RESISTANCE TO INSTITUTIONS AND CULTURAL DISTANCE: BRIGANDAGE IN POST-UNIFICATION ITALY

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Resistance to Institutions and Cultural Distance

Brigandage in Post-Unification Italy*

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Abstract

We study how cultural distance affects the rejection of imposed institutions. To this purpose, we exploit the transplantation of Piedmontese institutions on Southern Italy which occurred during the Italian unification. We assemble a novel and unique dataset containing information on episodes of *brigandage*, a form of violent uprising against the unitary government, at the municipal level. We use geographic distance from local settlements of Piedmontese descent as a proxy for cultural distance between each municipality and the new rulers. We find robust evidence that cultural distance from the origins of the transplanted institutions is significantly associated with more intense resistance to these institutions. Our results further suggest that the rejection of the transplanted institutions may have a long lasting effect on political participation.

Keywords: Institutions, Institutional Transplantations, Culture, Social Unrest, Electoral Turnout
JEL classification: N43, D74, P16, Z10

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1 Introduction

The emergence of contemporary European states during the nineteenth century often coincided with the occurrence of nation building processes. In the case of Italy and France, for instance, national rulers introduced uniform institutions across their territories, implementing policies intended to create a unified legal environment and, possibly, a unified national identity[1]. However, phenomena such as the rise of secessionist movements and the lack of cultural convergence between regions of the same country (Alesina et al., 2017) seem to suggest that the process of nation building was not always successful.

In this paper, we investigate whether cultural differences play a relevant role in the short-run rejection of new institutions. Such rejection may hinder state formation processes in the short run. It can also have long-lasting effects on important aspects of nation building, such as the intensity of political participation. We address this question by analyzing the consequences of the imposition of Piedmontese institutional features on the territories of continental Southern Italy[2] during the Italian unification. Three features of the Italian unification make it an ideal setting for our analysis. First, the institutional rejection took on the very visible form of violent, guerrilla-like popular unrest known as *brigandage*. Second, historical migrations provide us with local variation in cultural distance from Piedmont across southern municipalities. Finally, the incompleteness of Italy's nation building process is reflected by large and persistent differences in attitudes toward institutions, the intensity of which may be partially evaluated in the light of that instance of institutional rejection.

The main contribution of our paper is threefold: first, we construct a novel dataset of all recorded episodes of brigandage at the municipal level; second, we exploit our data to quantify the intensity of institutional rejection across Southern Italy; and, finally, we find strong evidence that rejection is closely linked to cultural distance from Piedmont. We measure cultural distance by the geographical distance from communities descending from near-Piedmontese settlers, whose persistent cultural similarity with their ancestors is well documented by historians. A prolonged interaction with Piedmontese descendants, occasional intermarriages and protracted exposure to Piedmontese social norms will increase the cultural proximity of local communities to sufficiently close near-Piedmontese settlements and, therefore, to Piedmont itself. Knowing the number of brigandage episodes in each municipality, we directly test whether cultural distance affects the likelihood that communities reject transplanted institutions. Our results show that, on average, doubling the dis-

[1] See Alesina and Reich (2015) for historical examples of nation building in Europe.

[2] From now on, we shall simply refer to 'Southern Italy', but the limitation to the continental regions applies everywhere.

tance from the nearest Piedmontese enclave is associated with a 0.4-unit increase in the number of uprisings per 1,000 inhabitants. This corresponds to a 20% increase over the average number of uprisings (approximately 1.9 per 1,000 inhabitants). Furthermore, we show that the effect of cultural proximity is non linear and depends on the intensity of exposure to Piedmontese culture both in terms of number of enclaves and percentage of population of Piedmontese descent.

Our results are robust to a wide range of alternative specifications and to the inclusion of various controls. For example, we use alternative distance measures based on the ancient Roman road network, as the intensity of social interactions depends on accessible communications. Aside from measurement issues, one major threat to identification is that our results may be driven by characteristics typical of all ethno-linguistic enclaves (i.e., secludedness) and that there is really nothing specific about our reference points being communities of near-Piedmontese descent. For example, the latter may display higher social cohesion or have developed internal social structures that reduce their propensity to violently reject transplanted institutions. To address this concern, we perform several placebo tests. In particular, we replicate our analysis with different cultural enclaves (e.g. Greek, Croatian and Albanian), for which we do not find any significant correlation with the number of brigandage episodes. Our evidence thus supports the claim that cultural proximity between the environment where the institutions originated and that where they are applied plays a crucial role in determining these institutions' ability to function.

After establishing the link between cultural proximity and institutional rejection, we investigate whether there is a relation between our measure of the latter and the medium-run levels of political participation and trust in national institutions, both proxied by electoral turnout. Specifically, we demonstrate that the change in electoral turnout between the 1861 and 1865 national elections is strongly negatively correlated with the intensity of brigandage episodes occurring between 1862 and 1865[3]. Institutional rejection thus induces lower political participation. We also explore the relationship between episodes of brigandage and electoral turnout in subsequent elections. We find suggestive evidence that municipalities with a large number of uprisings had depressed turnout well into the early twentieth century. This 40-year-long effect of brigandage suggests that the short-term rejection of Piedmontese institutions impacted the nation building process through its long-lasting influence on political participation.

Our results add new evidence to the literature on institutions and culture. The positive impact of both well-functioning institutions and favorable cultural traits on economic growth has been widely documented in the recent economic litera-

[3]This time span was chosen to capture the effect of uprisings occurring between the two electoral rounds; see Section 5.

ture[4]. However, these drivers of economic prosperity will, in general, evolve jointly (Bisin and Verdier, 2017) and interact with one another (Tabellini, 2010; Alesina and Giuliano, 2015; Lowes et al., 2017). The economic analysis of institutions and institutional change often implicitly assumes cultural homogeneity (or downplays the role of cultural differences) in the underlying environment (Acemoglu et al., 2011), but empirical evidence suggests that the same institution can have different effects when local norms and social capital are different (Putnam, 1993). In particular, how legal and administrative institutions work and their effectiveness in terms of economic outcomes are deeply affected by the cultural traits of the environment to which they are applied[5].

