding this historical event. It reveals that people more affected by political violence have less contact with authorities today and lower levels of political engagement, proxied by participating in strikes, attending demonstrations and signing a petition. We also find that people more exposed to political repression talk less about the war, believe that it generated division, agree that its memory is very much alive, and prefer to leave the mass graves untouched.

Motivated by this evidence, and to determine whether collective memory has been shaped by the state, we use data on Francoist street names compiled by Oto-Peralías [2018]. We find more Francoist streets closer to exhumed mass graves, our preferred proxy for conflict and where repression was strongest. The results for Spain are corroborated by

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[3] We use these data to show that there are no pre-trends in political outcomes. We also run additional trust (generalized and institutions) regressions under this set up.

findings for the region of Aragon. As in Ochsner and Roesel [2017] and Williams [2019] for Austria and the US, our results suggest that the state helped to reinforce and make more salient the collective memory of the Spanish Civil War. This is something we also find with Francoist newsreels about the war, using data from Aguilar [1996].

We contribute to several strands of the conflict literature, reviewed in the next section. First, we show that the type of victimization matters in explaining the impact of conflict on social capital. As the existing literature is still ambiguous regarding this relationship, we contribute to the debate by showing that it is repression against civilians which has a negative and long-lasting effect on trust. This is also the first paper in economics to look at the long-term impact of the Spanish Civil War, using newly available data on mass graves and modern econometric techniques. Lastly, we examine both the cultural and political consequences of conflict over a long time horizon, arguing that collective memory can provide a reinforcing mechanism of transmission for these enduring effects.

1.1. Related Literature

The empirical study of civil wars in the social sciences started with the seminal work of Fearon and Laitin [2003]. In economics, Blattman and Miguel [2010] summarized the contributions on the study of civil wars, while calling explicitly for the need for more micro studies on the consequences of conflict. Ray and Esteban [2017] reassessed this topic, focusing on the relationship between conflict and development. Departing from most of this literature, we focus here on historical conflict in an advanced Western democracy, expanding our understanding of the legacy of violence.

The literature on conflict offers two opposing views on the economic and political impact of conflict in the short and long run. Researchers—focusing on Africa—have found a positive impact of conflict on political participation and cooperation. Bellows and Miguel [2009] find that exposure to conflict during Sierra Leone's Civil War led to more political participation, while in Uganda it led to increased voting (Blattman [2009]). Experimental evidence from Burundi (Voors *et al.* [2012]) reveals higher altruism for individuals exposed to violence. In their survey piece on this topic, Bauer *et al.* [2016] conclude that war exposure can lead to cooperation, prosocial behavior and political participation. They state, however, that "the effect of exposure to war violence on trust is close to zero (p. 263)." We add to this literature by disentangling different types of victimization, finding that political violence against civilians can have a negative and enduring effect on trust.

Papers that have focused on trust have found mostly negative effects. Rohner *et al.*

[2013a] show that conflict in Uganda decreased generalized trust and increased ethnic identity. Using experimental evidence from Tajikistan, Cassar *et al.* [2013], show that exposure to violence undermined trust and participation in market transactions. Alacevich and Zejcirovic [2020] also find that individuals living in high-violence areas in Bosnia and Herzegovina are less trusting and vote less. A natural question to ask is whether these findings are also present when longer time horizons are considered (Grosjean [2014]).

The literature on the long-term effects of conflict shows either negligible or even positive impacts on relevant economic variables. Davis and Weinstein [2002] document the strong degree of persistence in geographic concentration of economic activity in Japan, while Brakman *et al.* [2004] document urban recovery in postwar Germany. Similarly, Miguel and Roland [2011] find no long-term impact on a series of development outcomes after the U.S. bombing of Vietnam. Following Tilly's famous quip, some scholars have documented a positive impact of historical conflicts on future economic performance, through increased fiscal capacity (Dincecco and Prado [2012]; Gennaioli and Voth [2015]). These findings are at odds with the negative relationship between income and conflict (Miguel *et al.* [2004]) and the newly estimated large economic costs of war (Chiovelli *et al.* [2018]; Riaño and Valencia [2020]).

An emerging body of literature has revisited some of the initial findings, using modern econometric and identification techniques. Exploiting discontinuities in military strategies, Dell and Querubin [2018] show that U.S. bombing during the Vietnam War was counterproductive, increasing support for the Communist insurgency. Feigenbaum *et al.* [2018] document the destruction of capital during the American Civil War and trace its protracted negative impact until 1920. Acemoglu *et al.* [2011] and Michalopoulos and Franck [2018] study the long-term consequences of the French Revolution, while Dell [2012] analyzes the impact of the Mexican Revolution on land distribution. In the political realm, Iwanowsky and Madestam [2017] examine voting outcomes after the Khmer Rouge genocide in Cambodia, and Lichter *et al.* [2020] show how the East German Stasi eroded interpersonal and institutional trust. Perhaps the closest article to the present work is Fontana *et al.* [2018] on the long-term political repercussions of the Nazi occupation of Italy, using a Regression Discontinuity Design along the Gothic Line. We build on this literature by focusing on trust and employing both IV and RDD strategies to analyze the cultural and political reverberations of historical conflict.

More broadly, this article is related to the literature on long-term economic persistence, summarized by Nunn [2009, 2020] and Spolaore and Wacziarg [2013]. Theoretically, Acemoglu and Wolitzky [2014] show how mistrust and misinformation can generate cycles of

conflict, and Rohner *et al.* [2013a] link conflict to cycles of mistrust and trade. Empirically, Besley and Reynal-Querol [2014] tie the historical prevalence of conflict to post-colonial wars, and Michalopoulos and Papaioannou [2016] show conflict emerging in partitioned ethnicities in Africa. We focus on conflict as a potential source of long-term persistence.

There also exists a large and well-established literature in history and political science on the Spanish Civil War, sketched next. Authoritative historical accounts of the war include Thomas [2001], Beevor [1982, 2012] and Preston [1996, 2007, 2012]. More recently, La Parra-Pérez [2020] examines division within the military ranks. In political science, Balcells [2011, 2017] examines victimization and distinguishes between direct and indirect violence in the Spanish regions of Catalonia and Aragon, and Aguilar [1996] studies the collective memory constructed after the war. Villamil [2020] studies the role of local networks and political mobilization, Oto-Peralías [2015] looks at political attitudes, and Rodon [2018] finds more support for left-leaning candidates in Catalonia's 1977 election. Still, to the best of our knowledge, no paper in economics has looked at the broader long-term impact of the Spanish Civil War. This study aims to fill this gap in the literature.

The rest of the paper is organized as follows. Section 2 provides the historical and institutional background about the Spanish Civil War. We then offer a description of the data in Section 3 and detail our empirical strategy in Section 4. Section 5 presents the empirical results divided into OLS results, IV results using military plans of attack, and RDD results for the Aragon front. Section 6 contains the mechanisms of transmission, and Section 7 concludes.

2. Historical and Institutional Background

2.1. The Spanish Civil War (1936-1939)

Under the broader context of the Second Spanish Republic (1931-1939), the *Popular Front*, a leftist coalition, won the national election by a narrow margin, on February 16, 1936. In response, part of the military, supported by right-wing forces (fascists, religious conservatives and monarchists), staged a coup against the Republican government on July 18, 1936. The uprising was led by military commanders garrisoned around the country. Conceived as a quick and expedite uprising, the military coup divided the armed forces, and Spanish territory, fairly evenly between those loyal to the Republican government (known as *Republicans* or *Loyalists*) and rebels (also called *Nationalists*).

The coup was immediately supported by military units in the Spanish protectorate of Morocco, most of northern peninsular Spain (except for the Basque country, Catalonia and

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some adjacent areas) and southern cities such as Seville, Cordoba and Cadiz. However, the coup failed to take hold in important cities such as Madrid, Barcelona, Valencia and Bilbao (see Figure A-1). The Nationalists received dedicated support from Fascist Italy and Nazi Germany, whereas the Republican government received irregular help from the Soviet Union and Mexico. Stalin and Hitler turned the operations of the Spanish Civil War into a proxy battle and testing ground for the Second World War (1939-1945).[4]

The main goal of the Nationalists was to take over the capital, Madrid, in the center of the country. To this end, they planned and launched a major offensive against the city, which ultimately withstood the siege almost until the end of the war. In 1937, Nationalist troops took most of northern Spain,[5] and expanded their influence in the South (Figure A-1, top right panel). By the summer of 1938, they had managed to break the front of Aragon, described next, (Figure A-1, bottom left panel) and moved towards the French border, until they secured control of the whole region of Catalonia (Figure A-1, bottom right panel). The war officially ended in April 1, 1939, after the last Republican forces surrendered in Alicante. General Franco, who became the leader of the military coup in the fall of 1936—after the accidental death of the two other leading generals—established a dictatorship that ruled over Spain from 1939 until his death in 1975.

2.2. The Front of Aragon (1936-1938)

The front of Aragon (*Frente de Aragón*) was one of the defining battlefronts of the Spanish Civil War. Nationalist troops coming from the east and Republican troops coming from the west reached a stalemate that split the region of Aragon in half (Figures 1 and A-9). The warring factions were stationed along the two sides of the front from July 1936 to the spring of 1938, making it the longest-lasting front of the war.[6] In terms of military strategy, the front was unique, serving as a transition from the trench warfare that had characterized the First World War to the total war of WWII.

The military coup that started the war, described above, was successful in the three main cities (and provincial capitals) of Aragon: Huesca, Teruel and Zaragoza. These cities are located following almost a vertical line that splits the region in half. This plain geographic fact determined the general location of the frontline, since the Nationalists

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[4]The Communist International assisted Republican troops mostly through the support of the International Brigades. Hitler's Germany, in turn, helped with airlifts, aerial bombing and armored vehicles.

[5]The bombing the Basque town of Guernica, immortalized by Picasso, took place on April 26.

[6]The French novelist André Malraux, who fought during the war, describes the Aragon battlefront in his novel *L'Espoir* (Man's Hope), George Orwell who fought in Zaragoza, described in *Homage to Catalonia*, and Ernest Hemingway reported from Teruel.

wanted to hold these main cities and their transportation routes. However, the exact location was defined in a rather "haphazard and involuntary" (Maldonado [2007]) manner, marked by the immediate need for the Nationalists to set defensive positions to stop the advance of Republican troops coming from Catalonia and Valencia.

The military strategy on both sides was to maintain their defensive positions, with few and isolated attacks. This contributed to the stability of the frontline.[7] Some of the most relevant military offensives from the Republican side were attempts to take control of the main cities in the region: Huesca in June 1937, Belchite and Zaragoza during the summer of 1937 and Teruel in December 1937. Most ended in defeat for the Republicans.

In March 1938, General Franco decided to break the front and initiated the largest battle of the Civil War, known as the Aragon Offensive. With this military campaign, the Nationalists managed to overrun the Republican half of Aragon and reached the Mediterranean, isolating Catalonia from the remaining Republican territory (see Figure A-1, bottom left panel). After the decisive Nationalist victory in the famous Battle of the Ebro in 1938, the war was all but lost for the Republican side. The front of Aragon had lasted for almost two years.

2.3. Political Repression

Political violence was particularly widespread during the war and its aftermath, representing roughly 33% of all war-related casualties. Vera [2010] and Prada [2010] estimate that the so-called red terror exerted by the Republican side killed approximately 50,000 people. It mostly targeted Catholic clergy and religious people, as well as members of the nobility, industrialists and conservatives. On the Nationalist side, the so-called white terror killed about 140,000 people (Table A-1).[8] Nationalist repression mostly targeted citizens loyal to the Second Spanish Republic and the Popular Front, but also included intellectuals, socialists, union leaders, homosexuals, Basque and Catalan nationalists.[9]

A nationally representative survey conducted by Spain's Sociological Research Center (CIS) in 2008 illustrates the extent of the conflict's severity in general and of repression

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[7]The Nationalist side was highly organized and had a single military command, whereas the Republican troops were mainly volunteers from different backgrounds—anarchists, communists, and libertarians—who shared an anti-military sentiment and where poorly equipped and organized.

[8]To put these figures in perspective, these numbers far exceed the approximately 40,000 victims of the military dictatorship in Chile (1973-1990) and the 30,000 forced disappearances during the Argentinian dictatorship (1976-1983) (Bautista *et al.* [2019]; Klor *et al.* [2020]).

[9]For instance, the poet Federico García Lorca, quoted in the epigraph, was assassinated by a firing squad and buried in an unmarked mass grave on August 18, 1936. At the time of writing, his remains have not yet been found.

against civilians in particular: 52.4% of respondents reported at least one family member or close connection victimized as a consequence of the Civil War. A quarter of the reported victims were killed in combat or in a bombing, another quarter were either imprisoned or sentenced to death and more than 20% were murdered or disappeared. Table A-2 summarizes these findings and further decomposes the type of victimization.

The bulk of repression against civilians on both sides took place during the war, particularly in the second half of 1936 (Figure A-2, left panel). At first, victims were typically killed without a trial and buried in unmarked mass graves. Military trials against civilians were instituted by Franco's regime in 1939, and political persecution continued throughout the dictatorship. Victimization by the Republican side was mainly revolutionary and anticlerical, and also less organized.

Political persecution on the Nationalist side was institutionalized and carefully planned to eliminate "without scruple or hesitation those who do not think as we do," in the words of the original coup director General Mola (Iribarren [1937]). To carry out repression on this massive scale, Francoist authorities relied on informers and collaborators. Individuals informed against their neighbors, often under threat or in fear of being targeted themselves (Vico [1998]). The largest share of the repression took place in municipalities with fewer than 4,000 inhabitants, often mixing personal grievances with political motivations (Arnabat Mata [2013]). We hypothesize that this type of violent repression might have generated a culture of mistrust that persisted in the long run (as in Nunn and Wantchekon [2011]; Lichter *et al.* [2020]).

2.4. Mass Grave Exhumations

Scholars distinguish between different periods of mass grave exhumations (Ríos and Etxeberria [2016]). The earliest exhumations took place during the war and its immediate aftermath, and correspond to victims of Republican repression.[10] The second period corresponds to the exhumations of mass graves that were transferred to the *Valle de los Caídos* ("Valley of the Fallen"), a mausoleum built by Franco to honor those who had fallen during the war. The transfer of mass graves from all around the country lasted from 1958 through 1983, and there are 33,847 individuals are currently buried in the mausoleum, including war casualties and victims of political violence from both sides. Recent research based on historical archives estimates that around 2/3 correspond to Nationalist soldiers and some civilian victims of the Republican repression, and 1/3 of

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[10]Some were exhumed by the Republican government in Catalonia, which prosecuted extrajudicial killings within its own territory (see, for instance, Dueñas and Solé [2014]).

the corpses belong to Republican soldiers, along with some civilian victims of Nationalist violence (Etxeberria and Solé [2019]).

The next wave of exhumations started after Franco's death in 1975. During the initial years of democracy and until the failed coup in 1981, relatives of victims of Francoist repression dug up their remains for proper burial. This process was entirely carried out by the families with no state involvement. The largest and most systematic wave started after a mass grave in Priaranza del Bierzo (León) was exhumed in 2000, using modern forensic archaeology for the first time. This drive peaked around 2010, and then abated a few years later (Figure A-2, right panel). Law 52/2007, known as the Historical Memory Law, provided some subsidies and included a protocol for exhumations, but did not take full responsibility for the research, location and victim identification; instead, it established a partnership between public authorities and private citizens.[11] Judges are generally not present at the exhumations and usually do not initiate judicial proceedings, arguing that Civil War crimes are subject to the statute of limitations or fall under the Amnesty Law of 1977.[12] In the next section we provide details about the mass graves datasets we use to measure conflict during the Spanish Civil War.

3. Data

3.1. Data on Conflict: Mass Graves in Spain and the Aragon Region

To measure the intensity of conflict, we use information recently released by the Spanish Ministry of Justice on the mass graves related to the Civil War and Franco's dictatorship. The map of mass graves was started after the enactment of the Historical Memory Law, which recognized and expanded the rights of those who had suffered violence during the Civil War and under the dictatorship. Regional governments and several civil society organizations contributed to the map by sending information to the central government.[13] The information collected by the Ministry of Justice contains the geo-referenced location of the mass graves and basic details about the burial sites. We have complemented and

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[11]Article 11 states that "the public administrations, within their jurisdiction, will facilitate for families that so request it the work of researching, locating, and identifying persons forcibly disappeared during the Civil War or the subsequent political repression whose whereabouts are unknown." Article 19 acknowledges the work of victims' associations.

[12]This law, which is still in force, institutionalized the "pact of forgetting" by guaranteeing immunity for those who participated in crimes during the Civil War and Francoist dictatorship. It also freed political prisoners and allowed exiled persons to return.

[13]Article 12.2 establishes that the administration is responsible for creating and making publicly available a map showing all the areas in Spain where the remains of people disappeared under violent circumstances during the Civil War and the subsequent dictatorship have been found. We include regional fixed effects to account for such potential differences.

updated this initial information using several sources.[14]

For each mass grave, we know what type of intervention was carried out (Figures A-3 and A-4). There are four categories: fully or partially exhumed, transferred to the Valley of the Fallen (which corresponds to the second exhumation period described above), not intervened and missing. Table A-3 reports the number of graves for each category and Table A-4 the estimated number of corpses. As of 2015, there were 2,458 mass graves that contained an estimated 68,950 individuals.

With regards to exhumed mass graves, 81% of them were exhumed after 2000 (see Figure A-2, right panel). The cause of most deaths is execution by firing squads (63.13%), followed by violent death other than by a firing squad (13%) and rearguard reprisals (9%, Table A-5). Most of these graves are not in cemeteries (62%), typically alongside roads (Table A-6). The bulk of these mass graves (64%) were buried in 1936, after the first outbreak of violence (see Figure A-2, left panel). These facts largely correspond to the political repression against civilians that took place while the rebel troops were advancing toward Madrid. These civilian victims were typically killed without a trial and buried in unmarked mass graves, often next to the roads the troops were marching on.[15]

Mass graves which have not been intervened yet are concentrated around key battle sites and fronts. By and large, they hold the remains of soldiers who died during combat or in military hospitals. Since many Nationalist soldiers were exhumed and transferred to the Valley of the Fallen during Franco's dictatorship, most of the remaining bodies presumably correspond to Republican soldiers. Though unexhumed, we still have estimated body counts for these mass graves. Finally, the Ministry of Justice lists as missing mass graves those for which there is historical evidence showing their existence, but which cannot be exhumed owing to terrain-specific circumstances—for instance, if a road has been built covering the site. This category represents less than 10% of the total mass graves and around 5% of the overall estimated death toll.

The region of Aragon has a state-of-the-art historical memory project, partly due to the

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[14]In particular, we completed the information on mass graves exhumed until 2015 with additional mass graves found on the map available from the Ministry of Justice website that had not been included in the initial dataset, as well as information provided by *Aranzadi*, a scientific society devoted to researching on this matter. We also filled in information missing in the original dataset by adding burial and exhumation dates, information on cause of death, and body count. For this purpose, we consulted the detailed information in the website (accessible by clicking on each individual grave) and conducted searches for individual mass graves.

[15]The bulk of the first wave of exhumations conducted during the war and its immediate aftermath, without modern technology, are not included in our dataset. The Spanish Ministry of Justice's dataset does not include information on the identity of the perpetrator that led to each mass grave. Only the data on mass graves for the region of Aragon contains this information, exploited later.

fact that the battlefront of Aragon was one of the key struggles of the entire war. We take advantage of this fact and use their highly detailed historical information on the conflict, which *crucially* allows us to identify the side perpretrating civilian repression. We focus on repression related mass graves: a total of 398 mass graves classified as Nationalist repression and 238 marked as Republican repression.[16] This new feature allows us to examine the political dimension of the conflict.