The main empirical challenge in identifying the effect of cultural traits on institutional effectiveness is that institutional variation interplays with cultural variation[6]. Institutional transplantations – the deliberate, rapid and forced exportation of institutions from one location (the *donor environment*) to another (the *recipient environment*) – can provide variation in institutions that is uncorrelated with underlying cultural traits. Transplantations simultaneously involving several recipients are particularly useful, as they often lead to the imposition of a uniform set of institutions on culturally diverse groups. This allows one to overcome the potential endogeneity issue related to the process by which institutions arise from a given cultural environment, as the transplanted institutions are almost never designed to be transplanted. Finally, as we shall see shortly, if one is interested not so much in the role of specific traits as in that of the recipient's culture relative to the donor's, the problem of measuring the cultural traits is reduced to that of defining and measuring the *cultural distance* between donor and recipient.

Our findings complement and extend those of Berkowitz et al. (2003*a*), who argue that what matters for the performance of transplanted institutions is their degree of adaptation to local legal norms and pre-existing formal and informal institutions, rather than the legal family to which they belong (see also Guinnane, 1994; Berkowitz et al., 2003*b*; Pistor et al., 2003). While Berkowitz et al. (2003*a*) rely on

[4]See Acemoglu et al., 2005 and Guiso et al., 2006 for general introductions.

[5]See, among others, Guinnane (1994), Acemoglu and Jackson (2017), Guiso et al. (2016).

[6]Some examples of the difficulties arising when studying the interplay between cultural traits and institutions are as follows: it is difficult for identical institutions to arise endogenously from different cultural milieus (Tabellini and Greif, 2010); the same institution may display different degrees of effectiveness when applied to different environments because of the institutional, rather than the cultural, background of such environments (Ma, 2013); and culture itself may be influenced by institutional arrangements, implying an obvious endogeneity issue (Aldashev et al., 2012). Moreover, cultural traits are difficult to specify and measure in absolute terms: 'culture' is composed of preferences and beliefs, and although several ingenious quantifications have been proposed (e.g., Guiso et al., 2004), all inevitably capture only some aspects of a more general, yet unfathomable, picture.

cross-country variation over long horizons, we exploit a single episode and use finer municipality-level variation. This reduces concerns of under-controlling for relevant economic factors and allows us to isolate the importance of cultural proximity. In the same spirit, Lecce and Ogliari (2017) show that the key to the long-run success of institutional transplantations is not the set of underlying cultural traits but the cultural proximity between donor and recipient. They test their hypothesis by studying the imposition of French institutions on Prussian counties during the Napoleonic occupation and the long-run effectiveness thereof, assessing the effect of cultural proximity on what we may call the degree of *institutional sedimentation*. However, in the short run, transplanted institutions face the possibility of immediate rejection by the recipient: this may come in different forms, ranging from violent uprising against the donor (as in our case) to the local bureaucracy preventing the application of the foreign law or using the transplanted institutions to different ends than those they were originally meant to achieve (as in Kurkchiyan, 2009). In this paper, we measure the degree of *institutional acceptance* by recipient communities and investigate whether cultural proximity to the donor, by decreasing the intensity of rejection, facilitates the possibility that the transplanted institutions will take hold in the first place[7].

We also connect with other works in the economic literature that focus on Italian post-unitary brigandage. Most notably, Accetturo et al. (2016) exploit a "side effect" of brigandage, i.e., the passage of the draconian Pica Law in 1863, to study the effects of divisive policies on voter turnout in the aftermath of unification. Amodio (2012) shows that three selected and notable brigandage episodes destroyed social capital and had long-lasting effects on voter turnout. Finally, Bracco et al. (2015) show that communities of Albanian ancestry, still residing in Southern Italy, retained specific cultural traits and display peculiar levels of civic capital and attitudes toward political participation. To the best of our knowledge, however, our paper is the first to link near-Piedmontese (and, more generally, non-indigenous) ancestry in Southern Italy with the intensity of brigandage.

The remainder of the paper is organized as follows. Section 2 reviews the historical background, discussing the political situation of the Italian peninsula before the military invasion and in the aftermath of unification, the guerrilla episodes following the creation of the new state, and the history of the northern cultural enclaves settled in Southern Italy. Section 3 illustrates our data and provides some descriptive statistics. Section 4 presents our identification strategy, illustrates the main results and discusses their robustness. Section 5 investigates the relationships between brigandage and social capital in the long run. Finally, Section 6 concludes.

[7]In a different context, Fisman et al. (2017) stress the importance of cultural proximity in mitigating informational asymmetries in the Indian lending market.

2 Historical context

2.1 Italian unification and brigandage

Our analysis is made possible by the peculiar historical circumstances that arose within the Italian unification process of the 1860s. Between the spring and summer of 1860, after landing in Sicily, general Garibaldi had occupied the territory of the former Kingdom of the Two Sicilies, which included Sicily and continental Southern Italy (henceforth just 'Southern Italy') and had hitherto been ruled by the Bourbon dynasty[8]. The degree to which the Piedmontese king (Victor Emmanuel of Savoy) and prime minister (Camillo Cavour) supported Garibaldi's initiative remains an object of debate among historians. Nevertheless, by the late summer of 1860, Garibaldi was ruling as *pro tempore* dictator in the name of the Savoy, after having ousted the legitimate king from Naples, the capital city, and forced him and the remnants of the Bourbon army to retreat within the walls of the city-fortress of Gaeta, near the border with the Papal States[9]. Unable to further delay an official military intervention, the Piedmontese army descended into Southern Italy, and by October 1860, the former Bourbon territories had been integrated into the Piedmontese kingdom.

The unification process was carried out by a complete transfer of the Piedmontese institutions onto the annexed territories. The *Statuto Albertino* (the Piedmontese constitution) became the constitution of the newly formed state and, between late 1860 and early 1861, the Piedmontese lieutenants began issuing decrees involving the extension of the whole Piedmontese administrative and judicial system to the rest of Italy and assigned key administrative position to loyal Piedmonese officials. The intention of the Piedmontese to extend their law and administration to the invaded areas was commonly known even before the territorial occupation was completed. Ultimately, the explicit intention of the Savoy king was to unify all Italian-speaking territories under his rule[10]. There was no indication that Victor Emmanuel and Cavour would adopt any form of federalism: following the post-Napoleonic French tradition, Savoy rule was not authoritarian but heavily centralized and aimed at creating a "strong state", disregarding local diversities that could hinder the political unity of the new kingdom.

The transplantation of the Piedmontese institution created a sense of dissatisfac-

[8]For an administrative map of Southern Italy in the period under study, see Figure 1. Most of what follows is based on historical research by Molfese (1964).

[9]Other southern troops gathered in the strongholds at Messina (Sicily) and Civitella del Tronto (at the north-eastern extremity of the kingdom).

[10]The continuity with the earlier Kingdom of Sardinia was also emphasized by two measures of extreme symbolic value: the regnal number of the king – Vittorio Emanuele remained "the second" instead of becoming the "first" king of Italy – and the extension of the Piedmontese currency to the whole kingdom.

tion among part of the élites and most of the common population alike, by whom the *Piedmontization* of the institutions was considered a form of hostile invasion and not of annexation[11]. The sentiment of dissatisfaction provided fertile ground for the Bourbon house to instigate unrest. The first months of Piedmontese rule, when Bourbon resistance was still thriving within the military strongholds, were characterized by unorganized popular uprisings in rural towns, most of which were sparked by instigators affiliated with either the former king or the Church. This first phase of reaction against the Piedmontese invasion faded as rapidly as the authorities that supported it: Gaeta surrendered in February 1861 and the Church, already deprived of more than half of its former territories, decreased the intensity of hostilities around that time. Nevertheless, it soon became clear that insurgencies, albeit instigated by loyalist agents, were founded upon deeper roots.

Three aspects of the institutional transplantation deeply resonated with the masses and served as a catalyst for their mobilization. First, in line with its nineteenth-century liberal ideology, the Piedmontese government was unambiguously anti-clerical, and its civil and penal law contained hardline provisions against the Church's temporal power and economic stance. Religious orders were either abolished or deprived of land and other possessions. This constituted a shock to the rural communities of Southern Italy, not only on cultural or ideological grounds, but also because ecclesiastical organizations would often intervene in favor of the poorest and weakest during times of economic downturn. A similar mechanism underlies the reasons behind the negative reception of Piedmontese land reforms by the lower classes. Southern Italy was organized as a post-feudal economy, with a tiny class of landlords owning large estates (the so-called *latifondi*), an equally small but increasingly wealthy and powerful urban middle class, and a large mass of landless and mostly propertyless peasants[12]. The possessive capacity of those few landlords was limited by the presence of state-owned lands (*terre demaniali*). These plots[13] were directly owned by the Crown and could be used as pasture or farming land by peasants, guaranteeing subsistence in times of poor harvest and/or low employment

[11] In a heartfelt parliamentary motion presented on November 20, 1860, duke Marzio Francesco Proto Carafa Pallavicino, deputy of Casoria, complained about the extensive presence of the Piedmontese in key official positions and clearly stated the sentiment of dissatisfaction felt by the Neapolitan population: "*There is not an instance in which an honest man could earn something without involving a Piedmontese to help. [...] This is invasion, not union, not annexation! This is treating our land as a conquest land. [...] The government of Piedmont wants to treat our land as Cortez and Pizarro did in Peru and Mexico.*"

[12] In the first decades of the nineteenth century, Cerignola, in northern Apulia, was a wealthier-than-average agricultural town, the development of which is certified by sizable immigration. However, only 40.5% of its inhabitants lived on a larger-than-subsistence income, and 68% of households were headed by landless peasants (Russo, 1988).

[13] To appreciate their extension, consider that, a few decades before national unification, state-owned land constituted 54.4% of the agricultural land in the flat countryside of Cerignola (Russo, 1988) and 39% of the mountainous municipality of Morcone (De Francesco, 1988).

(Liberati, 1988). Retrieving an old plan drafted by the Napoleonic government at the beginning of the century (and that had already sparked an insurgency at the time, see Pappalardo, 2014), the new government decided to partition and auction off these lands. The reorganization of land usage benefited the urban bourgeoisie (which supported national unification) and some pro-Piedmont landowners but was perceived as a tragedy by the peasants, reinforcing their connection with the former king and the Church, who were thought of as friendly authorities, as opposed to the local nobility and the foreign invaders. Finally, the Savoy decrees contained provisions for the inclusion in the newly formed national army of both ex-Bourbon and new recruits: to this end, compulsory military service was planned for 1861 and the subsequent years[14].

Thus by 1861 all the unwelcome innovations coupled with the demise of the reference authorities of the past centuries (the Bourbon king and the Church) sparked a new wave of popular unrest that, in some communities, led to the organization of guerrilla groups of so-called *brigands*. Brigands came almost invariably from the peasant class, being joined in some cases by disbanded Bourbon soldiers who refused to integrate into the new army's ranks. Their bands varied in size, ranging from few individuals to hundreds: one of the best-known brigand leaders, Carmine Crocco, claimed to have once led an army of more than 2,000 (Ciocca, 2013). Bands existed almost exclusively in rural areas and, due to their need to escape regular troops, concentrated where control over the territory by the non-indigenous was more difficult, i.e., around the mountain range of the Apennines and the hillside areas to the north and east of Naples (Figure 4).

Scholars partition the brief history of brigandage into three phases. The first coincides with the formation of brigand bands throughout the year 1861. The influence of the Church and the king and the hope that the latter would return – and old institutions would thus be restored – remained the main drivers of brigand activity in this period. This amounted to instigating and leading episodic revolts in rural municipalities; attacking non-loyalist landowners, especially the urban élite who had acquired lands thanks to the Piedmontese reforms; and, occasionally, clashing with regular troops. Between incursions, brigands would retreat to secluded areas that they left only to obtain supplies, an activity that was constantly supported by the local peasantry. The second phase (known as '*grande brigantaggio*') saw brigand groups organizing in paramilitary fashion, with commanders-in-chief and a more stable structure and focusing their attention on recapturing villages and towns from the newly formed Italian army's control. Despite the Piedmontese governors sending

[14]The unraveling of Piedmontese plans for the re-organization of the Southern army epitomizes the popular opposition to the regime change: a decree was issued on December 20, 1860, to reintegrate 70,000 Bourbon soldiers into serving under Piedmontese command. The deadline was delayed several times, but by June 1861, only 20,000 had appeared for service.

increasingly larger contingents to the inland provinces of Southern Italy[15], intense guerrilla warfare lasted until 1864. Unable to cope with such political instability in half of the national territory and facing a seemingly endless drainage of resources, the government introduced a form of martial law (the so-called Pica law) in August 1863. The Pica Law was introduced with the goal of providing "temporary and exceptional means of defense" for public order. This law identified a number of provinces "infested by brigandage" and it enforced new public order rules to repress and prevent criminal activity. In particular, it allowed the military courts to rule on brigandage-related felonies and empowered the local police with a wider set of tools to control public order. The hardening of legal provisions and the near-absolute power given to the military over 11 out of 16 provinces in Southern Italy (going as far as allowing the execution of suspects without a trial) were effective, and the intensity of brigand activity began fading in the second half of 1863. By 1865, the political brigandage had somewhat degenerated into common criminality partially losing the connotation of anti-Piedmontese resistance.