3.2. Trust Data

Data on trust at the individual level comes from multiple cross-sectional surveys conducted by the Spanish Sociological Research Center (CIS). We select all surveys conducted during 1998-2015, a nationally representative sample containing information on generalized trust (number of observations=38,287). The specific question asked in the surveys is the following: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" Answers range between 10 (most people can be trusted) and 0 (need to be very careful).

These surveys also have information on trust in different institutions, such as the military, the Civil Guard police force (*Guardia Civil* in Spanish), the Catholic Church, the Constitutional Court, the National Parliament and the Ombudsman (*Defensor del Pueblo* in Spanish). The data also has other socio-demographic information at the individual level. These surveys have been partially anonymized to include information at the district level (and at the municipal level for the region of Aragon).[17] Figure A-5 shows average generalized trust at the district level for our sample (1998-2015), which averages 4.86.

3.3. Voting Data

We use publicly available voting data published by the Spanish Ministry of Internal Affairs.[18] We have collected data for most of the elections conducted in Spain since democracy was reinstated in 1977, following Franco's death. Our main dataset consists of general election results for the lower house of the national parliament (Congress, or *Congreso de los Diputados*) in 1977, 1979, 1982, 1986, 1989, 1993, 1996, 2000, 2004, 2008, 2011 and

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[16]There are also 114 classified as as combat deaths. A total of 229 mass graves have been exhumed in the region.

[17]Judicial districts, *partidos judiciales*, simply called districts in this text, are territorial units for the administration of justice and include one or more municipalities within the same province. There are currently 431 judicial districts in Spain.

[18]Available at: http://www.infoelectoral.mir.es/infoelectoral/min/

2016.[19] We supplemented these data with municipal election results for 1987, 1991, 1995, 1999, 2003, 2007 and 2011. Raw data is provided at the municipal level and we limit our analysis to the region of Aragon (containing the provinces of Huesca, Zaragoza and Teruel) given the availability of detailed historical voting information. We thus enrich our use of modern electoral data with historical voting records at the local level, available for the Aragon region (but not the rest of Spain) from Balcells [2011]. We classify the voting behavior as supporting right-wing or left-wing parties.[20] Additionally, we classify political parties as moderate or extreme, and code a variable for so-called populist parties (*Podemos* and *Vox*), which appear for the first time in our sample in 2016.

3.4. Control Variables and Additional Datasets

To construct our IV, we rely on historical road maps and military plans of attack for the war. For the RDD, we digitize historical maps depicting the front of Aragon and information on municipalities on either side of the frontline or within it, based on Maldonado [2007]. To explore mechanisms of transmission, we rely on a survey conducted in 2008 by the CIS dealing specifically with the Spanish Civil War and Franco's dictatorship (CIS 2760). We further explore mechanisms related to collective memory by using data on Francoist and religious street names (kindly shared by Oto-Peralías [2018]) as well as data on newsreels about the war by Aguilar [1996].[21]

Aside from the main variables described, we use an extensive set of controls. These include ruggedness, elevation, area, an index of caloric yield of the soil (Galor and Özak [2016]), land cover, average and standard deviation of temperature, distance to river and to coast. Additionally, we control for modern roads, railroads, Roman roads and distances to the regional and provincial capitals. We also include a set of individual-level controls contained in the surveys and detailed in the next section. Table A-7 reports the sources of these controls and additional variables.

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[19]Spain became a representative democratic monarchy when it adopted its current Constitution in 1978.

[20]We follow the categorization available at `http://www.historiaelectoral.com/calcul.html` and filled in some parties manually.

[21]Street data are based on the *2001 Electoral Census Street Map*, which contains a total of 730,082 streets, 701,346 of which are left after data cleaning.

4. Empirical Strategy

4.1. OLS Analysis

We begin our empirical analysis by regressing generalized trust on corpses in mass graves according to the following equation:

$$y_{idy} = \alpha + \beta x_d + \boldsymbol{\delta} \boldsymbol{z}_{idy} + \gamma_r AC_r + \lambda_y year_y + \epsilon_{idy} \qquad (1)$$

where y is generalized trust of individual i who lives in district d in survey year y, x are corpses in mass graves (total or by category) located in district d divided by 1930 population in the district. β is our coefficient of interest, where a negative value would indicate mistrust. z_{idy} denotes a vector of control variables at the individual level (age-group fixed effects, educational level, employment status and municipality size). We also include district-level controls, such as population in 1930 and during the survey year, ruggedness, area, index of caloric yield of the soil, average temperature and standard deviation, distance to nearest river and to coast, and a land cover index. Lastly, we include region (autonomous community) and survey-year fixed effects.[22] We use robust standard errors and cluster them at the regional level for further robustness. OLS results are presented in Section 5.1.

4.2. Instrumental Variables Strategy

To deal with the potential endogeneity of conflict, we employ an IV strategy where we instrument the intensity of conflict by the distance to the route taken by Nationalist troops on their way to Madrid. The objective of the rebels when planning the coup was to take over Madrid and depose the Republican government (see Figures A-6 and 2). Since there are different routes to Madrid, we use as instrument the distance to the route actually taken by Francoist troops in their advance to Madrid during the first months of the war, conditioning on the historical existence of a primary road (Figures 3 and 4). Where troops passed historically there are more exhumed mass graves, as can be seen in this last figure.

Since the routes taken might not be exogenous, e.g., they might have been chosen because Nationalists expected more support along those towns and villages—we further condition on distance to the initial military plans of attack (Figure 2). The identifying

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[22]There are four sub-national levels of division in Spain (from smaller to larger): municipalities, districts, provinces and autonomous communities.

assumption is that, conditional on the initial plans of attack, the actual routes taken by the Francoist troops are plausibly random (cf. Feigenbaum *et al.* [2018]; Alix-Garcia *et al.* [2020]). In essence, our strategy can be understood as a "road not taken" identification strategy. Deviations from the original plans due to unforeseen circumstances allow us to infer the causal impact of conflict on trust (as in Card and Dahl [2011]). We provide supporting historical and empirical evidence below.

General Mola, the mastermind of the coup plot, had planned a centripetal movement of troops from Valencia, Zaragoza, Burgos, Pamplona, Valladolid and the south of Spain (including Algeciras, Malaga and Seville) towards the capital, Madrid. The military columns were to march swiftly using the main roads, which made geographic and tactical sense. He did not expect the Madrid and Barcelona garrisons to support the coup, and was skeptical about Seville, the Basque Country and Asturias (Martínez [2009]). General Goded's insurrection was unsuccessful in Barcelona, while contrary to Mola's expectations, the coup failed in Valencia, due to General González Carrasco's change of heart, while was successful in Seville.[23]

Under these circumstances, General Franco, who was in charge of bringing troops from North Africa to Madrid, took an unanticipated decision: instead of using the Despeñaperros pass, he took the only available alternative route, through Badajoz (Martínez [2009]). His fateful decision was motivated by the vulnerability of the narrow mountain pass, given the failure of the insurrection in Valencia. The Badajoz route offered the additional advantage of being close to the Portuguese border, where the dictator Salazar was willing to support the rebels. This tactical decision constitutes the main deviation from the initial military plan of attack.

Empirically, we can see in Figure A-7 that there is an insignificant relationship between the deviations from the General Mola's plan (in kilometers) and the generalized trust variable (left panel). The same is true when plotting these deviations against population in 1930 (right panel).[24] Section 5.2 contains the IV results.

4.3. Regression Discontinuity Design

As a complementary identification strategy, we employ a Regression Discontinuity Design along the front of Aragon. By zooming into this decisive area of the war, we gain in terms of data quality, though we sacrifice external validity. Crucially, we are able to distinguish which side (Nationalist or Republican) was responsible for each mass grave. As described

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[23]Valencia actually became the Republican capital later in the war.

[24]We thank Nathan Nunn for suggesting such empirical tests.

in the Historical Background section, the front divided Aragon between the two warring factions, along a nearly vertical line (Figure 1). Thus, we can compare outcomes to the west of the line (Nationalist side) with those to the east of it (Republican side).

In particular, we run an RDD specification of the form

$$y_{ip} = \alpha + \beta d_{ip} + \delta f(lat, lon)_{ip} + \gamma_p + \epsilon_{ip} \tag{2}$$

where y is the outcome of interest (political repression, level of trust and voting results) for municipality i in province p. The running variable of interest is distance to the front d, in kilometers, which we calculate from the centroid of each municipality.[25] In our convention, distance to the front is positive for the Nationalist side, and negative for the Republican one. Though it has been argued before that the consolidation of the front was largely haphazard (Maldonado [2007]), to be conservative we drop municipalities located at the front and run robustness tests that include them. We also add a function of latitude and longitude as a control. This enters linearly in the baseline specification and quadratically for robustness (no higher-order terms are included, as in Gelman and Imbens [2019]). As is standard, we show that the two sides are balanced in terms of potentially relevant covariates. We also include fixed effects at the province level γ, to account for time-invariant differences between the provinces of Huesca, Teruel and Zaragoza.[26]

In order to actually estimate this equation, we apply the optimal bandwidth selection algorithm proposed by Calonico *et al.* [2014], where the running variable is distance to the front. We report non-parametric results graphically with the corresponding local linear coefficients, along with their standard errors. Since we drop municipalities at the frontline, in effect, we are in effect estimating a Donut RD, as in Barreca *et al.* [2011]. In terms of actual outcomes, we first examine whether the front was binding, i.e., whether political repression was higher in the side (Nationalist or Republican) that controlled the area before the front was broken. We then look at measures of trust, both generalized and regarding particular institutions. To exploit the set-up more fully, we analyze voting results for congressional and municipal elections, as described in Section 3.3. We present the the OLS and IV results next and the empirical RDD results in Section 5.3.

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[25]Specifically, we calculate the nearest distance from the centroid of each municipality in Aragon to the centroid of one of the 47 municipalities that constitute the frontline. When sub-municipality information is available (as in the case of geo-located mass graves and localities) we use those coordinates instead.

[26]Technically, this is equivalent in this setting to having border-segment fixed effects across the provincial borders.

5. Empirical Results

5.1. *OLS Results*

We begin the empirical analysis by examining the relationship between our most general measure of historical conflict and generalized trust in modern times. Specifically, we take the total number of corpses in all mass graves, as in Equation 1. The result of this first empirical exercise can be seen in Table 1, Panel A. We observe a slightly negative coefficient in Column 1, without controls, and ultimately insignificant coefficients when including them, in Columns 2 to 4. These inconclusive results could be driven by endogeneity, misreporting, or heterogeneous effects for different types of mass graves.

In turn, when we focus on exhumed mass graves, in Panel B, results are negative and statistically significant across the board, with and without different sets of controls (Columns 1 to 4). These results suggest that the type of victimization matters when it comes to trust, providing an explanation for some of the conflicting results in the literature. Here, exhumed mass graves are proxying for political violence against civilians, as described in Section 3.1. Results for non-exhumed mass graves are reported in Table A-8 and reveal first a slightly negative and then a non-significant relationship with generalized trust. This makes sense as many of these mass graves were for combat deaths, in which soldiers from different localities typically fell in yet another one, hindering any local transmission. Our results are also consistent with an informational story whereby violence against civilians shifts people's priors about soldiers more than regular combat casualties.[27] Altogether, it appears from the OLS results that political violence against civilians is associated with the unraveling of generalized trust in the long run.

An important related question is whether the results observed are due to the exhumation process itself. To investigate this possibility we look at trust responses at different points in time. We construct an indicator variable that takes the value 1 for the post-exhumation years, and zero before the first exhumation. In a differences-in-differences (DID) setting, we include district fixed effects and look at how generalized trust changes within the district once the mass grave is opened and exhumed.[28] As shown in Table 2, exhumations themselves do not seem to be changing trust levels, which appear insignificant (though positive) in Column 1. This holds for the population as a whole as well as for people older than 65 years, who might have been more directly affected by the war, in Column 2. We obtain the same non-result when we restrict the sample to districts where an exhumation

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[27]We thank Luigi Guiso for offering this interpretation.

[28]We are confined here to exhumations conducted after 1998, when our trust data begin.

was carried out, in Columns 3 and 4. These findings suggest that exhumed mass graves are capturing the prevalence of previous historical conflict, more than the exhumation intervention itself. In particular, they capture violence against civilians, as attested by forensic results. The reassuring DID findings point to the stability of the trust measure and hold promise for potential exhumation efforts in the future.

To further test the potential endogeneity of the exhumation process, we return to the history of mass grave exhumations. We focus on Priaranza del Bierzo, the first mass grave exhumed with modern forensic techniques, in 2000. We find that proximity to this municipality has no impact on our measure of generalized trust, in Figure A-8. As before, it seems that the impact of the war on trust does not operate through the exhumation processes themselves, which give insignificant results. Instead, exhumed mass graves constitute important markers of historical political violence against civilians, which appear to have had long term consequences. We focus on potential identification issues next.

5.2. Instrumental Variables Results

Even though we control for a large set of covariates, results in the previous section could still be driven by the potential endogeneity of conflict. OLS results might be biased if, for instance, communities were targeted according to their pre-existing levels of social capital. Exhumation processes aside, there could also be other unobservable factors, such as class struggle, correlated with conflict and trust, which we are not able to control for directly. Because of these reasons, we employ an Instrumental Variables identification strategy, based on military plans of attack, the 1931 highway network, and actual routes taken by military troops, as described in Section 5.2.

Table 3, Panel A, reports the first-stage regression results on our measure of exhumed mass graves for distance to the path taken by the troops marching to Madrid.[29] The farther a district is from the route used to take over Madrid, the fewer exhumed mass graves it has, in Column 1. This also holds when restricting the sample to districts with primary roads, in Column 2. The relationship is still negatively significant, though it decreases in magnitude, when we control for distance to General Mola's plan both in the full sample (Column 3) and the restricted sample (Column 4), our preferred specifications. The first stage is robust in all cases. We hypothesize our instrument is capturing violence against civilians during the beginning of the the war, as described in Section 2.3, and test this empirically later.

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[29]We exclude Madrid from these regressions.

Panel B presents the second-stage results following the same structure as before. The (instrumented) effect of exhumed mass graves on trust is negative and significant across all specifications. This holds for the full and restricted samples, in Columns 1 and 2, and also after controlling for Mola's plan in Columns 3 and 4. From Column 3, a one standard deviation increase in the number of corpses in exhumed mass graves is associated with a 0.37 standard deviation decrease in trust. This number is in line with the estimates in Nunn and Wantchekon [2011] and Rohner *et al.* [2013b]. Our findings are also aligned with those found in the political science literature for the Chinese Cultural Revolution and Famine (Booth *et al.* [2018]; Chen and Yang [2015]; Wang [2019]). Though not exactly comparable to the OLS results (we present a restricted OLS model in the Appendix Table A-9), the IV estimates are larger in magnitude than before. This might be due to the fact that the local average treatment effect (LATE) estimated in the IV is capturing compliers for whom the effect is larger than the average treatment estimated in the OLS (see Imbens and Angrist [1994]; Becker [2016]).[30] In the present context, even though the war was widespread over Spain, areas where troops passed were disproportionately more affected.

We test whether our instrument is capturing violence against civilians, which largely corresponds to bodies in exhumed mass graves. Most of these extrajudicial killings were produced during the swift taking over Madrid campaign. Indeed, the crucial months of July through October of 1936 account for more than half the graves in our sample (Figure A-2, left panel). Still, we explore the validity of our instrument for other mass graves, for which there is a weaker correspondence to civilian violence. We report these results in the Appendix, Tables A-10 and A-11, for completeness. The first stage on all mass graves in Table A-10, Panel A, is still negative and significant, though weaker than before, which is understandable. Accordingly, the second-stage results, in Panel B, are also negatively significant, but smaller in magnitude. Lastly, we look at the mass graves transferred by Franco, which contained a mix of soldier and civilian victims from both warring sides. There, again, the first stage is somewhat weaker than for exhumed mass graves (Table A-11, Panel A) and the second-stage results are about half as large (Table A-11, Panel B). These empirical tests suggest that our instrument is better suited for capturing exhumed mass graves, as intended.

Table A-12 in the Appendix presents further robustness checks. Column 1 looks at the effect in the south of Spain only, which captures the main deviations from the initial military plans, as described in Section 4.2. The coefficient is still negative and marginally significant. We also look at the effect of measuring mass graves using other metrics.

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[30]Alternatively, the difference could also be due to measurement error of the endogenous variable.

Both the coefficients for the number of exhumed mass graves (as opposed to number of corpses), in Column 2, and an indicator for having an exhumed mass grave or not (extensive margin), in Column 3, are negative and strongly significant. Lastly, we cluster the standard errors at the regional level, the largest geographic unit, which reduces statistical significance to 10%.

Trust in Institutions

We further investigate the effect on trust by looking at trust in institutions associated to some extent with the Civil War. We find, in Table 4, that the instrumented effect of exhumed mass graves is negative and significant on those institutions most closely associated with the conflict, such as the Army (Column 1) and the Civil Guard (Column 2). The coefficient for trust in the Catholic Church, in Column 3, is of similar magnitude though appears insignificant. Conversely, the effect on trust in institutions less associated with the war or established after the democratic transition of 1975, is negligible and statistically insignificant. This holds true for the Constitutional Court, the Ombudsman, and Parliament, in Columns 4 to 6.[31] Altogether, the IV results point towards a detrimental effect of exhumed massed graves on generalized trust, and on trust in institutions more associated with the struggle. We further examine the interaction with political institutions in the next section.

5.3. Regression Discontinuity Results

To further grasp the long-term consequences of the Spanish Civil War, we continue the analysis by zooming into the region of Aragon (Figure A-9). The battlefront of Aragon was one of the most important and devastating struggles of the entire war. We focus both on trust measures, as before, and on political behavior. Though the sample is smaller, sacrificing external validity, this scenario offers several advantages. We are able to use very detailed information on the mass graves in this territory, which crucially includes the perpetrator of the attacks, i.e., we know whether the repression was caused by the Nationalist or the Republican side. This new feature allows us to explore the political dimension of the conflict. Electorally, this is an interesting region, working as a "swing" state, similar to Ohio or Iowa in the US, providing interesting variation for our voting analysis.

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[31]Similar results for transferred mass graves are reported for completeness in the Appendix (Table A-13). Again, we find similar patterns: less trust in institutions associated with the Spanish Civil War, and no impact on those established later, after the democratic transition.

For identification purposes, we use the stark division of the region into two halves dominated by the Nationalist and Republican armies, as described before (see Figure 1). There are 47 municipalities right on the frontline, 334 on the Nationalist side and 349 on the Republican side—an almost even split. Mass graves are present in 57% of the municipalities. Econometrically, we employ a Regression Discontinuity Design. We conduct both a coarse partition of the state into the two warring fields and as a more granular specification, using distance to the front as the running variable, as in Calonico *et al.* [2014]. We follow the empirical specification in Equation 2. First, in Figure A-10 we report manipulation tests, both including municipalities at the frontline (left panel) and excluding them (right panel), finding no apparent discontinuities.

As is standard in RD designs, we also show balancedness for an extensive set of co-variates in Figure 5. We include geographic controls such as ruggedness, elevation, land cover, municipal land area, and a caloric index based on the agricultural suitability of crops. We also include different sets of distances: to the capital city of Zaragoza, to any of the provincial capitals (Huesca, Teruel and Zaragoza), to the coast or other water bodies. Similarly, we use distance to Roman roads as well as a measure of modern road and railroad density. Essentially, all of these measures appear smooth at the border.[32]

We then check whether the frontline was binding. To this end we run a Regression Discontinuity specification for Republican and Nationalist repression on distance, as described in Section 5.3. Results can be found in Figure 6. We find that Republican repression is higher where Republican troops were stationed, in the left panel. The same holds true for Nationalist repression, which is higher where Nationalist troops were present, in the right panel, as expected. In terms of magnitudes Republican repression jumps from almost zero to an average of 0.5, while Nationalist repression ranges from 0.15 to around 0.8.[33] The actual estimated magnitudes are -.75 and .45, and are significant at the 1% and 10% levels, respectively. Results are similar when we use measures of repression at the intensive margin instead: with number of mass graves (Figure A-11) and executions (Figure A-12). Overall, it appears that the frontline was indeed binding, with respect to these different repression measures.