Post-unitary brigandage was an explicit, violent form of reaction against the institutions transplanted by the Piedmontese and, in particular, of those provisions of the law that directly interfered with the life of common peasants[16]. It was a large-scale phenomenon in Southern Italy, a true civil war. According to official data reported by Molfese (1964), between 1861 and 1865, out of a total number of brigands estimated at approximately 80,000, more than 5,000 had been killed (during military operations or by execution), a similar number had been arrested and approximately 3,600 had surrendered. According to Ciocca (2013), approximately 6,500 brigands and more than 1,600 regular soldiers were killed in the more extended period 1861-1869. In this paper, we use the number of brigandage-related events in each municipality of Southern Italy as a measure of the intensity of the rejection of the institutional transplantation occurring during the Piedmontese invasion of Southern Italy and the consequent process of national unification.

[15] Apparently, at the height of the anti-brigandage operations in early 1864, the Italian army was deploying more than 110,000 soldiers against the brigands, amounting to approximately two-thirds of the available units (Ciocca, 2013).

[16] The anti-institutional sentiment and the objective to safeguard the poor masses are clear from a brigand song from Mercato Cilento "*Tu si' lu giurici re li miei signuri, i' so' lo capo re li fuorilegge; tu scrivi co' la penna e dai ruluri, i' vao ppe' lu munno senza legge. Tu tieni carta, penna e calamaio ppe' castia' a sti poveri pezzienti, i' tengo povole e chiummo, quanno sparo: giustizia fazzo a chi non tene nienti.* (Translation: You are the judge of the lords, I am the head of the outlaws; you write by pen and cause sorrow, I go around the world without law. You have paper, pen and inkpot to punish these poor souls, I have got gunpowder and bullets, when I shoot: justice I make for those who have nothing.)"

2.2 Near-Piedmontese enclaves in Southern Italy

The aim of this paper is to test the hypothesis that cultural traits matter for institutional acceptance. We focus on a specific aspect of the cultural identity of the receiving environment, namely its cultural proximity to the donor. Our task is therefore to test whether cultural proximity has a (positive) impact on institutional acceptance. To this purpose, we rely on the existence of communities of near-Piedmontese descent in areas where brigandage was, on average, intense.

2.2.1 Origins

There is substantial agreement among historians that such communities were established in the late Middle Ages (with the earliest mentions dating back to between the thirteenth and fifteenth centuries). We call them 'near-Piedmontese' because not all of the places of origin of the immigrants who first settled these communities lie within the current borders of Piedmont (some trace their origin back to the contemporary region of Liguria; see Toso, 2002) or within the 1861 borders of the Kingdom of Savoy (other communities are thought to be descendants of soldiers coming from the Alpine valleys of what is now south-eastern France; see De Salvio, 1908). What matters for this paper is that all of them originated within the Provence-Savoy-Piedmont area, which is also the cradle of the Kingdom of Savoy and the macro-region where its cultural traits developed. Ten near-Piedmontese communities are easily identifiable (and were at the time of the Italian unification) because they retain Gallo-Romance dialects[17]. For most of such municipalities, the Gallo-Romance dialect was the only language spoken by peasants at the time of the events we are studying, although it is believed that most could communicate, at least at a basic level, in the language of the surrounding provinces, and many would have understood Standard Italian because of partial mutual intelligibility (De Mauro, 1963).

Linguistics helps us in identifying the places of origin and, consequently, in clarifying the reason underlying the migratory phenomena that led to the formation of these communities. The ten near-Piedmontese enclaves constitute four geographically distinct clusters: the municipalities of Celle di San Vito and Faeto in northern Apulia; seven municipalities in Basilicata, divided into two clusters (Picerno, Pignola, Tito and Vaglio on the one hand and Nemoli, Rivello and Trecchina on the other); and the isolated municipality of Guardia Piemontese in northern Calabria. Despite the scarcity of documents, contemporary historians tend to exclude the possibility that the main motive for these communities settling in Southern Italy may have been an attempt to escape religious persecution. The origin of the Apulian Franco-Provençal settlement has been traced back to soldier relocation and land assignment by Charles of Anjou in the 1260-1270s (see, for instance, De Salvio, 1908 and Melillo, 1959).

[17]We use an extensive definition of 'Gallo-Romance languages' that encompasses Franco-Provençal, Occitan and the Gallo-Italic languages of Piedmont and Liguria.

Based on linguistic evidence, Pfister (1991) and Toso (2002) suggest that most of the Gallo-Italic speakers from Basilicata descend from southern Piedmontese and/or Ligurian colonizers, who are not believed to have been interested in religious struggles. The Calabrian settlement of Guardia was, indeed, created by a Waldensian community, and it is possible that southward migration was sparked by fears of persecution following the Albigensian Crusade (early thirteenth century). There is no evidence, however, that the religious motives affected the choice of the precise location of the colony (which might have been otherwise explicitly selected for its secludedness or defensibility). In fact, the Waldensians were positively received by the Calabrian nobility and faced no difficulties until after the Reformation, when because of their adherence to Protestantism, they suffered harsh persecutions (Vegezzi Ruscalla, 1862).

2.2.2 Cultural persistence

It is crucial for our empirical strategy that these ethno-linguistic enclaves retained the cultural traits of their ancestors over the centuries. Historical evidence documents a persistent cultural similarity between the inhabitants of these near-Piedmontese enclaves and their ancestors. This is made particularly evident by the survival of ancestral linguistic traits, which is usually associated with the persistence of other, less evident cultural traits[18]. German linguist Gerhard Rohlfs was the first to study the peculiar linguistic traits of near-Piedmontese municipalities in Basilicata. He reported how local dialects displayed several analogies with Gallo-Romance languages (including the Sicilian Gallo-Romance dialect) and structurally differed from the dialect spoken in the surrounding region[19]. Linguistic similarities are reported also for the other three enclaves. Vegezzi Ruscalla (1862) provides an ethnographic study of Guardia Piemontese in which he thoroughly reports the analogies between the local language and that spoken in the Piedmontese valleys where the ancestors of Guardia's inhabitants originated and underlines the persistent resemblances with Piedmontese[20]. Finally, De Salvio (1908) led a comparative study of the dialect spoken in Celle and Faeto at the beginning of the twentieth century and the

[18] A growing empirical literature studies the relationships among ancestry, language diffusion and cultural persistence over time and space; see Spolaore and Wacziarg, 2016*a* for further details.

[19] Rohlfs identifies the core of a northernmost near-Piedmontese cluster in the municipalities of Potenza, Tito, Picerno, Pignola and Vaglio. Moreover, he reports Trecchina (the municipality with the strongest resemblance to northern languages), Rivello, Nemoli and San Costantino (currently part of the municipality of Rivello) to be part of a southern Gallo-Romance cluster: figure A2 in appendix A depicts a map of the two near-Piedmontese clusters in Basilicata. Figure A1 in appendix A is a comparative table of the languages spoken in the near-Piedmontese community of Tito in San Chirico (a nearby non near-Piedmontese community) and in two municipalities in Liguria and Piedmont (the areas of origin of near-Piedmontese colonizers). See Rohlfs (1988) for further details.

[20] Figure A3 in appendix A offers some examples of linguistic similarities and differences comparing the Italian language, the dialect spoken in Guardia Piemontese, the dialect spoken in Val d'Angrogna and the dialect spoken in Cosenza (the largest city near Guardia Piemontese).

old Savoy dialect of the Middle Ages: the results of this comparison proved that these languages were closely connected. In addition to their linguistic traits, near-Piedmontese communities have retained other aspects of their ancestral culture: writing around the time of our events of interest, Vegezzi Ruscalla (1862) reports that the inhabitants of Guardia Piemontese maintained very similar customs to their Piedmontese ancestors in terms of clothing and, more important for our analysis, attitudes toward property and work[21]. We thus exploit these linguistic and cultural enclaves to proxy for the cultural distance of Southern Italy communities from the donor environment, assuming that near-Piedmontese enclaves embody customs and social norms very similar to those prevailing in Piedmont.

2.2.3 Interactions with neighboring communities

Geographical isolation favored cultural persistence in near-Piedmontese enclaves but did not inhibit social interactions with neighboring populations. It is important for our empirical strategy that the descendants of Piedmontese settlers had intense contacts with local populations. There is an extensive literature documenting how culture and social norms spread by frequent contact and social interaction: in the language of Cavalli Sforza and Feldman (1981), both vertical and horizontal transmission mechanisms are assumed to co-exist[22]. For instance, Fogli and Veldkamp (2011) document the relationship between the increase in female labor force participation in the United States and the spacial diffusion of beliefs about women's roles. Spolaore and Wacziarg (2016*b*) claim that the historical fertility decline in Europe, which began in France, depended on the diffusion of new social norms and behavioral changes via social interaction and social influence. We conjecture that frequent interactions between near-Piedmontese enclaves and nearby communities generated a significant convergence in cultural and social norms and that the strength of those interactions strictly depended on geographic distances, considering in particular the lack of advanced communication systems in historical Southern Italy.

A first channel of social interaction was trade between the near-Piedmontese communities and the neighboring municipalities. Historical sources attest that some of the near-Piedmontese communities were not self-sufficient, necessitating frequent commercial exchanges in local markets and fairs. Bitonti (2012) documents how both Celle di San Vito and Faeto had frequent contacts with neighboring municipalities in the fifteenth century, in particular establishing a commercial partnership with the town of Ariano Irpino. A second channel of interaction was intermarriage. Vegezzi Ruscalla (1862) reports that, after the Reformation and the following persecution, Guardia's citizens were at times forced to marry outside their own

[21]Rohlfs (1972) also reports strong similarities in clothing between inhabitants of Guardia Piemontese in the first half of nineteenth century and their Piedmontese ancestors.

[22]For a review of the economic analysis of cultural transmission mechanisms, see Bisin and Verdier (2011).

community. While there is no easily available record of local marriages, we may gain some insight by exploring the local diffusion of Gallo-Italic surnames. Rohlfs (1985) identifies 22 surnames that are likely to derive from historical Piedmontese migrations[23]. The author also reports the municipalities in which these surnames are relatively frequent. When we locate municipalities where these surnames are recorded, we observe that the average distance from the closest near-Piedmontese enclave is approximately 30 km, with a peak of 90 km. This evidence supports our conjecture that Piedmontese descendants had the opportunity to interact with nearby communities.

To further explore whether Piedmontese descendants had social relations with their neighbors, we again rely on linguistic similarities. In our specific environment, given the geographic isolation of our communities of interest, linguistic admixture is a distinct sign that some form of social interaction must have taken place. Mennonna (1987) states that the dialects of the near-Piedmontese enclaves of Basilicata had influences on the (non-Gallo-Romance) dialects of neighboring towns because of economic and cultural exchanges among bordering municipalities. Rohlfs (1988) reports Gallo-Romance influences in the – otherwise southern – dialects of the towns of Avigliano, Cancellara, Ruoti and Trivigno, close to the northernmost cluster of near-Piedmontese enclaves in Basilicata. Minor Gallo-Romance elements may also be found in the dialect spoken in Maratea, near the southernmost cluster (Figure A2).

3 Data and variables

As anticipated in Section 2, the main dependent variable in our analysis is the intensity of brigandage, which we measure as the incidence of brigandage (i.e., the number of brigandage-related episodes in each municipality divided by the municipality's population, measured in thousands of units). We use these measures of brigand activity to quantify the intensity of the rejection of the institutional transplantation in each of the 1,855 post-unitary municipalities of Southern Italy (see Figure 2). We digitized the information collected in three volumes,[24] which include all the reported episodes of brigandage by the Italian Ministry of Culture from the State Archives of Southern Italy provinces (for an example of some entries in the State Archives, see Figure 3). This led to a total of 12,242 brigandage episodes for which we know the geographical location, the type of offense, the authority that reported it and the year that the offense was recorded. On average, the municipalities in our population experienced approximately 6.6 episodes each (corresponding to approximately 1.93 episodes per thousand inhabitants), with approximately 68.5%

[23]Figure A4 in appendix A provides the original list of surnames by Rohlfs (1985).