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[32]This holds at the 5% confidence level, except for municipal land area.

[33]We do not find the level of repression to be significantly different between the Nationalist and Republican sides.

After covering the set-up, we now analyze the potential legacy of the war, by looking at political outcomes. We use disaggregated data on voting for the democratic period, from 1977 to 2016. Technically, we need a large number of observations to have enough power to run non-parametric RDDs. The idea is to see whether the cultural differences reported thus far have translated into relevant political behavior. We report first the results for congressional elections, where we code up parties as "left" or "right." Figure 7 summarizes the results. We see in the left-hand panel that more people vote for the left in areas that were formerly occupied by Republican troops. The same is true for votes for the right in areas formerly occupied by Nationalist troops, in the right-hand panel. The results are not only statistically significant, but also substantial in terms of magnitude, in the order of 10% of the vote share. For turnout, we observe slightly more participation on the former Nationalist side of the border, by about 3% (in Figure , left panel).[34] We see these election results as the byproduct of a bundled occupation treatment, but we defer a more detailed discussion until after completing the electoral analysis.

We report the actual magnitudes in Table 5. In our baseline specification, which excludes municipalities at the front, we find a negative coefficient of 0.07 for voting for the left and a positive one of 0.08 for the right, in Column 1. The magnitudes are somewhat larger, slightly exceeding 10% when we include all municipalities, in Column 2. They maintain their size and significance levels when we include latitude and longitude, in Column 3, and province fixed effects, in Column 4. Column 5 reports the coefficients for the full specification. Table A-14 presents further robustness tests, where we exclude the capital city of Zaragoza and include a quadratic polynomial expansion of latitude and longitude, in Columns 1 and 2. We also present specifications with year fixed effects, in Column 3, and using municipal averages throughout the period, in Column 4.[35] The results maintain their sign, significance, and approximate magnitudes throughout.

We further decompose the voting results into extreme and moderate voting. To this end, we code the political ideology of parties as extreme left or right: largely Communist and Fascist. We do not find large or significant discontinuities for voting for extreme parties, in Figure A-14, Panels A and B.[36] For moderate parties, we code votes for the

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[34]Similarly, we observe no significant differences for the 1986 and 2005 referenda, either in terms of participation or yes votes (in Figures A-18 and A-19 and Table A-16). The 1986 referendum was about Spain remaining in the North Atlantic Treaty Organization (NATO) and the 2005 referendum was for the approval of the Treaty establishing a European Constitution.

[35]Results also are robust to reducing the sample to less than 50 kilometers from the front, not shown.

[36]We do not find significant differences either in voting for populist parties (*Podemos* and *Vox*) or the

right and left minus the extremes. These largely correspond to votes for PSOE (*Partido Socialista Obrero Español*), on the moderate left, and PP (*Partido Popular*), on the moderate right—the two main modern political parties in Spain.[37] The results for these parties are more marked. More people support the moderate left in the former Republican side, and the moderate right in the former Nationalist side (Figure 8, Panels A and B, respectively). The differences are statistically significant at the 1% level and are in the order of 8% of the vote. These results contrast with those of Fontana *et al.* [2018] for Italy, where results are concentrated on extreme parties at the expense of centrist ones.

We run various empirical tests to assess the robustness of the electoral findings. First, we check whether results are simply driven by political pre-trends. It is plausible that troops from a given side advanced until they faced opposition. This does not seem to be the case, judging from election results at the municipal level from right before the war, in 1936. There is no statistical difference for votes for the left in this historical election (Figure 9, left panel). The coefficient is, very small, *minus* 1.5 percentage points with a standard error of 7.762. We also find no discontinuity in the number of people affiliated in 1936 with the CNT (*Confederación Nacional del Trabajo*), a major anarcho-syndicalist (leftist) labor union (in the right panel), nor for measures of political competition or previous conflict (Figure A-20) from Balcells [2011]. Additionally, we look at potential differences in population at the municipal level, to see whether they might be driving the results. First, we focus on changes between 1930 and 1940, the census years before and after the war. We observe no discontinuity at the threshold for these variables (Figure A-21). The same is true for the return to democracy after 1975, using the 1970 and the 1981 Censuses (Figure A-22). Overall, it does not seem that results are driven by such demographic or pre-existing political trends.

We extend our voting analysis to municipal level elections, available from 1987 to 2011, starting one decade later. The coding here is more complex, as there are now more local political parties, some of which are relatively unknown. Still, despite this potential increase in measurement error, the results parallel those for congressional elections (Figure A-17). As before, there are more votes for the left in former Republican held territories, and more for the right where Nationalist troops were stationed. The estimated coefficients are reported in Table A-15. They are as large as 24% of the vote, in the first specification, and range between 12 and 20% in the remaining ones. The differences in turnout are in the order of 3% and only significant marginally (Figure A-13, right panel). The significant

Aragonese regionalist party PAR (*Partido Aragonés*), in Figures A-15 and A-16, respectively.

[37]Other parties include UCD, CDS, UPyD, PACMA and Ciudadanos.

results are concentrated on votes for the left, while votes for the right now appear positive, but insignificant, across all specifications.

Trust

We complete the RD analysis by looking at trust. We use both generalized trust measures and in various institutions associated to some extent with the conflict, as before. The small number of observations available is not suitable for a non-parametric RD analysis using distance, as for voting.[38] We conduct then a coarse RD, where we code dummies for being on the Republican (or Nationalist) sides. Our main specification excludes municipalities at the frontline, but results are robust to their inclusion. Results using this coding can be seen in Table A-17 for the Republican side (those for the Nationalist side are mirror images, so we omit them). We do not find, in Column 1, a significant effect on generalized trust for either side. This might be due to the high *level* of repression on both sides. We then decompose the trust results into those for institutions associated with the war to a larger or lesser degree. In the coarse RD, trust in the Army, the Civil Guard, and the Catholic Church are all significantly lower on the Republican side (and higher on the Nationalist side). Trust in the Constitutional Court, the Ombudsman and the National Parliament are higher—significantly so in the last two cases—on the Republican side (and lower on the Nationalist side). Though the trust results are less well identified on this set up, they also point to potential long-lasting ideological differences in Aragon.

Discussion

The RD results for Aragon provide another way to see the long shadow of the Spanish Civil War. Notably, they transcend trust measures to include actual political behavior. There might be in Spain a process of what Acharya *et al.* [2020] term "behavioral path dependence" in their analysis of the US South. As in Fontana *et al.* [2018] we find long-lasting results despite the different historical settings. In both cases, it appears that the winning side received more political support down the road.[39] Turnout results suggest that exit from the democratic process could be another mechanism at play for the side that lost the war (as in Iwanowsky and Madestam [2017]). Results might be driven by political propaganda (as in Gagliarducci *et al.* [2020]), explored next. They are in line with those for Stalin's credible political repression in Crimea and Ukraine (Lupu and Peisakhin [2017];

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[38]Still, for completeness, we report non-parametric plots in Figure A-23. We do not observe significant discontinuities graphically. For the regression analysis, we pool all available observations at the district and municipal levels, and cluster the standard errors at the first (broader) level.

[39]We thank Guido Tabellini for offering this interpretation for the Nationalist side.

Rozenas *et al.* [2017]; Rozenas and Zhukov [2019]). Altogether, the empirical results show the long-lasting (political and cultural) impact of civilian repression.

6. Mechanisms

6.1. Spanish Civil War Survey

To see whether the political results for Aragon have validity for the rest of the country, we use a nationally representative survey on the Spanish Civil War, conducted by the CIS. We look at political participation, to see if the war altered the way people interact with the political system. Though results are not well identified econometrically, this seems to be the case in the OLS specifications. In Table 6 we see that people in areas more affected by political repression (proxied by exhumed mass graves) have less contact with authorities and are less likely to participate in a strike, attend a demonstration or sign a petition (in Columns 1 to 4, respectively). Results are consistent with the exit interpretation described above, and are at odds with findings for Africa (cf. Bellows and Miguel [2009]).

Using the same specialized survey on the Civil War, we explore collective memory as a transmission mechanism. The survey asks participants specific questions on their views about the war and their recollection about it. It appears from the results in Table 7 that people living in places that experienced more repression have distinct opinions, behavior and recollection about this important historical event. They talk less about it (Column 1) and think that this event generated division (Column 2). Additionally, they do not think the memory of the war is alive among Spaniards (Column 3), and they think that mass graves should be left alone (Column 4).

6.2. Francoist Street Names

Motivated by these exploratory findings, we dig deeper into collective memory as a potential mechanism of transmission. To this end, we use data on street names for the whole of Spain, as a highly disaggregated measure of culture. The idea here is that the naming of streets contains relevant cultural information (Rose-Redwood *et al.* [2008]). For instance, religious-sounding streets highly correlate with religiosity in Spain at the province level (Oto-Peralías [2018]). What the data allows is to go beyond this existing level of disaggregation (50 provincial observations) to generate relevant variation for the more than 8,000 municipalities in Spain.

For our purposes, we mainly use data on streets with names associated with Franco.[40] It is telling that in Spain, unlike other parts of Europe, there are still municipalities with streets that commemorate Franco's dictatorship, well into the twenty-first century.[41] As of 2001, there were "2000 streets commemorating figures or events related to Franco's dictatorship, and more than 1000 municipalities had at least one such street" Oto-Peralías [2018], p. 208. In our sample, some municipalities have up to 11 such streets, including General Franco Street, other famous generals such as Mola and Yagüe, Falangist divisions, and overtly fascist slogans.

In our analysis, we employ two measures: the total number of Francoist-named streets and the same measure divided over the total number of streets for a given municipality, multiplied by a 100. We plot non-parametric estimates of these measures (using a kernel-weighted local polynomial regression) against distance to the nearest exhumed mass grave, our preferred proxy for conflict. The results in Figure 10 are apparent: the farther away a municipality is from an exhumed mass grave, the lower the number of Francoist-named streets. This is true in both absolute and relative terms, left and right panels, respectively.[42] Overall, there are more remaining Francoist streets in areas more affected by the war, suggesting a differential pattern of remembrance of this historical event. Interestingly, we do not find the same pattern for an indicator of religiosity using this same street-level data, plotted in Figure A-24, right panel. The timing here goes from the conflict to the naming of streets, as attested by the IV results shown in Table A-18.

We complete the analysis for the region of Aragon using a coarse Regression Discontinuity Design, as for the trust variables in Section 5.3. As before, we exclude municipalities at the front, so we only report coefficients for one of the sides. It appears that there are significantly more Franco-related streets on the Nationalist side in Table 8. This holds true for the total number of Francoist streets in Column 1, for the percentage of Francoist streets in Column 2, and a dummy indicating the presence of a Francoist street in Column 3. We repeat the analysis for religious-named streets, and we find no effect there either (Column 4). The same is true for the total number of streets, in Column 5. We find no significant results for municipalities at the front, not shown.[43] The results for Aragon are consistent with those for the whole country, and now show more streets commemorating the winning side on the former Nationalist block.

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[40]We thank Daniel Oto-Peralias for generously sharing his data on streets with us.

[41]The persistence of these street names remains a contentious issue in Spain today, and even a matter of litigation.

[42]Results also hold at the extensive margin when using a dummy for the existence of a Francoist street, presented in Figure A-24, left panel.

[43]Results are robust to including municipalities at the front, not reported.

Street names were not the only way in which Spaniards have been reminded of the war. For forty years they were blasted with political propaganda in places like cinemas. The official No-Do (*Noticiarios y Documentales* or "News and Documentaries") newsreels were produced from 1942 until 1981, and was shown compulsorily before every movie showing until 1976. Following Aguilar [1996], we show that these Francoist productions presented numerous news items about the Spanish Civil War, both total and relative terms (Figure A-25). War-related media content peaked on the 25th anniversary of the conflict and was present up until the democratic transition in 1975.

Overall, our results on mechanisms suggest that collective memory is a potentially relevant channel through which the aftereffects of conflict are perpetuated. Through the naming of streets and political newsreels, the government constantly reminded the citizens of this major historical event. In this case, the circulated memory of the war was slanted towards the winning (Nationalist) side of the struggle. As such, our findings can also be interpreted as a type of sustained and indiscriminate political propaganda. They resonate with the theoretical predictions on collective memory outlined by Dessi [2008] and speak to the literature on salience and narratives (Bordalo *et al.* [2012]; Bénabou *et al.* [2019]). They are also consistent with the empirical findings of Ochsner and Roesel [2017] for the siege of Vienna and Williams [2019] for Confederate streets in the US South. In this case, the naming patterns of Spanish streets provide an interesting set-up to study important questions of collective memory and cultural transmission (as in Bisin and Verdier [2001]). Overall, collective memory provides a potential reinforcing mechanism for our baseline cultural and political findings.

7. Conclusions

Our results show that when it comes to the relationship between historical conflict and trust formation, victimization type matters. While we find no significant effects on generalized trust for our broadest measure of conflict, the effects are negative and sizable for exhumed mass graves, which proxy for political violence against civilians. We also find negative effects on trust in institutions more closely associated with the Civil War, than for those created after the democratic transition. The results are present in both the OLS and IV estimations—based on military plans of attack and deviations from them—suggesting a more causal and long-lasting effect of conflict on mistrust. Reassuringly, we do not find that exhumations themselves have any (negative) effect on trust. Politi-

cal violence against civilians in the context of a civil war can thus be reinterpreted as a driver of mistrust, along with other geographic and historical determinants espoused in the literature.

We further examine whether the self-reported survey results translate into relevant political behavior. We find this to be the case, for the region of Aragon, where we employ an RDD along a major historical frontline. Areas historically occupied by the Republican side vote significantly more for the center-left today, while those where Nationalist troops were stationed do so for the (moderate) right. We find no significant results for extreme, populist, or regionalist parties. We understand the historical occupation as a bundled treatment, suggesting potential avenues for future research aimed at disentangling its components: repression, propaganda and coexistence with the soldiers. In Spain as a whole, people seem to participate *less* in politics in places that were more affected by repression, reflecting another facet of erosion of civic capital, broadly understood.

Lastly, our results point to collective memory of the Spanish Civil War as a mechanism of transmission. It is not only the war itself, but also how people portray it and think about it, which matters in the long run—along with intervening actions from relevant actors. Specifically, the government via the naming of streets and usage of mass media, was able to promote a certain narrative of the conflict, through the lens of the winning (Nationalist) side. Such actions feed back into citizens' perceptions of the conflict. The fact that such collective memory mechanisms matter calls for a more accurate and nuanced reconstruction of the historical events. More broadly interpreted, our results also suggest the salience of political propaganda during the conflict and the ensuing postwar years.

Overall, we find that the Spanish Civil War had significant cultural and political aftereffects, several generations after its official end in 1939. The persistent nature of the findings suggests the existence of inter-generational mechanisms of transmission, as the majority of those involved in the struggle are no longer alive. Such enduring results are surprising for an advanced Western democracy, and expand our understanding of the multifaceted impact of conflict in times both present and past.

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Figures and Tables

FIGURE 1: *The Front of Aragon*
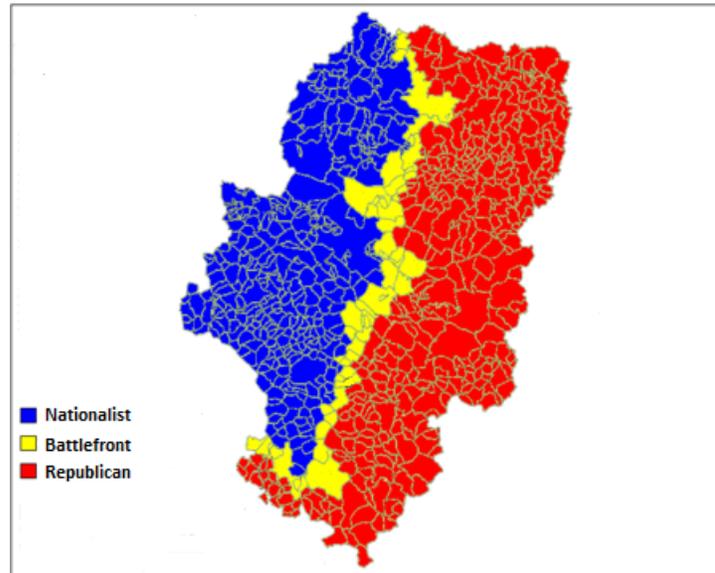
NOTES: Own elaboration based on Maldonado [2007]. Municipalities depicted in blue, on the left side of the region, fell under the Nationalist side. Municipalities in red, on the right side, were on the Republican side. Municipalities in yellow, in the middle, correspond to the battlefront.

FIGURE 2: *General Mola's Plan using 1931 Roads*

NOTES: The red lines depict the Mola plan. Own elaboration based on the 1931 road network and information on the troops' movements from Coll-Hurtado [2012] and Puell and Huerta [2007].

FIGURE 3: *The Taking Over Madrid using 1931 Roads*
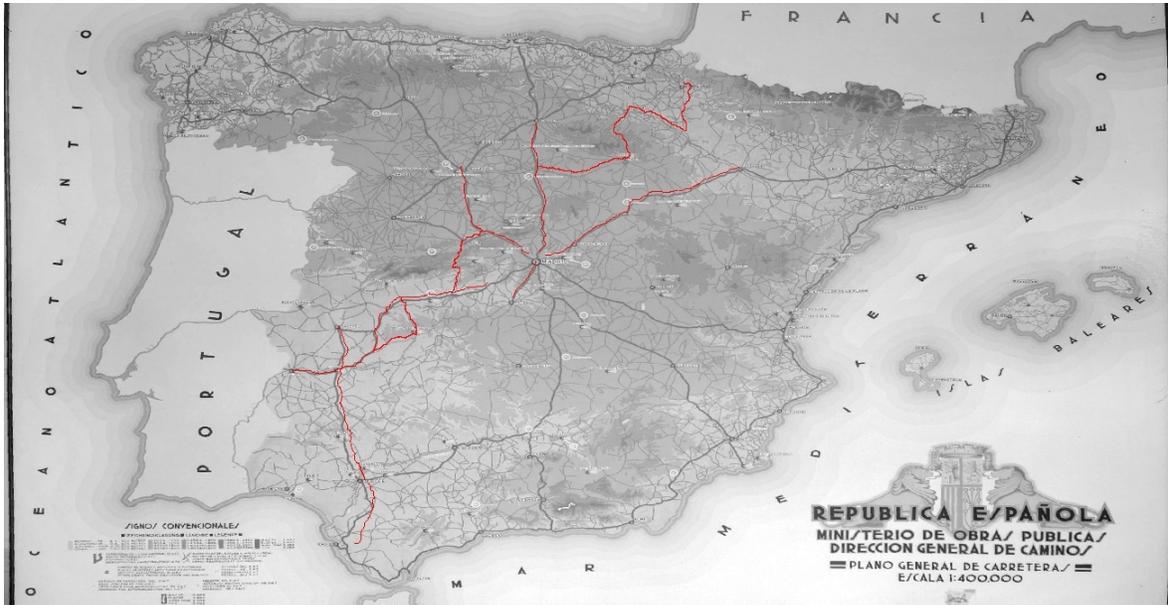
NOTES: The red lines denote the roads taken for the takeover of Madrid. Own elaboration based on the 1931 road network and information on the troops' movements from Coll-Hurtado [2012] and Puell and Huerta [2007].

FIGURE 4: *General Mola's Plan and the Taking Over Madrid using 1931 Roads*
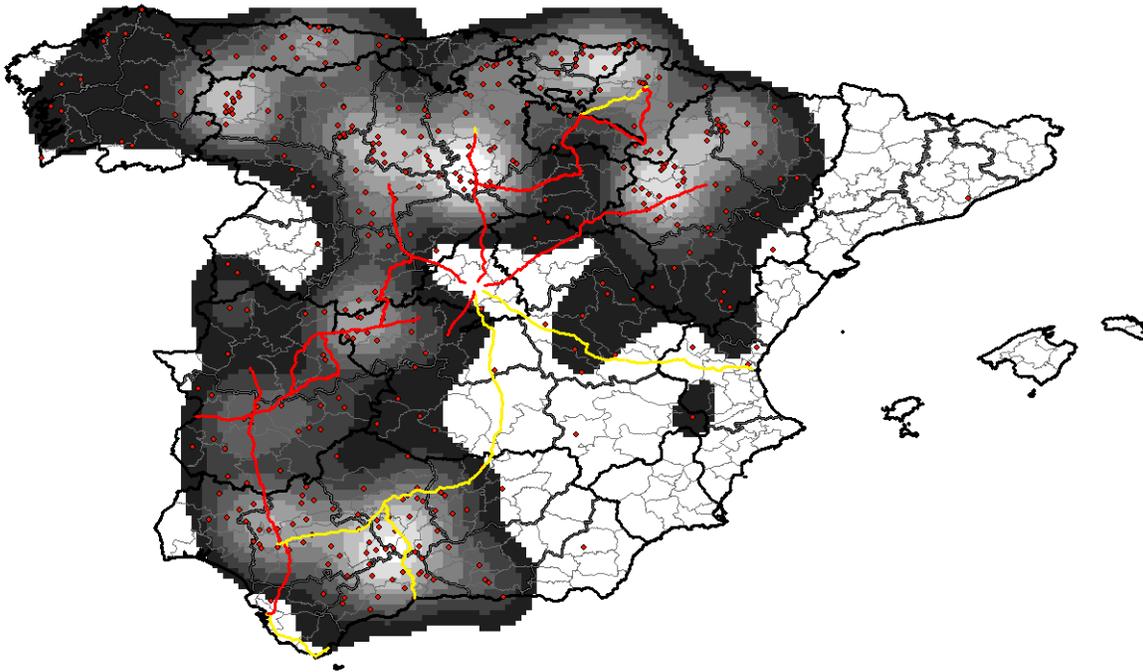
NOTES: The red lines denote the roads taken for the takeover of Madrid. The yellow lines depict the Mola plan and the red dots exhumed mass graves, with their corresponding underlying heat map in black. Own elaboration based on the 1931 road network, information on the troops' movements from Coll-Hurtado [2012] and Puell and Huerta [2007], and on exhumed mass graves from the Spanish Ministry of Justice.

FIGURE 5: *Smoothness Tests in the Front of Aragon*
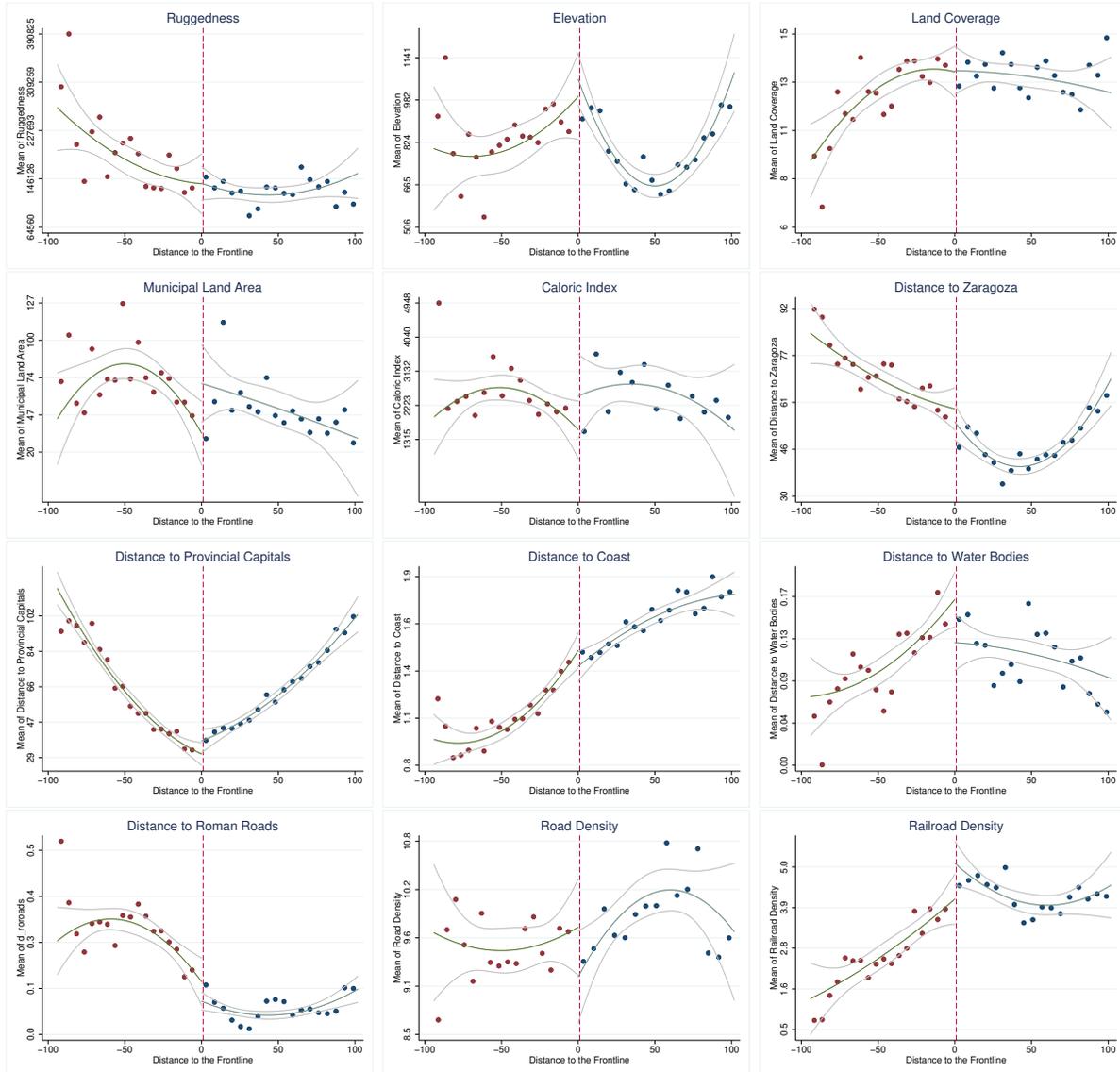
NOTES: The dots show the non-parametric averages for ruggedness (33987, 65210), elevation (180.11, 194.74), land cover (-1.58, 1.454), municipal land area (-46.72**, 22.66), caloric index (-1466.8*, 773.4), distance to Zaragoza (-0.07, 10.4), distance to provincial capitals (8.05, 11.65), distance to the sea (-0.07, 0.09), distance to water bodies (-0.004, 0.044), distance to Roman roads (0.005, 0.07), modern roads density (-0.70, 0.67), modern railroads density (0.75, 0.85), at the municipality level and conditional on distance to the frontline, with quadratic fits. Negative values of distance correspond to the Republican side. RD coefficients and standard errors using the `rdrobust` command are shown in parenthesis.** $p < 0.05$, * $p < 0.1$.

FIGURE 6: *Political Repression in the Front of Aragon*
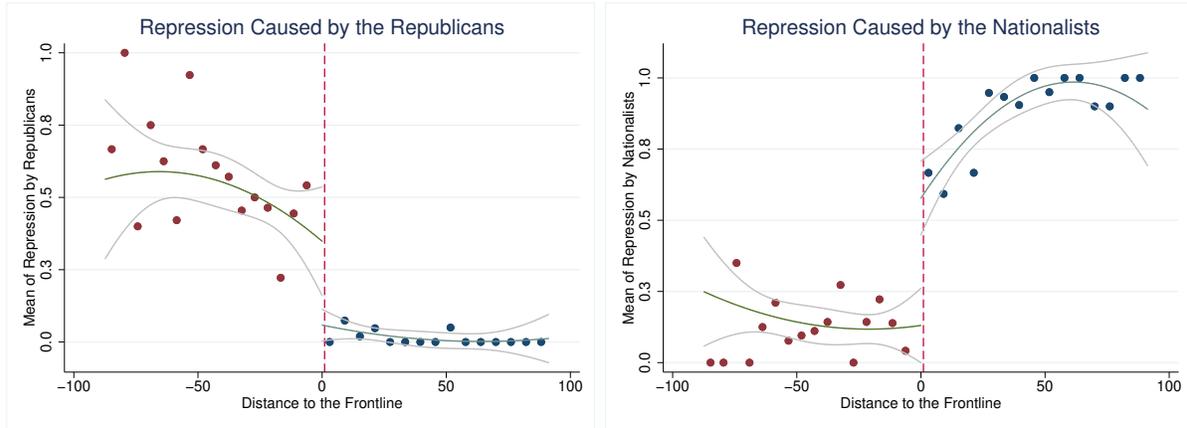
NOTES: Repression is measured as the presence of mass graves that are due to repression by Republicans (left) or Nationalists (right) at a given distance. The dots show the mean of political repression conditional on distance to the front. The lines are quadratic best fits, with confidence intervals. Mass graves located within the front are excluded. We restrict to mass graves that are not missing, i.e., exhumed or localized. We compute distance to the frontline by using the geo-located information for the individual mass grave when available or the municipality centroid when missing. The frontline is computed by using information on the centroid of all 47 municipalities that comprised the frontline. Negative values of distance correspond to the Republican side. RD coefficient (st.error) is -0.75*** (0.250) for the left panel and 0.45* (0.263) for the right panel, using the `rdrobust` command. *** $p < 0.01$, * $p < 0.1$.

FIGURE 7: *Voting Results: Congressional Elections (1977-2016)*
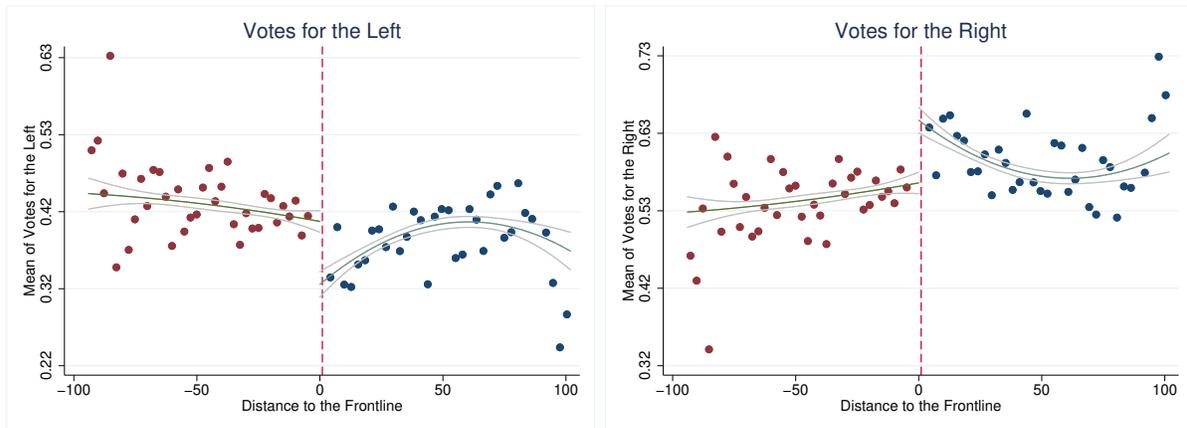
NOTES: The dots show the means of votes for left-wing (left panel) or right-wing parties (right panel) for the Spanish Parliament elections to Congress 1977-2016, conditional on distance to the frontline. The lines are quadratic fits, with confidence intervals. Municipalities located within the front are excluded. Negative values of distance correspond to the Republican side. RD coefficients (st.error) are -0.074*** (0.0142) for the left and 0.077*** (0.0134) for the right, using the `rdrobust` command. *** $p < 0.01$.

FIGURE 8: *Voting Results: Congressional Elections (1977-2016). Votes for Moderate Parties*
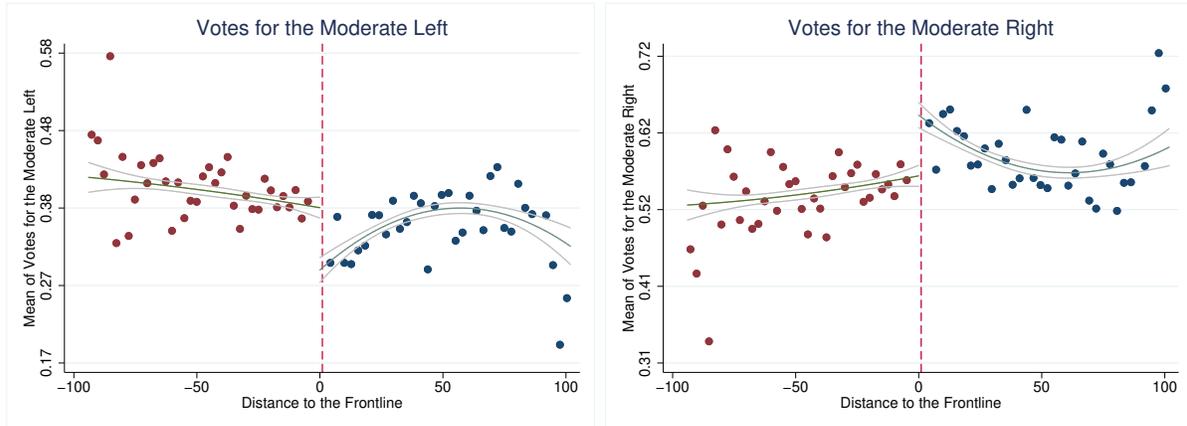
NOTES: The dots show the means of votes for moderate left-wing (left panel) or moderate right-wing parties (right panel) for the Spanish Parliament elections to Congress 1977-2016, conditional on distance to the frontline. The lines are quadratic best fits, with confidence intervals. Municipalities located within the front are excluded. RD coefficients (st. error) are -0.077*** (0.0138) for the left and 0.076*** (0.013) for the right, using the `rdrobust` command. *** $p < 0.01$.

FIGURE 9: *Pre-trends: 1936 Left Votes and CNT Union Membership*
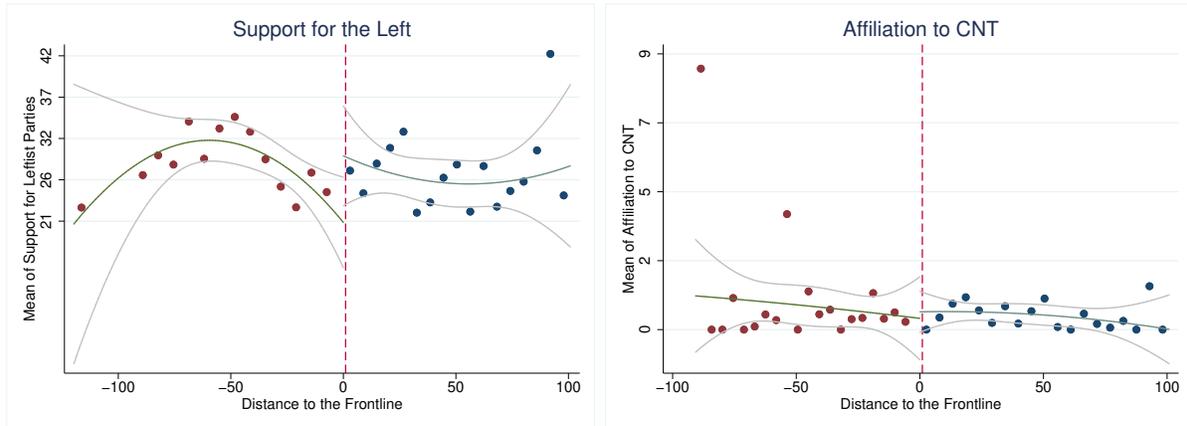
NOTES: The dots show the average votes for leftist parties in the 1936 elections (left) and the average affiliation rate to the anarcho-sindicalist union (CNT, *Confederación Nacional del Trabajo*) in 1936 (right), both at the locality level and conditional on distance to the frontline. Data on the outcome variables comes from Balcells [2011]. The lines are quadratic best fits, with confidence intervals. Municipalities located within the front are excluded. Negative values of distance correspond to the Republican side. RD coefficients (st.error) are -1.50 (7.762) (left) and -0.074 (0.4222) (right), using the `rdrobust` command.

FIGURE 10: *Collective Memory: Francoist Streets and Mass Graves*
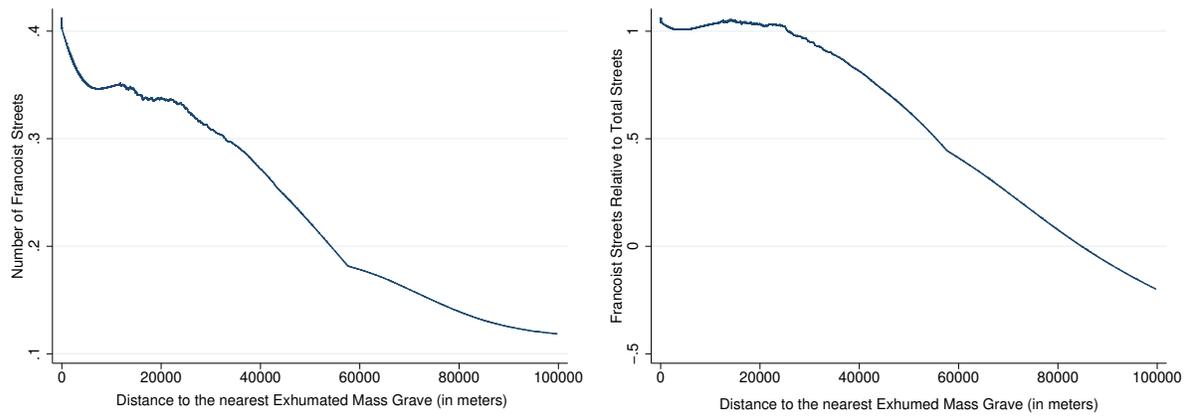
NOTES: The figures depict a Kernel-weighted linear regression of Francoist streets (left) and Francoist streets relative to total streets (right) on distance to the nearest exhumed mass grave (in meters) at the municipality level.