[24]Ministero per i Beni e le Attività Culturali (1999-2001).

of them experiencing at least one episode and the most intensely brigand-stricken municipality reaching 64 episodes per thousand inhabitants. The total number of episodes exceeds that indicated by most historians who focus on major brigandage events[25]. Based on information contained in the original records, we are able to classify episodes into four broad categories of offense: violent crimes, clashes with authorities and armed insurrections (36.3%); non-violent crimes such as theft, arson and instances of connivance (36.8%); and, finally, a residual category including all episodes reported as notifications of the presence of brigand bands, reports by citizens or arrests (26.8%). Furthermore, just under half of our episodes (45%) were recorded by courts at any level; most of the other half were recorded by public safety institutions such as the police or the *Prefetture*, the local representatives of the Ministry of the Interior (46%)[26]. Approximately one in four (24.1%) occurrences belong to the early phase of brigandage (1860-1861), characterized by the immediate reaction to Piedmontese occupation; approximately three-quarters of our episodes (74.3%) are associated with the most intense phase of brigand guerrilla war (1860-1864); and the remaining 25.7% were recorded between 1865 and 1870[27].

The main explanatory variable, which we use to proxy for cultural distance from Piedmont, the donor of the institutional transplant, in the short-term analysis is the (geographic) distance of each municipality from the nearest near-Piedmontese community, which we measure in two different ways. In the baseline specifications, we use linear distances between municipal seats. One might argue that, as culture typically spreads through frequent contacts such as marriage and trade, a measure of actual traveling distance between two places may be more appropriate than linear distance for the matter at hand. For this reason, in a subsequent robustness check, we compute distances using the ancient Roman road network as reconstructed by McCormick et al. (2013). In most of our specifications, we use log-transformed versions of these distances[28]: over the whole population, the two transformed measures display a highly positive, but not perfect, degree of correlation.

Finally, in addition to geographic characteristics, we control for socio-demographic

[25]Using a different data source, i.e., the clashes reported by Molfese (1964), which should be a right-tail selection of our observations in terms of the degree of violence, one can isolate 475 major episodes, concentrated in approximately 19% of the municipalities.

[26]Since the records are from different sources, there could be overreporting of some episodes. We address this issue in Section 4.3.4 by considering only episodes reported by the police.

[27]When considering the temporal distribution of brigandage, however, one must bear in mind that different institutions might have recorded episodes with varying delay: for instance, courts may have recorded some episodes at the beginning of the associated trials, which may have occurred months or even years after the suspected crime had taken place. In particular, some episodes located in the last phase might in fact refer to brigandage activities taking place before 1865.

[28]This choice is in line with our interpretation of physical distance as an inverse proxy for cultural proximity: the diffusion of culture from a point of origin suggests that equal increases in physical distance should be deemed less important the farther they are from the origin.

and economic features of Southern Italy municipalities and provinces before unification. To this purpose, we collect and digitize novel data from several statistical sources dating back to the last decades of the Kingdom of Two Sicilies[29], and population data concerning the years immediately following Italian unification, obtained from the Italian Census of 1861 and the additional statistical reports of the following decade. To capture differentials in economic growth across municipalities prior to the onset of the events we study, we compute the population growth rate between 1824 and 1861 (both values are reported in the Italian 1861 Census). Other variables that were recorded before national unification (most of which between 1830 and 1850) at the municipal level include indicators for the presence in each municipality of civil, criminal or commercial courts; of the local episcopal or archiepiscopal seat; of secondary education institutes[30]; of hospitals; and of relevant manufactures or proto-industrial plants. We also digitize information reported by Corona (1995) to construct an indicator of popular attitudes toward innovation and the privatization/distribution of common-use lands[31]. We further collect information on provincial level pre-unitary characteristics: the number of individuals subject to military draft in 1834; the total number of landowners, farmers and fishermen; and the total number of professionals, artists and servants. We also digitize provincial data on tax revenues, municipal revenues and total expenditure for public works in 1850-51. Moreover, using data collected by (Villani, 1964), we are able to obtain some provincial measures of the intensity and patterns of the diffusion of monasteries and the sale of their lands during the Napoleonic period.

As it emerges visually from Figure 4, the majority of brigand activities were concentrated along the Apennine range and, in general, in inland municipalities rather than in coastal towns. Table 1 reports the average of our main geographic and socioeconomic controls for municipalities with a brigandage incidence below the median (column 1); for the complementary set of municipalities with incidences above the median (column 2); and, finally, for the municipalities most affected by brigandage (those with incidences in the top quartile, column 3). The patterns are as expected:

[29] Our main data sources are the *Annali Civili*, an official statistical publication by the Ministry of the Interior of the Kingdom of Two Sicilies, published in several volumes between 1833 and 1860; the statistical collection (*Statistica dell'Italia*) by Count L. Serristori published in 1842; and historical works on the distribution of lands belonging to monasteries during the Napoleonic period (Villani, 1964) and on the reaction to provisions of land redistribution during the nineteenth century (Corona, 1995).

[30] These are divided into *licei*, *collegi* and other secondary schools.

[31] The information provided by Corona (1995) refers to the last decades of the eighteenth century and therefore predate the period under analysis by 70-80 years. Such information consists of reports of behaviors by local communities in response to innovations in land property under the Bourbon regime. This allows us to construct a (censored) index of attitudes toward such innovations. Specifically, we assign a score of -1 to communities that enacted behaviors explicitly opposed to innovations and a score of $+1$ for municipalities with episodes of cooperation with innovative legislation.

communities with higher levels of brigandage tend to be larger in area but smaller in population, which is consistent with their location at the center of the peninsula, in mountainous areas, relatively far from the coast and major towns. The distance from Naples, the kingdom's capital city, appears to be negatively correlated with brigandage intensity: this is due to both areas near Naples being attractive to brigands because of their wealth (the province of Naples exhibited, for instance, a larger population growth rate than the rest of Southern Italy over the period 1824-1861) and because brigandage was almost absent from the southernmost extremities of Southern Italy, i.e., the tips of Apulia and Calabria, which are the areas located farthest from Naples. The same geographic disposition explains part of the evidence concerning the distance from the Papal States (lying beyond the northernmost border of the kingdom), to which the explicit support given to brigands by the Church in the earliest phases may also have contributed.