TABLE 1: *OLS Results on Generalized Trust: All Mass Graves*

	(1)	(2)	(3)	(4)
	Panel A: All Mass Graves			
All corpses/Population	-0.002***	-0.0008	-0.0004	-0.0004
	(0.0005)	(0.0005)	(0.0011)	(0.0010)
Adj-R^2	0.03	0.04	0.05	0.07
	Panel B: Exhumed Mass Graves			
Exhumed corpses/Population	-0.0073***	-0.0068***	-0.0237***	-0.0225***
	(0.0023)	(0.0023)	(0.0058)	(0.0057)
Adj-R^2	0.03	0.04	0.05	0.07
Region and year FE	Yes	Yes	Yes	Yes
Individual and district controls	No	Yes	Yes	Yes
Geographical controls	No	No	Yes	Yes
Education and employment controls	No	No	No	Yes
Observations	38,287	38,275	36,159	35,839
Mean dependent variable	4.86	4.86	4.85	4.85

Notes: The dependent variable takes values from 0 to 10, where 0 indicates that you need to be very careful when dealing with people and 10 that most people can be trusted. *All corpses/Population* is measured as the total number of corpses in all types of mass graves in each district divided by the population that district had in 1930 and multiplied by 1,000. *Exhumed/Population* is measured as the exhumed number of corpses in the exhumed mass graves in each district divided by the population that district had in 1930 and multiplied by 1,000. All models include region and survey-year fixed effects. *Individual and district controls* includes fixed effects for age groups, for current size of the municipalities, population in 1930 as well as in the survey year, and area at the district level. *Geographical controls* includes an index of caloric yield of the soil, ruggedness, average temperature and its standard deviation, distance to the nearest river and to the coast, and landcover. *Education and employment controls* includes level of education and employment status of the individual. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE 2: *Effects of Exhumations on Generalized Trust*

	(1)	(2)	(3)	(4)
Post-Exhumation	0.066	0.051	0.042	0.026
	(0.0763)	(0.0772)	(0.0938)	(0.0962)
Post-Exhumation*Older65		0.073		0.076
		(0.0653)		(0.1256)
Observations	34,377	34,377	11,591	11,591
Adj-R^2	0.10	0.10	0.12	0.12
Year FE	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes
Restricted sample	No	No	Yes	Yes
Mean dependent variable	4.9	4.9	4.9	4.9

Notes: The dependent variable takes values from 0 to 10, where 0 indicates that you need to be very careful when dealing with people and 10 that most people can be trusted. All models include district fixed effects, survey-year fixed effects, as well as fixed effects for age groups, level of education and employment status of the individual. Sample restricted to those districts with at least one exhumation in Columns 3 and 4 (147 vs 374 in the unrestricted sample in Columns 1 and 2). Columns 2 and 4 include an interaction term of post-exhumation with being older than 65. Robust standard errors in parentheses.

TABLE 3: *IV Results: Exhumed Mass Graves*

	(1)	(2)	(3)	(4)
	Panel A: First-Stage Results			
Distance to the takeover of Madrid	-0.0081***	-0.0091***	-0.0047***	-0.0059***
	(0.00028)	(0.0003)	(0.0004)	(0.0004)
F-statistic	873.62	902.92	136.21	220.39
	Panel B: Second-Stage Results			
Exhumed corpses/Population	-0.098***	-0.088***	-0.203**	-0.187***
	(0.0333)	(0.0318)	(0.0863)	(0.0712)
Centered R^2	0.07	0.07	0.04	0.05
Region and Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Restricted to primary road	No	Yes	No	Yes
Mola's Plan control	No	No	Yes	Yes
Observations	29,531	27,372	29,531	27,372
Mean dependent variable	4.83	4.86	4.83	4.86

Notes: *Exhumed corpses/Population* is measured as the total (and updated) number of corpses exhumed in each district divided by the population that district had in 1930 and multiplied by 1,000. The instrument is the nearest distance (in meters) from the district's centroid to the primary road that existed in 1931 that was taken in the advancement of the Francoist troops in the taking over Madrid. *Controls* include age-group, education and labor status of the individual fixed effects, current size of the municipality fixed effects, population in 1930 and in the survey year, area of the district, primary roads in 1931, ruggedness, mean temperature and its standard deviation, distance to river and to coast, an index of caloric yield of the soil, a landcover index, and distance to Madrid. *Mola's Plan control* measures the nearest distance (in meters) from the district's centroid to the primary road that existed in 1931 and that General Mola planned to use to take Madrid. Sample restricted to districts in Peninsular Spain, excluding Madrid. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE 4: *Decomposing Trust: IV Results with Trust on Institutions. Exhumed Mass Graves*

	(1) Army	(2) Civil Guard	(3) Church	(4) Constit. Court	(5) Ombudsman	(6) Parliament
Exhumed corpses/Population	-0.39***	-0.25*	-0.26	-0.02	0.14	-0.03
	(0.15)	(0.13)	(0.18)	(0.11)	(0.14)	(0.08)
Observations	12,401	7,316	10,997	13,336	13,318	23,411
F-Statistic	58.06	69.35	52.04	81.43	60.89	139.34
Mean dependent variable	5.5	5.9	3.9	4.2	4.6	4.1

Notes: The dependent variable takes values from 0 to 10 (from lowest to highest trust) in the Army in Column 1, Civil Guard in Column 2, Catholic Church in Column 3, Constitutional Court in Column 4, Ombudsman in Column 5 and National Parliament in Column 6, at the individual level. *Exhumed corpses/Population* is measured as the number of corpses exhumed in each district divided by the population that district had in 1930 and multiplied by 1,000. The instrument is the nearest distance (in meters) from the district's centroid to the primary road that existed in 1931 that was taken in the advancement of the Francoist troops in the taking over Madrid. All models include region and year fixed effects. Control variables include age-group, education and labor status of the individual fixed effects, current size of the municipality fixed effects, population in 1930 and in the survey year, area of the district, a measure of density in the primary roads network in 1931, ruggedness, mean temperature and its standard deviation, distance to river and to coast, an index of caloric yield of the soil and a landcover index. All models use the nearest distance to Madrid as an instrument for mass graves, and control for the nearest Distance to Mola Plan (keeping all observations in Peninsular Spain, except Madrid). Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE 5: *RD Results for the Front of Aragon: Voting. Congressional Elections (1977-2016)*

	(1)	(2)	(3)	(4)	(5)
			Panel A: Votes for the Left		
RD coefficient	-0.074***	-0.105***	-0.094***	-0.102***	-0.105***
	(0.0142)	(0.0210)	(0.0187)	(0.0195)	(0.0182)
			Panel B: Votes for the Right		
RD coefficient	0.077***	0.107***	0.080***	0.086***	0.093***
	(0.0134)	(0.0213)	(0.0167)	(0.0187)	(0.0175)
Frontline municipalities	No	Yes	No	No	No
Latitude and Longitude controls	No	No	Yes	No	Yes
Province fixed effects	No	No	No	Yes	Yes
Original Number of Observations	8158	8722	8158	8158	8158

Notes: Coefficients display the difference among mean on the right and the left side of the front of Aragon. Conventional standard errors are displayed in parenthesis. All estimations are local RD using the `rdrobust` command. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE 6: *Mechanisms: Political Participation*

	Contact w/ Authorities	Participate in Strike	Attend Demonstration	Signed Petition
Exhumed/Population	-0.01**	-0.02***	-0.02***	-0.02***
	(0.004)	(0.005)	(0.005)	(0.006)
Observations	2,763	2,766	2,767	2,749
Region FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Mean dependent variable	2.8	2.6	2.5	2.4

Notes: The dependent variable takes values from 1 to 3 for Contact with Public Authorities and Participate in Strikes, Attend some Demonstration and Signed a Petition (in the last year, more than a year ago, never). A higher value of the variable is associated with higher engagement. *Exhumed/Population* is measured as the number of corpses exhumed in each district divided by the population that district had in 1930 and multiplied by 1,000. *Controls* include age-group, education and labor status of the individual fixed effects, population in 1930 and in the survey year (2008), area of the district, a measure of density in the primary roads network in 1931, ruggedness, mean temperature and its standard deviation, distance to river and to coast, distance to Madrid, an index of caloric yield of the soil and a landcover index. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE 7: *Collective Memory: Legacy of the Civil War*

	Talk about CW	Agree CW generated division	Agree memory CW alive	Leave Mass Graves
Exhumed/Population	-0.02**	0.02*	-0.03***	0.04***
	(0.01)	(0.009)	(0.009)	(0.01)
Observations	2,694	2,582	2,642	2,501
Region FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Mean dependent variable	3.0	2.1	1.8	1.7

Notes: The dependent variable takes values from 0 to 4 (a lot and never - talk about Civil War (CW)), or from 1 to 3 (agree and disagree - CW generated division, and Memory about CW is still alive among Spaniards); from 1 to 3 in Mass Graves (they should be identified and transferred, identified but not transferred, leave them). A higher value is associated with more talking and more agreeing. *Exhumed/Population* is measured as the number of corpses exhumed in each district divided by the population that district had in 1930 and multiplied by 1,000. *Controls* include age-group, education and labor status of the individual fixed effects, population in 1930 and in the survey year (2008), area of the district, a measure of density in the primary roads network in 1931, ruggedness, mean temperature and its standard deviation, distance to river and to coast, distance to Madrid, an index of caloric yield of the soil and a land cover index. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE 8: *Collective Memory: Francoist and Religious Streets in the Aragon Region*

|	(1) Francoist (Total)	(2) % Francoist	(3) Francoist (dummy)	(4) Religiosity	(5) All Streets
Nationalist side	0.20***	0.82***	0.07**	-0.44	15.02
	(0.070)	(0.277)	(0.027)	(0.782)	(10.46)
Observations	682	682	682	677	682
R-squared	0.07	0.04	0.07	0.03	0.48
Frontline municipalities	No	No	No	No	No
Geographic controls	Yes	Yes	Yes	Yes	Yes
Mean dependent variable	0.21	0.79	0.11	14.2	34.53

Notes: The dependent variable is the total number of Francoist streets at the municipal level in Column 1, the total number of Francoist streets divided by the total number of streets in the municipality and multiplied by 100 in Column 2, and an indicator variable that takes the value 1 if there is at least one Francoist street in the municipality and 0 otherwise in Column 3, a religiosity index (number of religious streets over total streets, times a hundred) at the municipal level in Column 4, and the total number of streets in the municipality in Column 5. Data for all dependent variables comes from Oto-Peralías [2018]. *Nationalist side* is a dummy variable that takes the value 1 if the municipality fell under the Nationalist troops in the Aragon region and 0 otherwise. Municipalities within the frontline are excluded. Controls include ruggedness, mean elevation, distance to modern roads, distance to Roman roads, landcover, municipal area, distance to water bodies and distance to rivers. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix for Online Publication

A-1 Additional Figures and Tables

FIGURE A-1: *Division of the Spanish Territory by September 1936, October 1937, July 1938 and February 1939*
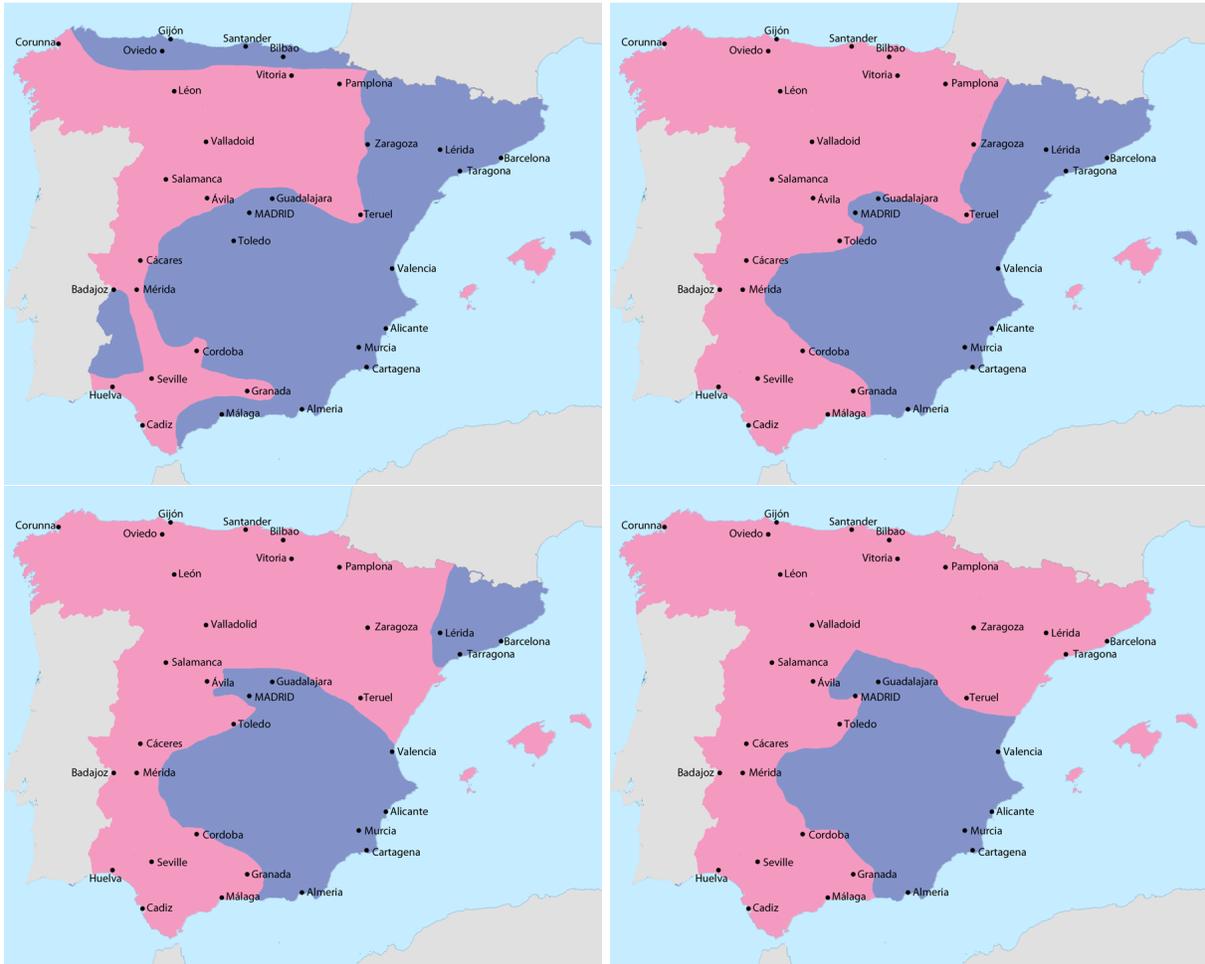
NOTES: The territory under the control of the Nationalists is shown in pink, and under the control of the Republicans is shown in blue. Each figure shows the division of the Spanish territory in one specific date: September 1936 (top left), October 1937 (top right), July 1938 (bottom left) and February 1939 (bottom right). Taken from: `https://commons.wikimedia.org/wiki/File:Map_of_the_Spanish_Civil_War_in_July_1938.png`

FIGURE A-2: *Exhumed Mass Graves: Burial and Exhumation Year*
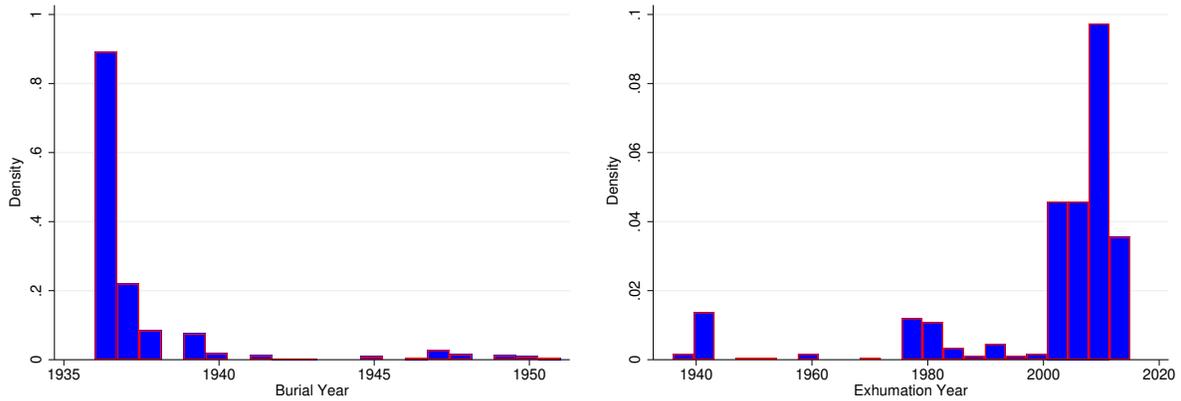
NOTES: These figures depict the histograms for the burial year (left panel) and exhumation year (right panel) for the exhumed mass graves in our sample. Additional information was extracted from the individual graves registry at the Ministry of Justice website and from internet searches on individual graves.

FIGURE A-3: *Map of Mass Graves. Spanish Ministry of Justice*
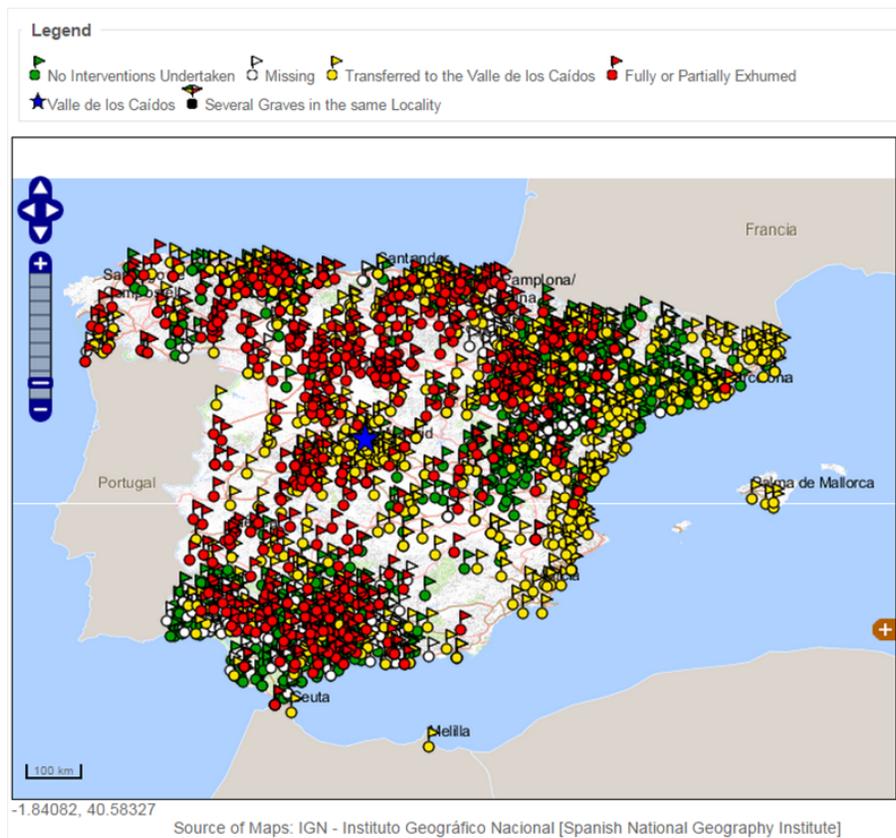
NOTES: Raw mass grave data from the Spanish Ministry of Justice available at `https://mapadefosas.mjusticia.es/exovi_externo/CargarMapaFosas.htm`

FIGURE A-4: *Map of Mass Graves. Intensive Margin at the Municipal Level*
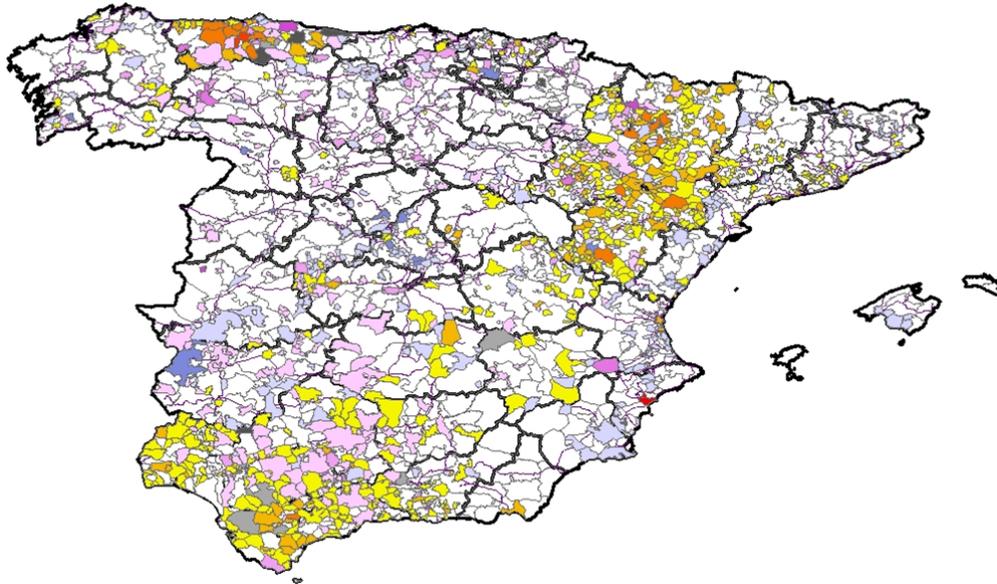
NOTES: Digitized information with different mass graves at the district level. Gray denotes disappeared, purple exhumed, yellow not intervened, and blue transferred. Intensity is denoted by color tones in their respective spectra.

FIGURE A-5: *Generalized Trust in Spain (1998-2015)*
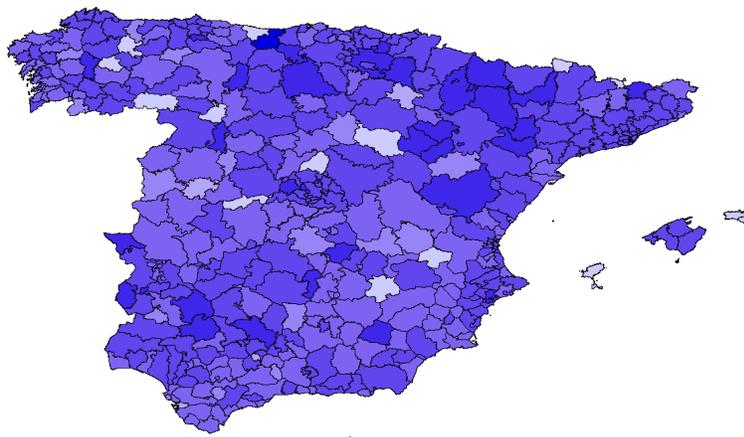
NOTES: Own elaboration from survey data (1998-2015). Districts in light grey are missing values. The mean trust is of 4.9 with a standard deviation of 2.19.

FIGURE A-6: *General Mola's Plan*

NOTES: Map taken from Puell and Huerta [2007].

FIGURE A-7: *Deviations from Mola's Plan of Attack and Actual Routes Taken*
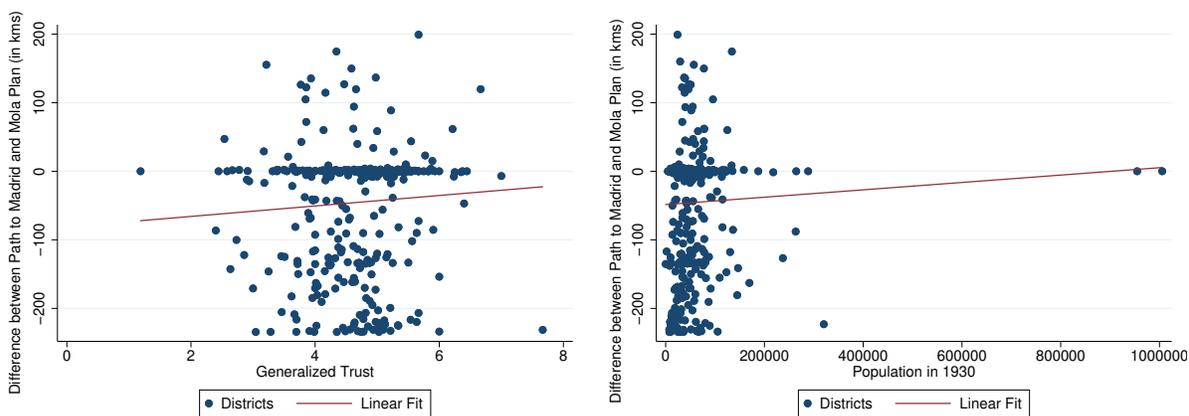
NOTES: The graphs plot the difference (in kilometers) between the path to Madrid and Mola's initial plan of attack versus generalized trust (left panel) and population in 1930 at the district level (right panel). Linear fit coefficient 7.6 and standard error 5.7 for the left figure, and 0.00005 with corresponding standard error of 0.00006 for the right figure.

FIGURE A-8: *Generalized Trust and Distance to Priaranza del Bierzo*
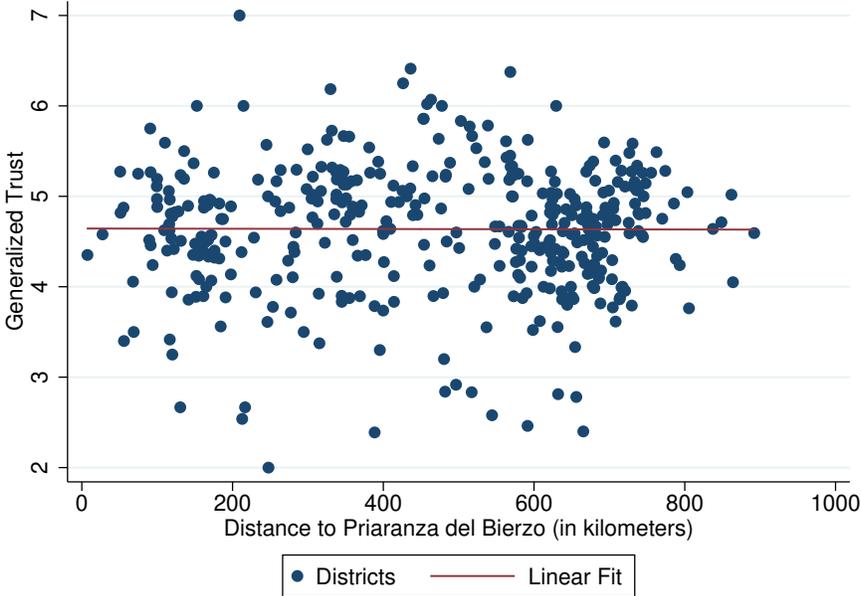
NOTES: The dots show the average generalized trust for each district. The x-axis shows the distance of each district to the Priaranza del Bierzo (León) mass grave in kilometers. Correlation coefficient -.0000137 with standard error of .000162.

FIGURE A-9: *The Aragon Region*

NOTES: Map taken from https://commons.wikimedia.org/wiki/File:Aragon_in_Spain_(plus_Canarias).svg

FIGURE A-10: *McCrary Test of Manipulation of the Running Variable*
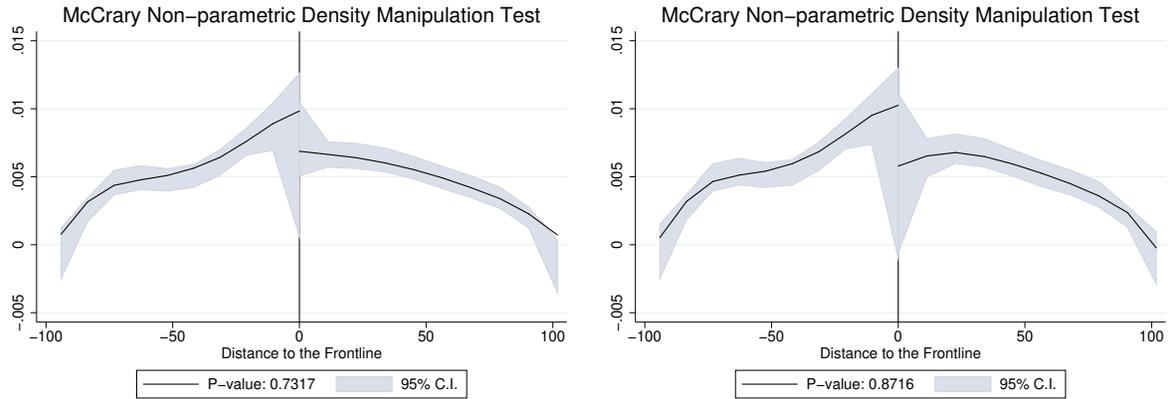
NOTES: Manipulation test using the local-polynomial density estimators proposed by Cattaneo *et al.* [2019], using the command `rddensity`. The left panel includes all municipalities and the right panel excludes frontline municipalities. Negative values of distance correspond to the Republican side. We report p-values and 95% confidence intervals.

FIGURE A-11: *Political Repression in the Front of Aragon. Intensive Margin with Number of Mass Graves*
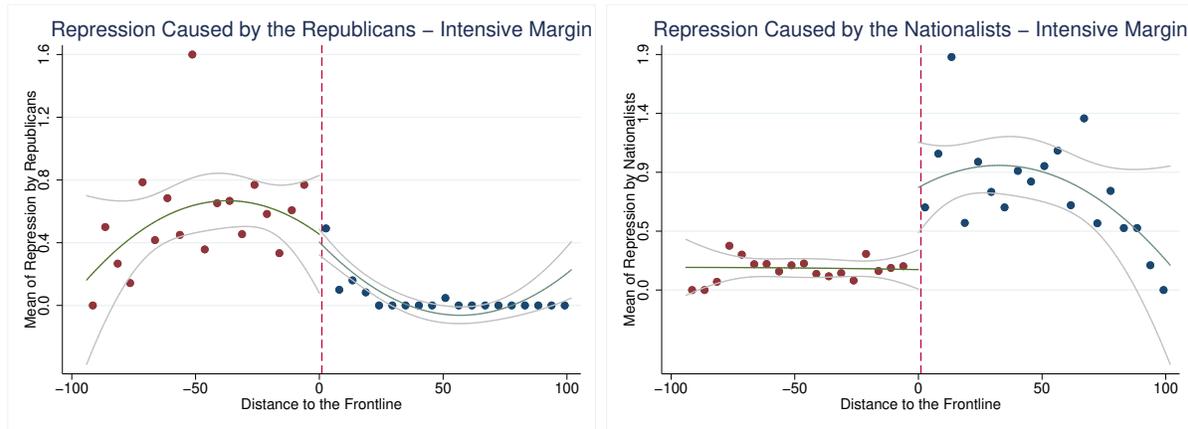
NOTES: Repression is measured as the total number of mass graves that are due to repression by Republicans (left) or Nationalists (right) at a given distance, computed at the municipal level. The dots show the means of political repression conditional on distance to the front. The lines are quadratic best fits, with confidence intervals. We restrict to mass graves that are not missing., i.e., we exhumed or localized. We compute distance to the frontline by using the municipality centroid. The frontline is computed by using information on the centroid of all 47 municipalities that comprised the frontline. Negative values of distance correspond to the Republican side. RD coefficient (st.error) is -0.50 (0.370) for the left panel and 0.56** (0.264) for the right panel, using the `rdrobust` command. ** $p < 0.05$.

FIGURE A-12: *Political Repression in the Front of Aragon. Intensive Margin with Executions (Direct Violence)*
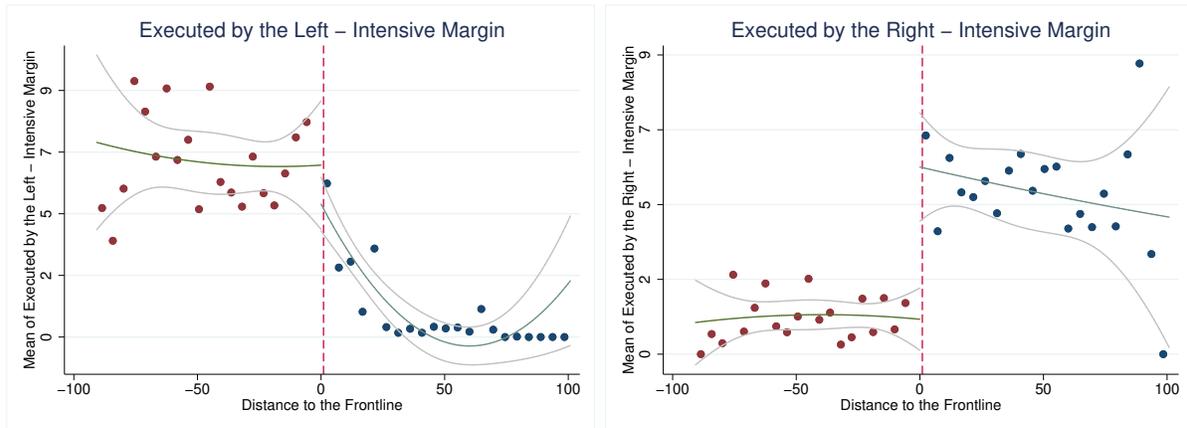

NOTES: Repression is measured as the total number of victims of direct violence killed by the Republicans (left) or Nationalists (right) at a given distance, computed at the locality level and divided by its population in 1936 and multiplied by a 1,000. Data on executions and population at the locality level comes from Balcells [2011]. The dots show the means of political repression conditional on distance to the front. The lines are quadratic best fits, with confidence intervals. We compute distance to the frontline by using the municipality centroid. The frontline is computed by using information on the centroid of all 47 municipalities that comprised the frontline. Negative values of distance correspond to the Republican side. RD coefficient (st.error) is -3.32* (1.976) for the left panel and 5.36*** (1.705) for the right panel, using the `rdrobust` command. * $p < 0.10$, *** $p < 0.01$.

FIGURE A-13: *Voting Results: Turnout in Congressional (1977-2016) and Municipal Elections (1987-2011)*
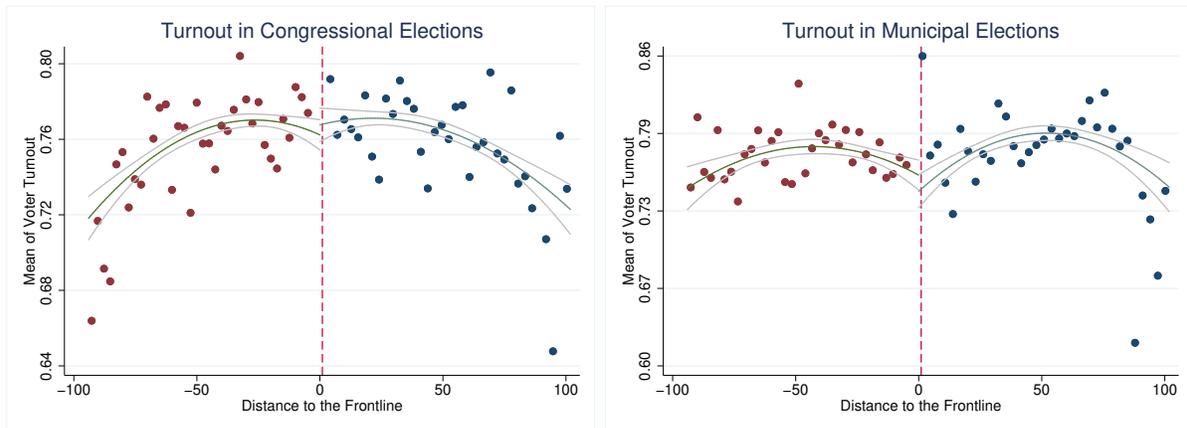
NOTES: The dots show the average turnout at the municipal level for all congressional (left) and municipal (right) elections, conditional on distance to the frontline. The lines are quadratic fits, with confidence intervals. Municipalities located within the front are excluded. Negative values of distance correspond to the Republican side. RD coefficients (st.error) are 0.03** (0.013) for congressional elections and 0.03* (0.020) for municipal elections, using the `rdrobust` command. ** $p < 0.05$, * $p < 0.1$.
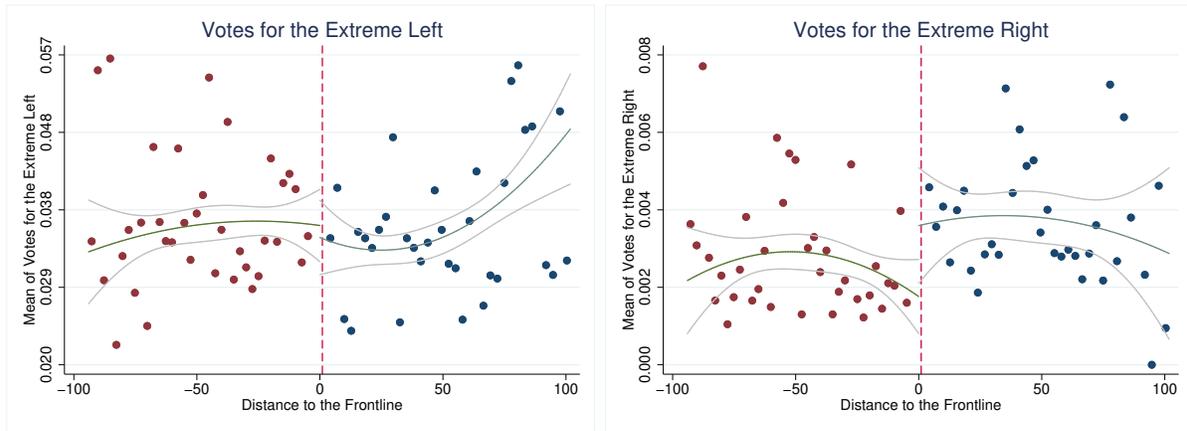
NOTES: The dots show the means of votes for extreme left-wing or extreme right-wing parties for the Spanish Parliament elections to Congress 1977-2016, conditional on distance to the frontline. The lines are quadratic best fits, with confidence intervals. Municipalities located within the front are excluded. RD coefficients (st. error) are 0.002 (0.009) for the left and 0.001 (0.003) for the right, using the `rdrobust` command.

FIGURE A-15: *Voting Results: Congressional Elections 2016. Populist Parties*
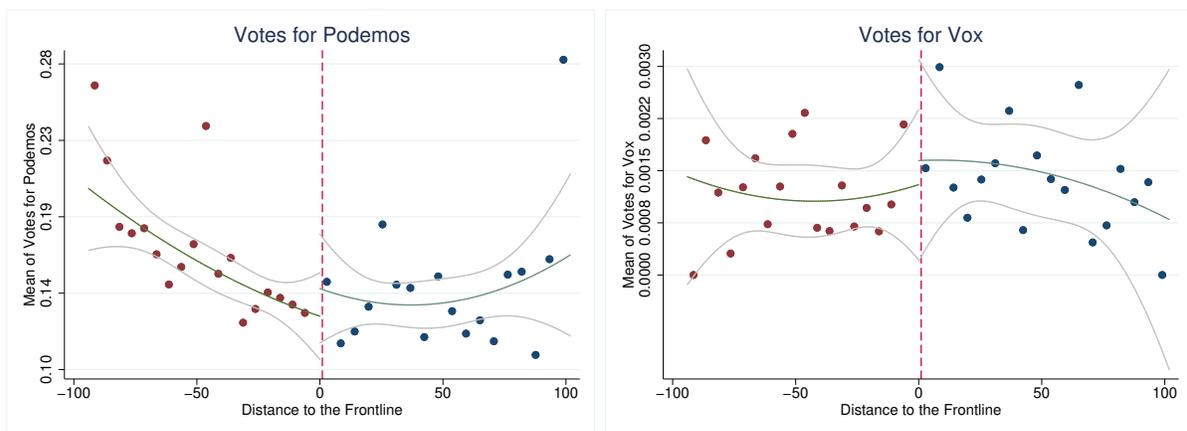
NOTES: The dots show the means of votes for *Podemos* (left-wing) or *Vox* (right-wing) for the Spanish Parliament elections to Congress in 2016, conditional on distance to the front. The lines are quadratic best fits, with confidence intervals. Municipalities located within the front are excluded. RD coefficients (st. error) are 0.03 (0.042) for the left and -0.0008 (0.0014) for the right, using the `rdrobust` command.