Table 2 reports the mean values of several geographic controls and our dependent variable for near-Piedmontese communities (column 1) and all other municipalities in Southern Italy (column 2). Differences in such values (column 3) are statistically significant only in the case of altitude, raggedness (quantified by the difference in altitude between the highest and the lowest point in the municipality's territory), soil quality[32] and, to a lesser degree, distance from Naples. One should bear in mind that the differences in the first three dimensions are all due to the mountainous location of near-Piedmontese communities: municipalities along the Apennine range typically include mountain tops and valleys in their territory (which explains raggedness) and areas with potentially high crop yield. This evidence helps us in overcoming the concern that – once altitude is taken into account – the location and physical characteristics of near-Piedmontese communities were non-randomly chosen by near-Piedmontese colonizers and that the drivers of such choices might also be the drivers of our findings on the relationship between distance from these locations and the intensity of brigandage.

4 Cultural distance and brigandage: an institutional rejection

In this section, we show that, after controlling for a number of geographic and socio-economic observables, the intensity of brigandage is positively correlated with the distance to the near-Piedmontese communities. Our main contribution to the aforementioned literature on the interaction between culture and institutions and, specifically, to existing work on institutional transplantation is the conclusion that

[32]Our main soil quality measure is the caloric suitability index constructed by Galor and Özak (2016), to which we refer for further details. Elsewhere, we also employ data from the European Soil Database (v. 2.0) compiled by the European Soil Data Center (ESDAC).

follows from such evidence: cultural traits matter in affecting the degree to which institutions are accepted and, therefore, allowed to potentially function; moreover, although we remain agnostic on which traits have the largest impact, we show that cultural proximity to the origin of the institutional arrangement is crucial in making these institutions more palatable and, consequently, more likely to work well.

4.1 Empirical framework

The empirical analysis has two different layers, a short-term and a longer-term layer. The former is investigated by exploiting two different historical features that are crucial for our specification. The first mechanism underpinning our empirical analysis is the persistence of cultural traits in near-Piedmontese enclaves, which guarantees variation in the degree of cultural proximity of Southern Italy municipalities (the receiving environment) to the new Piedmontese rulers (representing the donor environment). Evidence of this phenomenon is discussed in Section 2.2.2. The second important feature is the diffusion of these cultural traits among neighboring communities. Historical social interactions based on marriages and trade were documented in Section 2.2.3, relying on linguistic affinities and the geographical diffusion of surnames. The intensity of interaction with Near-Piedmontese communities is thought to have been inversely correlated with geographical distance, given the lack of developed communications in historical Southern Italy. Hence, we deem geographical distance to be a reliable proxy for cultural similarity with near-Piedmontese communities and, indirectly, with the Piedmontese donor environment. Higher cultural proximity to the new government determines a more favorable environment for the adoption of new institutions and a lower incidence of popular unrest in the short term. The second layer addresses the relationship between institutional rejection in the aftermath of Italian unification and social and political outcomes in a longer-term perspective. It establishes that territories with a higher incidence of brigandage are characterized by lower levels of electoral turnout until the beginning of the twentieth century. Figure 5 provides an overview of the mechanisms underlying our empirical analysis.

4.2 Identification strategy

To test our central hypothesis, namely that, *ceteris paribus*, Piedmontese institutions were more harshly rejected in regions farther from near-Piedmontese communities and, therefore, less exposed to the influence of an near-Piedmontese culture, we estimate several generalized linear models of the form

$$g\left(\mathbb{E}(Y_{i,j} \mid \mathbf{X}_{i,j})\right) = \beta_1 \text{Dist}_i + \beta_2 \text{Pop}_i + \beta_3' \mathbf{G}_i + \beta_4' \mathbf{C}_i + \beta_5' \text{Prov}_j \tag{1}$$

where $Y_{i,j}$ is the number of brigandage episodes recorded in town i of province j or, in some specifications, the incidence of brigandage in town i of province j; $\mathbf{X}_{i,j}$

denotes all regressors related to town i of province j, which include Dist_i, a measure of the distance of municipality i from the closest near-Piedmontese community, our main independent variable; Pop_i (a suitable transformation of the) population of town i[33]; $\mathbf{G}_i$ and $\mathbf{C}_i$, vectors of geographical and pre-unitary socio-economic controls, respectively, measured at the municipality level; and Prov_j, a set of pre-unitary controls measured at the province level, possibly reduced to a set of province indicators. The key coefficient is β_1, the effect of the distance from the closest near-Piedmontese community on the number of brigandage episodes or the incidence of brigandage. We expect β_1 to be positive and significantly different from zero, indicating that, conditional on our control, closeness to some near-Piedmontese community reduces a municipality's propensity to experience brigand activity in its territory.

Our identification relies on the absence of correlation between our measure of distance and the error terms, conditional on all controls. Taking settlement locations as fixed, this amounts to claiming that the location of near-Piedmontese communities must be randomly determined. Among other factors, we control for time-invariant observables, such as altitude and linear distances from the coastline and the capital city, which, as presented in the previous subsection, make the assignment to being a near-Piedmontese community approximately random. Moreover, while near-Piedmontese communities are the result of migratory movements, historical evidence presented in Section 2 suggests that the first colonizers did not autonomously decide where to settle, having been either invited (by landowners) or ordered (by political and military authorities) to take possession of those areas. Thus, the location and characteristics of near-Piedmontese communities were not chosen according to criteria that might, through other channels, influenced the presence and/or intensity of brigand activity.

Our interpretation of the results relies on the dual assumption that culture exhibits long-run persistence and, simultaneously, that the near-Piedmontese communities we focus on – despite being isolated enough for their ancestral culture to be preserved within a rather homogeneous and culturally distant surrounding environment – have interacted with their neighbors, as we discussed in Sections 2.2.2 and 2.2.3.