FIGURE A-16: *Voting Results: Congressional Elections (1977-2016). Regionalist Parties*
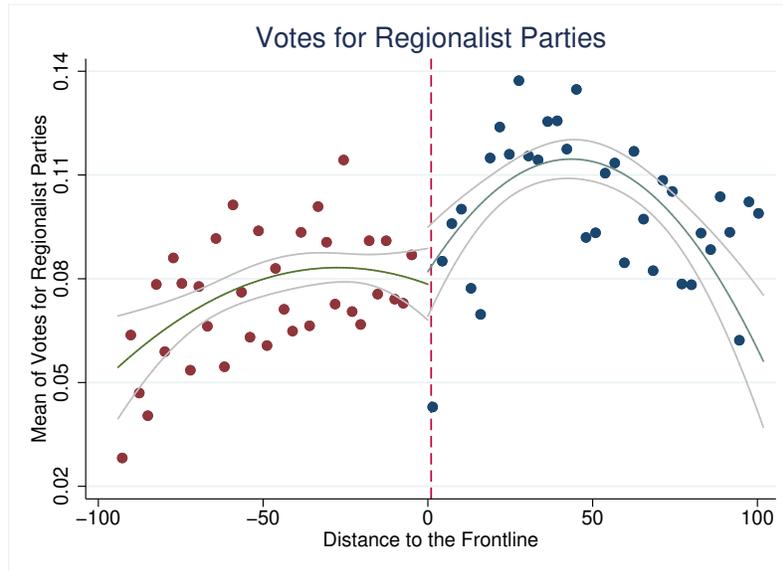
NOTES: The dots show the means of votes for regionalist parties for the Spanish Parliament elections 1977-2016, conditional on distance to the front. The lines are quadratic best fits, with confidence intervals. Municipalities located within the front are excluded. RD coefficient (st. error) is 0.008 (0.014) using the `rdrobust` command.

FIGURE A-17: *Voting Results: Municipal Elections (1987-2011)*
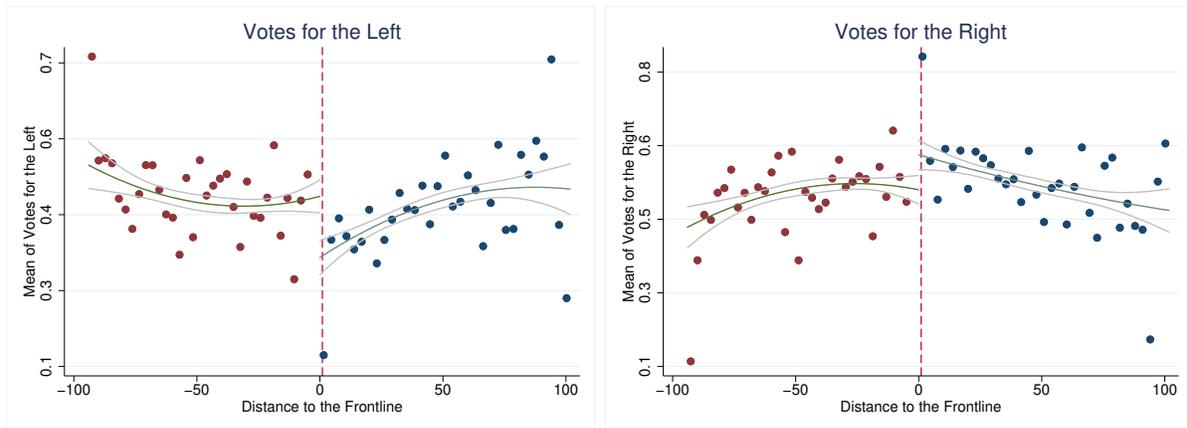
NOTES: The dots show the means of votes for left-wing or right-wing parties for municipal elections 1987-2011, conditional on distance to the frontline. The lines are quadratic fits, with confidence intervals. Municipalities located within the front are excluded. Negative values of distance correspond to the Republican side. RD coefficients (st.error) are -0.24*** (0.055) for the left and 0.05 (0.038) for the right, using the `rdrobust` command. *** $p < 0.01$.

NOTES: The dots show the average turnout at the municipal level for two referenda held in 1986 (left) and 2005 (right), conditional on distance to the frontline. The lines are quadratic fits, with confidence intervals. Municipalities located within the front are excluded. Negative values of distance correspond to the Republican side. RD coefficients (st.error) are -0.014 (0.0512) in 1986 (left) and 0.053 (0.0679) in 2005 (right), using the `rdrobust` command.

FIGURE A-19: *Voting Results: Yes Votes in Referenda 1986 and 2005*
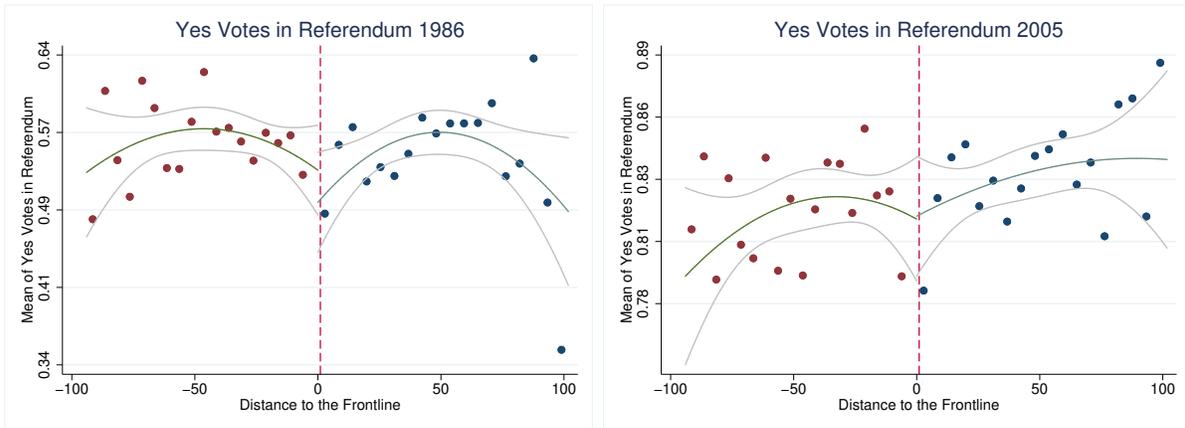
NOTES: The dots show the average turnout at the municipal level for two referenda held in 1986 (left) and 2005 (right), conditional on distance to the frontline. The lines are quadratic fits, with confidence intervals. Municipalities located within the front are excluded. Negative values of distance correspond to the Republican side. RD coefficients (st.error) are -0.011 (0.0480) in 1986 (left) and -0.034 (0.0591) in 2005 (right), using the `rdrobust` command.

FIGURE A-20: *Pre-trends. 1936 Balance of Power and Prewar Political Violence*
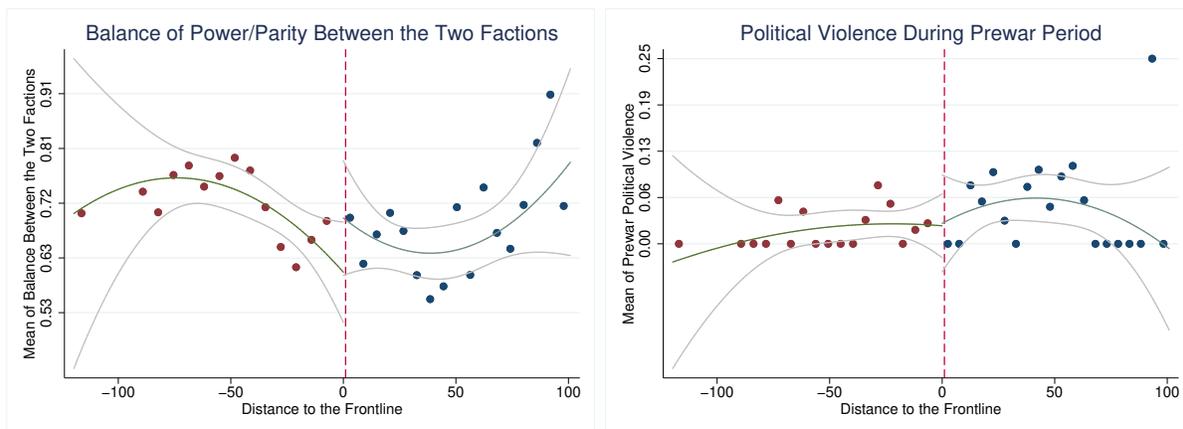
NOTES: The dots show the average of an index capturing the extent to which there is a balance of power or parity between the two factions—left and right—(left panel) and political violence during the prewar period (right panel), at the locality level and conditional on distance to the frontline. Municipalities located within the front are excluded. Negative values of distance correspond to the Republican side. RD coefficients (st.error) are -0.65 (0.132) (left) and -0.060 (0.0417) (right), using the `rdrobust` command.

FIGURE A-21: *Historical Population Data for Aragon at the Municipal Level Using 1930 and 1940 Censuses*
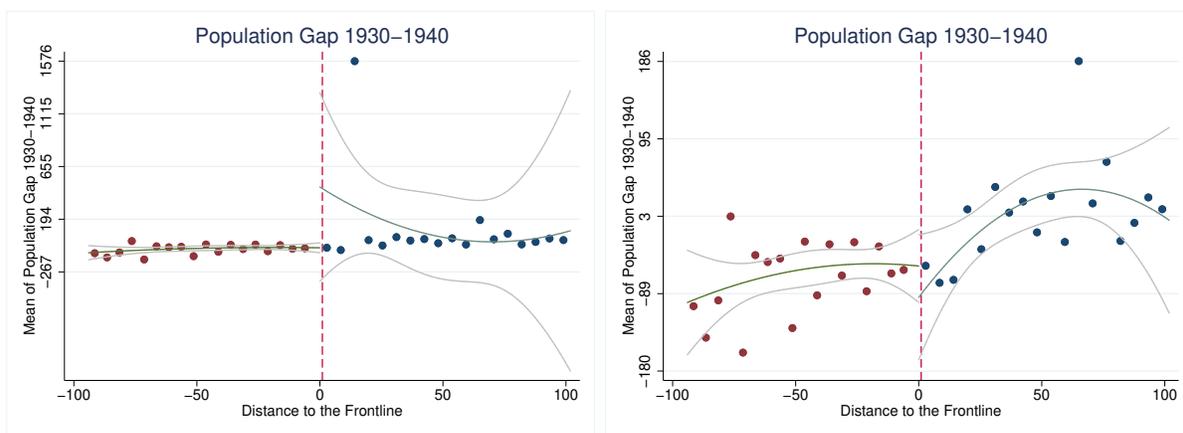
NOTES: The dots show the average of the difference between population in 1940 and in 1930 at the municipal level, conditional on distance to the frontline. The left panel includes all municipalities (except the ones in the frontline) and the right panel additionally excludes Zaragoza, the capital of the Aragon region. Negative values of distance correspond to the Republican side. RD coefficients (st.error) are -226.7 (165.7) (left) and -25.2 (40) (right), using the `rdrobust` command.

FIGURE A-22: *Historical Population Data for Aragon at the Municipal Level Using 1970 and 1981 Censuses*
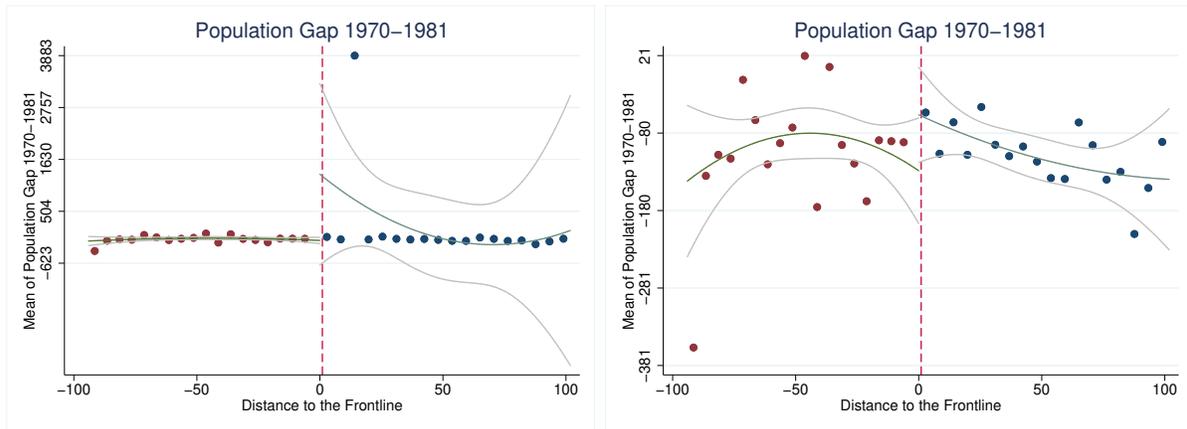
NOTES: The dots show the average of the difference between population in 1970 and in 1981 at the municipal level, conditional on distance to the frontline. The left panel includes all municipalities (except the ones in the frontline) and the right panel additionally excludes Zaragoza, the capital of the Aragon region. Negative values of distance correspond to the Republican side. RD coefficients (st.error) are 74.5 (111.2) (left) and 42.4 (36) (right), using the `rdrobust` command.

FIGURE A-23: *Trust in the Aragon Region*
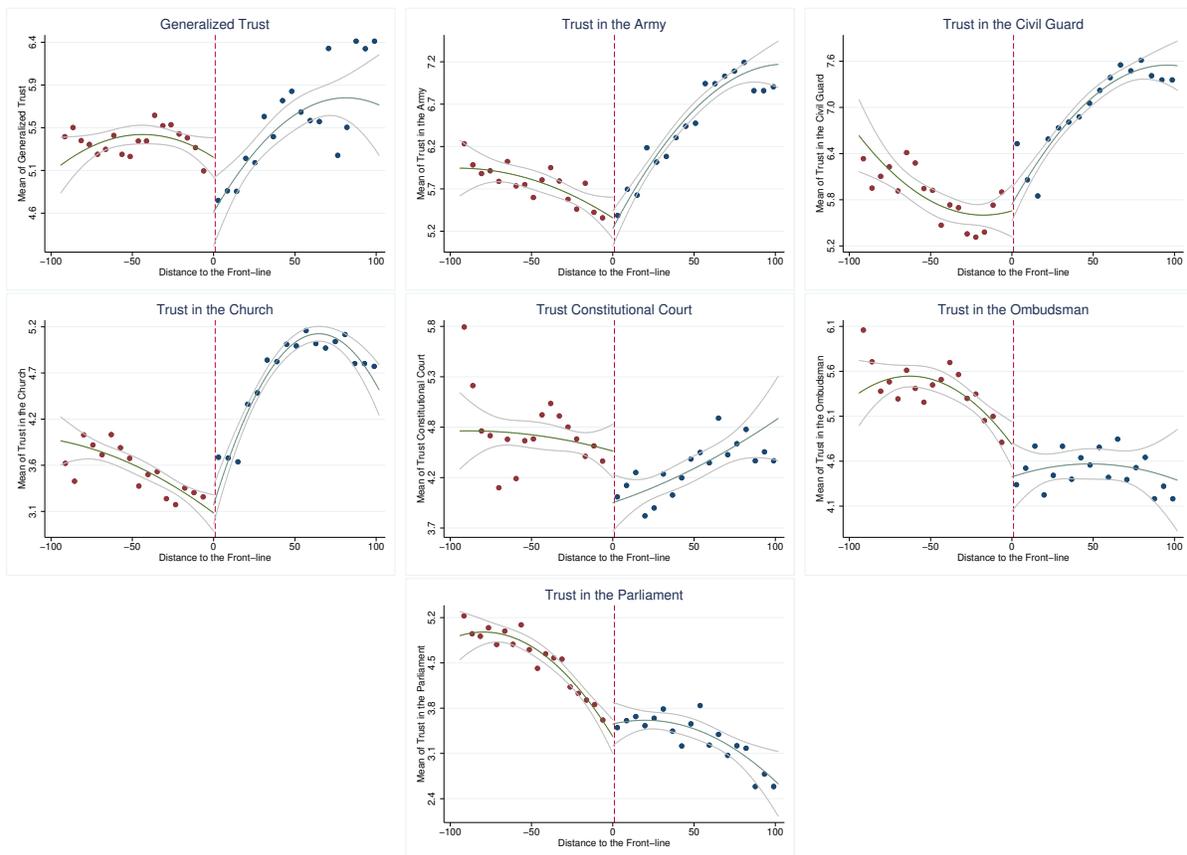
NOTES: Trust is measured at the municipal level. We combine trust information at the district and municipal level, when the last is available. The dots show the means of generalized trust or trust in different institutions conditional on distance to the front. The lines are quadratic best fits, with confidence intervals. We compute distance to the frontline by using the municipality's centroid. The frontline is computed by using information on the centroid for all 47 municipalities that comprised the frontline. Negative values of distance correspond to the Republican side and positive to the Nationalist one.

FIGURE A-24: *Collective Memory: Francoist / Religious Streets and Mass Graves*
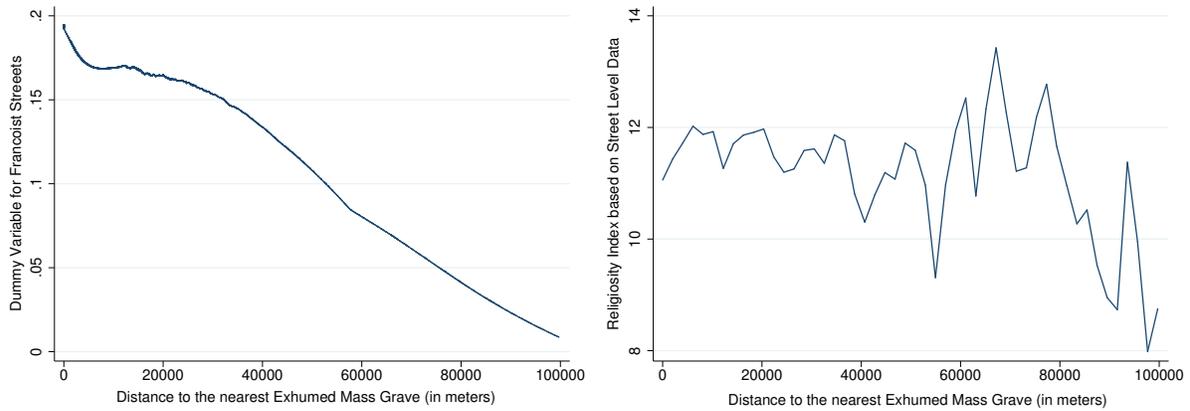
NOTES: The figure in the left panel depicts a Kernel-weighted linear regression of a dummy for Francoist streets on distance to the nearest exhumed mass grave (in meters) at the municipality level. The figure in the right panel depicts a Kernel-weighted local polynomial regression of an index for religious streets (number of religious streets over total streets, times a hundred) from Oto-Peralías [2018] on distance to the nearest exhumed mass grave (in meters) at the municipal level.

FIGURE A-25: *Collective Memory: No-Do Newsreels about the War*
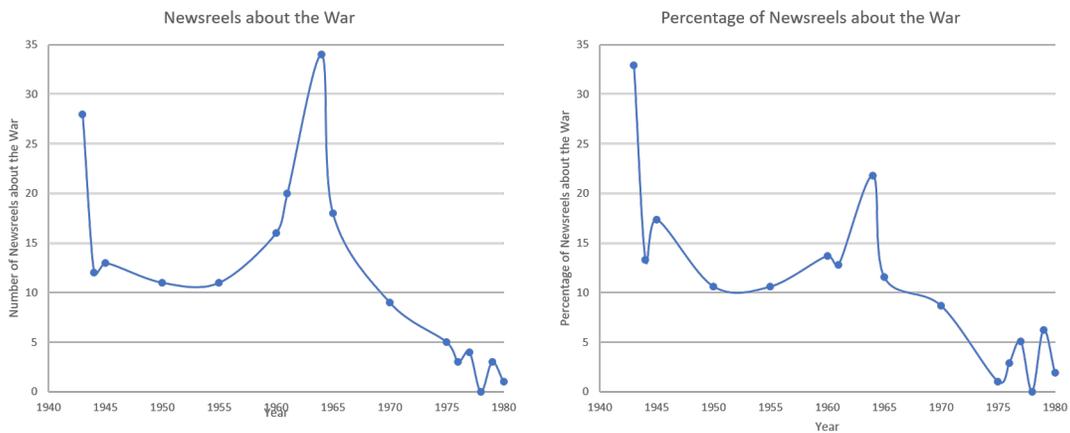
NOTES: The figure in the left panel depicts the number of newsreels about the war from 1943 to 1980. The figure on the left panel depicts the same figure over the total number of newsreels over the same time period. Information comes from Aguilar [1996].

Table A-1: *Battlefront and Civilian Victims of the Spanish Civil War*

Killed in combat	300,000	Preston [2012]
Repression by the Republicans (red terror)	50,065	Prada [2010]
	49,272	Vera [2010]
Repression by the Nationalist (white terror)	141,951	Prada [2010]
	130,199	Preston [2012]
Population in 1930	23,614,418	Census

NOTES: Population in 1930 includes Ceuta, Melilla and the Northern Africa territories. Data from Prada [2010], Preston [2012] and Vera [2010].

Table A-2: *As a Consequence of the Civil War, at Least One Family Member or Close Person...*

Type of victimization	Number	%
No victims	713	24.28
Was imprisoned	330	11.24
Was killed in combat	321	10.93
Was murdered	256	8.72
Had to hide	136	4.63
Had to leave Spain	129	4.39
Disappeared	73	2.49
Was killed in bombing	64	2.18
Was sentenced to death	49	1.67
Was fired from her job	18	0.61
Other situation	162	5.52
Total victims	1,538	52.38
Don't know	396	13.49
Don't answer	289	9.84

Notes: Own elaboration based on the survey on the Civil War and Franco's Dictatorship (CIS 2760) conducted in 2008.

Table A-3: *Mass Graves*

Type	Number	%
No Interventions Undertaken	1,176	47.84
Fully or Partially Exhumed	540	21.97
Transferred to the Valley of the Fallen	499	20.30
Missing	242	9.85
Valley of the Fallen	1	0.04
Total graves	2,458	100

Notes: Information taken from the Spanish Ministry of Justice (2015). The information on exhumed graves has been revised and updated until 2015.

TABLE A-4: *Mass Graves: Death Toll*

Type	Number	%
Transferred to the Valley of the Fallen	33,839	49.08
No Interventions Undertaken	15,535	22.53
Fully or Partially Exhumed	14,977	21.72
Missing	4,261	6.18
Valley of the Fallen	338	0.49
Total dead	68,950	100

Notes: Information taken from the Spanish Ministry of Justice (2015). The information on exhumed graves has been revised and updated until 2015.

TABLE A-5: *Exhumed Graves: Cause*

Cause	Number	%
Execution by firing squad	214	63.13
Execution	43	12.68
Reprisal in the rearguard	30	8.85
Guerrilla warfare	27	7.96
Armed fight	14	4.13
Other	11	3.24
Total	339	100
No information	201	37.22

Notes: Additional information was extracted from the individual graves registry at the Ministry of Justice website. Execution means violent death by other than a firing squad. Guerrilla warfare also includes guerrilla helpers.

TABLE A-6: *Exhumed Graves: Location*

	Number	%
Cementery	182	37.68
Other	301	62.32
Total	483	100
No information	57	10.56

Notes: Additional information was extracted from the individual graves registry at the Ministry of Justice website.

TABLE A-7: *Control Variables. Sources of Information*

Variables	Sources
1931 road network	Ministry of Public Infrastructure
Military plans for the coup and troops' movements during the war	Coll-Hurtado [2012]; Puell and Huerta [2007]
Population	Census. Spanish Institute of Statistics (*INE*)
Climatic variables	WorldClim - Global Climate Data (`worldclim.org/bioclim`)
Index of caloric yield	Galor, Oded and Ömer Özak (2016), "The Agricultural Origins of Time Preference", *American Economic Review* 106(10):3064-3103.
Ruggedness	Nunn and Puga [2012].
Distance to river	Hydrographical network. Ministry for Ecological Transition and Demographic Challenge
Distance to coast	Spain Shapefile - European Environment Agency
Land cover	Land Use Information System SIOSE2005. National Geographic Institute of Spain
Modern roads and railroads	DIVA-GIS, `http://www.diva-gis.org/gdata`
Roman roads	Blackwood, Carol. (2017). GB Roman Roads, [Dataset]. EDINA

TABLE A-8: *OLS Results on Generalized Trust: Non-Exhumed Mass Graves*

	(1)	(2)	(3)	(4)
Non-Exhumed corpses/Population	-0.0013***	-0.0004	0.0003	0.0002
	(0.0005)	(0.0005)	(0.0011)	(0.0010)
Observations	38,287	38,275	36,159	35,839
Adj-R^2	0.03	0.04	0.05	0.07
Region and year FE	Yes	Yes	Yes	Yes
Individual and district controls	No	Yes	Yes	Yes
Geographic controls	No	No	Yes	Yes
Education and employment controls	No	No	No	Yes
Mean dependent variable	4.86	4.86	4.85	4.85

Notes: *Non-Exhumed corpses/Population* is measured as the number of corpses in all types of mass graves minus the number of corpses in the exhumed mass graves in each district divided by the population that district had in 1930 and multiplied by 1,000. *Individual and district controls* includes fixed effects for age groups, for current size of the municipalities, population in 1930 as well as in the survey year, and area at the district level. *Geographical controls* includes an index of caloric yield of the soil, ruggedness, average temperature and its standard deviation, distance to river and to coast, and landcover. *Education and employment controls* includes level of education and employment status of the individual. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A-9: *OLS Results on Generalized Trust: Exhumed Mass Graves, Restricted (IV) Sample*

	(1)	(2)	(3)	(4)	(5)
Exhumed corpses/Population	-0.0071***	-0.0070***	-0.0203***	-0.0191***	-0.0179***
	(0.0023)	(0.0023)	(0.0059)	(0.0058)	(0.0059)
Observations	31,061	31,054	29,771	29,531	29,531
Adj-R^2	0.03	0.05	0.05	0.07	0.07
Region and year FE	Yes	Yes	Yes	Yes	Yes
Individual and district controls	No	Yes	Yes	Yes	Yes
Geographic controls	No	No	Yes	Yes	Yes
Education and employment control	No	No	No	Yes	Yes
IV controls	No	No	No	No	Yes
Mean dependent variable	4.83	4.83	4.83	4.83	4.83

Notes: The dependent variable takes values from 0 to 10, where 0 indicates that you need to be very careful when dealing with people and 10 that most people can be trusted. *Exhumed corpses/Population* is measured as the exhumed number of corpses in the exhumed mass graves in each district divided by the population that district had in 1930 and multiplied by 1,000. Sample restricted to districts in Peninsular Spain, without Madrid. *Individual and district controls* includes fixed effects for age groups, for current size of the municipalities, population in 1930 as well as in the survey year, and area at the district level. *Geographic controls* includes an index of caloric yield of the soil, ruggedness, average temperature and its standard deviation, distance to river and to coast, and landcover. *Education and employment control* includes level of education and employment status of the individual. *IV controls* includes distance to Madrid, distance to the Mola Plan and to the taking over Madrid. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A-10: *IV Results: All Mass Graves*

	(1)	(2)	(3)	(4)
	Panel A: First-Stage Results			
Distance to the takeover Madrid	-0.015***	-0.016***	-0.014***	-0.015***
	(0.0011)	(0.0011)	(0.0011)	(0.0012)
F statistic	206.35	202.42	149.51	152.21
	Panel B: Second-Stage Results			
All corpses/Population	-0.053***	-0.051***	-0.070**	-0.075***
	(0.0181)	(0.0184)	(0.030)	(0.029)
Observations	29,531	27,372	29,531	27,372
Centered	0.07	0.07	0.06	0.06
Region and Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Restricted to primary road	No	Yes	No	Yes
Mola's Plan control	No	No	Yes	Yes
Mean dependent variable	4.83	4.86	4.83	4.86

Notes: *All corpses/Population* is measured as the total number of corpses in all types of mass graves in each district divided by the population that district had in 1930 and multiplied by 1,000. The instrument is the nearest distance (in meters) from the district's centroid to the primary road that existed in 1931 that was taken in the advancement of the Francoist troops in the taking over Madrid. *Controls* include age-group, education and labor status of the individual fixed effects, current size of the municipality fixed effects, population in 1930 and in the survey year, area of the district, primary roads in 1931, ruggedness, mean temperature and its standard deviation, distance to river and to coast, an index of caloric yield of the soil, a landcover index, distance to Madrid. *Mola's Plan control* measures the nearest distance (in meters) from the district's centroid to the primary road that existed in 1931 and that General Mola planned to use to take Madrid. Sample restricted to districts in Peninsular Spain, without Madrid. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A-11: *IV Results: Mass Graves Transferred to the Valley of the Fallen*

	(1)	(2)	(3)	(4)
	Panel A: First-Stage Results			
Distance to the takeover of Madrid	-0.0079***	-0.008***	-0.0090***	-0.0096***
	(0.0010)	(0.0010)	(0.0008)	(0.0009)
F statistic	67.75	64.19	117.57	118.85
	Panel B: Second-Stage Results			
Transferred corpses/Population	-0.102***	-0.100***	-0.106**	-0.115***
	(0.0363)	(0.0380)	(0.0456)	(0.0449)
Observations	29,531	27,372	29,531	27,372
Centered R^2	0.05	0.05	0.05	0.05
Region and Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Restricted to primary road	No	Yes	No	Yes
Mola's Plan control	No	No	Yes	Yes
Mean dependent variable	4.83	4.86	4.83	4.86

Notes: *Transferred corpses/Population* is measured as the total number of corpses in the mass graves that were transferred to the Valley of the Fallen in each district divided by the population that district had in 1930 and multiplied by 1,000. The instrument is the nearest distance (in meters) from the district's centroid to the primary road that existed in 1931 that was taken in the advancement of the Francoist troops in the taking over Madrid. *Controls* include age-group, education and labor status of the individual fixed effects, current size of the municipality fixed effects, population in 1930 and in the survey year, area of the district, primary roads in 1931, ruggedness, mean temperature and its standard deviation, distance to river and to coast, an index of caloric yield of the soil, a landcover index, and distance to Madrid. We further control for the *Mola's Plan control* measures the nearest distance (in meters) from the district's centroid to the primary road that existed in 1931 and that General Mola planned to use to take Madrid. Sample restricted to districts in Peninsular Spain, without Madrid. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A-12: *IV Results: Exhumed Mass Graves, Robustness*

	(1)	(2)	(3)	(4)
	Panel A: First-Stage Results			
Distance to the takeover of Madrid	-0.013***	-0.007***	-0.0017***	-0.0017***
	(0.0006)	(0.0004)	(0.0001)	(0.0005)
F-statistic	466.77	388.9	493.14	13.39
	Panel B: Second-Stage Results			
Exhumed	-0.063*	-0.128**	-0.529**	-0.529*
	(0.0365)	(0.0567)	(0.2341)	(0.2895)
Centered R^2	0.06	0.06	0.07	0.07
Region and Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
South only	Yes	No	No	No
Extensive Margin	No	Yes	No	No
Extensive (binary)	No	No	Yes	No
Cluster(region)	No	No	No	Yes
Observations	13,826	29,587	29,587	29,587
Mean dependent variable	4.65	4.83	4.83	4.83

Notes: *Exhumed* is measured as the number of corpses exhumed in each district divided by the population that district had in 1930 and multiplied by 1,000 in Column 1. In Column 2 we use the total number of exhumed mass graves in each district. In Columns 3 and 4 we use a binary variable that takes the value 1 if in the district there is at least one exhumed mass grave and 0 otherwise. The instrument is the nearest distance (in meters) from the district's centroid to the primary road that existed in 1931 that was taken in the advancement of the Francoist troops in the taking over Madrid. *Controls* include age-group, education and labor status of the individual fixed effects, current size of the municipality fixed effects, population in 1930 and in the survey year, area of the district, primary roads in 1931, ruggedness, mean temperature and its standard deviation, distance to river and to coast, an index of caloric yield of the soil, a landcover index, and distance to Madrid. We further control for the *Mola's Plan control* measures the nearest distance (in meters) from the district's centroid to the primary road that existed in 1931 and that General Mola planned to use to take Madrid. Sample restricted to districts in the mainland, without Madrid. Column 1 further restricts the sample to individuals living in provinces in the southern half of mainland Spain. Robust standard errors in Columns 1, 2 and 3, and clustered at the Region level in Column 4, in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A-13: *Decomposing Trust: IV Results with Trust on Institutions. Mass Graves Transferred to the Valley of the Fallen*

	(1) Army	(2) Civil Guard	(3) Church	(4) Constit. Court	(5) Ombudsman	(6) Parliament
Transferred Corpses/Population	-0.46**	-0.66*	-0.34	-0.02	0.17	-0.02
	(0.18)	(0.39)	(0.25)	(0.12)	(0.17)	(0.05)
Observations	12,401	7,316	10,997	13,336	13,318	23,411
F-Statistic	35.31	8.90	23.28	53.94	36.18	77.87
Mean dependent variable	5.5	5.9	3.9	4.2	4.6	4.1

Notes: The dependent variable takes values from 0 to 10 (from lowest to highest trust) in the Army in Column 1, Civil Guard in Column 2, Catholic Church in Column 3, Constitutional Court in Column 4, Ombudsman in Column 5 and National Parliament in Column 6, at the individual level. *Transferred Corpses/Population* is measured as the number of corpses in mass graves transferred to the Valley of the Fallen in each district divided by the population that district had in 1930 and multiplied by 1,000. The instrument is the nearest distance (in meters) from the district's centroid to the primary road that existed in 1931 that was taken in the advancement of the Francoist troops in the taking over Madrid. All models include region and survey-year fixed effects. Controls include age-group, education and labor status of the individual fixed effects, current size of the municipality fixed effects, population in 1930 and in the survey year, area of the district, a measure of density in the primary roads network in 1931, ruggedness, mean temperature and its standard deviation, distance to river and to coast, an index of caloric yield of the soil and a landcover index. All models control for distance to the Mola Plan, keeping all observations in Peninsular Spain except Madrid. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A-14: *RD Results: Voting. Congressional Elections (1977-2016). Robustness Tests*

	(1)	(2)	(3)	(4)
	Panel A: Votes for the Left			
RD coefficient	-0.076***	-0.088***	-0.073***	-0.081*
	(0.0129)	(0.0190)	(0.0131)	(0.0418)
	Panel B: Votes for the Right			
RD coefficient	0.075***	0.080***	0.071***	0.081**
	(0.0133)	(0.0185)	(0.0133)	(0.0416)
Excludes Zaragoza	Yes	No	No	No
Add. Latitude and Longitude controls	No	Yes	No	No
Year fixed effects	No	No	Yes	No
Average municipality	No	No	No	Yes
Original Number of Observations	8146	8158	8158	684

Notes: All models exclude frontline municipalities. Zaragoza is the capital of the Aragon region. *Additional Latitude and Longitude controls* encompasses latitude, longitude, squared latitude and longitude and the interaction of latitude and longitude. Average municipality values are computed as the municipality mean for all election years (1977-2016). Coefficients display the difference among mean on the right and the left side of the front of Aragon. Conventional standard errors are displayed in parenthesis. All estimations are local RD using the `rdrobust` command. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A-15: *RD Results: Voting. Municipal Elections (1987-2011)*

	(1)	(2)	(3)	(4)
	Panel A: Votes for the Left			
RD coefficient	-0.243***	-0.201***	-0.126***	-0.169***
	(0.0550)	(0.0405)	(0.0387)	(0.0448)
	Panel B: Votes for the Right			
RD coefficient	0.048	0.027	0.045	0.038
	(0.0377)	(0.0323)	(0.0355)	(0.0352)
frontline municipalities	No	Yes	No	No
Latitude and Longitude controls	No	No	Yes	No
Province fixed effects	No	No	No	Yes
Original Number of Observations	4759	5088	4759	4759

Notes: Coefficients display the difference among mean on the right and the left side of the front of Aragon. Conventional standard errors are displayed in parenthesis. All estimations are local RD using the `rdrobust` command. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A-16: *RD Results: Referenda 1986, 2005 and Both*

	1986	2005	Both
	Panel A: Turnout		
RD coefficient	-0.014	0.053	0.056
	(0.051)	(0.068)	(0.045)
	Panel B: Yes Votes		
RD coefficient	-0.011	-0.034	-0.023
	(0.048)	(0.059)	(0.062)
Original Number of Observations	680	683	1363

Notes: Coefficients display the difference among mean on the right and the left side of the front of Aragon. All models exclude frontline municipalities. Conventional standard errors are displayed in parenthesis. All estimations are local RD using the `rdrobust` command. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A-17: *Trust Results for the Aragon Region*

	(1) Generalized	(2) Army	(3) Civil Guard	(4) Church	(5) Constit. Court	(6) Ombudsman	(7) Parliament
Republican side	-0.11	-0.75**	-1.05**	-1.11***	0.30	0.67*	0.75**
	(0.226)	(0.261)	(0.375)	(0.262)	(0.339)	(0.340)	(0.281)
Observations	683	600	575	584	655	652	683
R-squared	0.26	0.28	0.49	0.52	0.13	0.25	0.48
Mean dependent variable	5.4	6.1	6.3	4.1	4.4	4.9	3.9

Notes: The dependent variable measures the average at the municipal level of generalized trust in Column 1, trust in the army in Column 2, trust in the Civil Guard in Column 3, trust in the Catholic Church in Column 4, trust in the Constitutional Court in Column 5, trust in the Ombudsman in Column 6 and trust in the National Parliament in Column 7. *Republican side* is a dummy variable that takes the value 1 if the municipality fell under the Republican troops in the Aragon region and zero otherwise. Municipalities within the frontline are excluded. Controls include ruggedness, mean elevation, distance to modern roads, distance to Roman roads, land cover, municipal area, distance to water bodies and distance to rivers. Clustered standard errors at the district level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A-18: *IV Results on Collective Memory: Francoist and Religious Streets in Spain*

	(1) Francoist (Total)	(2) % Francoist	(3) Francoist (dummy)	(4) % Francoist	(5) Religiosity
Distance to Exhumed Mass Grave	-0.011**	-0.035***	-0.004***		0.081***
	(0.0043)	(0.0119)	(0.0016)		(0.0267)
Dummy Exhumed Mass Grave				7.16**	
				(2.832)	
F-Statistic	287.4	287.4	287.4	23.8	287.4
Observations	7,740	7,740	7,740	7,740	7,687
Mean dependent variable	0.31	0.96	0.15	0.96	11.6

Notes: The dependent variable is the total number of Francoist streets at the municipal level in Column 1 and 4, the total number of Francoist streets divided by the total number of streets in the municipality and multiplied by 100 in Column 2, an indicator variable that takes the value 1 if there is at least one Francoist street in the municipality and 0 otherwise in Column 3, and a religiosity index (number of religious streets over total streets, times a hundred) at the municipal level in Column 5. Data for all dependent variables comes from Oto-Peralías [2018]. *Distance to Exhumed Mass Grave* is the distance (in km) to the nearest exhumed mass grave. *Dummy Exhumed Mass Grave* is a binary variable that takes the value 1 if there is at least one exhumed mass grave in the municipality and zero otherwise. These last two variables are instrumented by the nearest distance to the marching of the rebel troops in their way to Madrid. Sample restricted to municipalities in Peninsular Spain except Madrid province. Controls include municipal area, distance to modern roads, distance to modern railroads, distance to rivers, logarithm of population in 2001, and distance to Madrid. All models include region fixed effects and distance to the Mola plan. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.