4.3 Results

4.3.1 Baseline specification

Table 3 reports estimates of OLS models (columns 1–3) and negative binomial models (columns 4–6) relating the total number of brigandage episodes to the *linear*

[33]When g is not linear and the specification requires the dependent variable to take on integer values, the impact of regressors on the incidence of brigandage, which in linear models is measured as the number of episodes per 1,000 inhabitants, is found by retaining the number of episodes as the dependent variable and forcing $\beta_2 = 1$, using log-transformed population as Pop_i.

distance of each municipality from the nearest near-Piedmontese community and a varying set of controls[34]. The relevant distances are log-transformed[35]. All specifications include province fixed effects. Columns (7)-(9) report estimates of OLS models using the incidence of brigandage (i.e. the total number of episodes is normalized by Population in 1861) as dependent variable. Columns (10)-(12) report the result for a negative binomial model where the restriction $\beta_2 = 1$ applies (see footnote 33). Columns (1) and (4) include the most basic demographic controls: population growth in the period 1824-1861 (which may also serve as an indicator of economic growth in this pre-industrial setting), the log-transformed municipal population as reported in the 1861 Census and the main geographical controls (coordinates, area, altitude and raggedness). Columns (2) and (5) add our distance controls, while columns (3) and (6) complete the specifications by adding pre-unification municipal-level variables. Columns (7)-(9) do not include the log-transformed municipal population when using the linear model, to match the aforementioned restriction on the coefficient for population in count models (10)-(12). The most complete specifications (namely, models (3), (6), (9) and (12)) all display a positive and significant correlation between the intensity of brigandage and the distance from the nearest near-Piedmontese community. Clearly, we do not claim such distance to be the main driver of brigandage intensity, but its effect is sizable: according to the estimates in (9), doubling the distance from the nearest near-Piedmontese community is associated with a municipality experiencing 0.21 additional episodes (amounting to an increase of 10.5% on an average of 1.93 episodes p.m.); the more reliable model (12) suggests that doubling the distance is associated with a 14.4% increase in the expected incidence.

An inspection of the other coefficients shows the resilient relevance of the municipality's distance from Naples, which is associated with a decrease in brigandage. Population and area, which are trivially positively correlated with the number of episodes, nonetheless appear to influence the incidence of brigandage in opposite directions: geographically larger municipalities tend to display a higher brigandage incidence, but – as we noted above – the latter decreases with the municipality's population. As anticipated, brigandage is associated with higher altitudes and a longer distance from the nearest coast.

4.3.2 Mechanism: testing the role of social interaction

Table 4 presents the results of further analyses, clarifying the mechanisms behind our result. In columns (1)–(4), we estimate our main specification using municipalities within each quartile of the distribution of distances to the nearest near-Piedmontese community. Consistent with our idea that geographical distance serves to approx-

[34]Tables A1-2 in the Appendix report all the estimates omitted in Table 3.

[35]In operating this transformation, we set distances in the interval $[0, 1)$, which in fact includes only the zero-distance of near-Piedmontese communities from themselves, to 0.

imate cultural distance and that the diffusion of cultural and social norms is non-linear (being much more intense at shorter distances), our estimates show that our global effect is driven primarily by municipalities in the first quartile of the distribution of distance. This means that the cultural effect by which institutional rejection becomes weaker the closer the municipality is to the nearest near-Piedmontese community is strong only within a range of approximately 45 kilometers from the latter. Note that, given the types of social interactions one may expect to have taken place in the Middle and Modern Ages in the areas under study (intermarriage, small-scale trade, participation in local markets and fairs), it seems plausible that the diffusion of near-Piedmontese cultural values from near-Piedmontese communities did not proceed beyond the limit of a day's walk (or donkey-ride) distance, which we may reasonably locate within a range of 40 to 50 kilometers.

In columns (5) and (6), we further test the social interaction mechanism and check whether the *intensity* of exposure to near-Piedmontese cultural values affects institutional rejection. Indeed, the presence of multiple near-Piedmontese enclaves around a municipality should increase the likelihood of cultural transmission and, in turn, decrease brigandage incidence, if what matters for the spread of culture is the frequency of contact with Piedmontese descendants. To perform this exercise, we construct two different measures that capture the intensity of exposure to Piedmontese communities for each municipality. The first measure (*Share of near-Piedmontese communities within 50 km*) is the ratio between the average inverse distance from near-Piedmontese communities and the average inverse distance from all municipalities within a 50-kilometer radius neighborhood of the reference municipality[36]. This variable, in addition to capturing the basic idea that cultural exposure increases in the frequency of near-Piedmontese communities located within a suitably large neighborhood, incorporates the concept that the closer the near-Piedmontese enclaves are, the greater the chance of social interaction and, therefore, the stronger the cultural exposure. The second variable (*Share of near-Piedmontese population within 50 km*), weights inverse distances by the population of each municipality[37]. The idea is again that the likelihood of admixture with Piedmontese culture is higher the greater the number of Piedmontese descendants with which one might enter into

[36]Let i be the reference municipality; N_i be the set of municipalities that are closer than 50 kilometers to i; $d_{j,i}$ the distance between municipalities j and i; and NP the set of near-Piedmontese communities. Then,

$$\text{Share of Near-Piedmontese communities within 50 km} = \frac{\sum_{j \in N_i \cap NP} d_{j,i}^{-1}}{\sum_{j \in N_i} d_{j,i}^{-1}}$$

[37]Allowing municipality's j population be denoted by pop_j, we have

$$\text{Share of near-Piedmontese population within 50 km} = \frac{\sum_{j \in N_i \cap NP} d_{j,i}^{-1} \cdot \text{pop}_j}{\sum_{j \in N_i} d_{j,i}^{-1} \cdot \text{pop}_j}$$

contact. In columns (5) and (6), we restrict our sample to the municipalities that have at least one near-Piedmontese enclave within a radius of 50 km and include the two variables described above. Consistent with our interpretation, the coefficients are both negative and significant, suggesting that higher exposure to Piedmontese culture induces a lower degree of institutional rejection.

4.3.3 Further results

This section provides additional evidence by using versions of the dependent variable that we deem particularly significant. Columns (1) - (4) of Table 5 confirm that our result is to be associated with brigand activities that were deeply linked with the reaction against the institutional transplant. As we explained before, brigandage had the most reactionary and insurrectional features in the early phases of its existence, before transforming into a less politically motivated, albeit widespread, criminal movement. Here, we repeat our estimation using only episodes from the years 1860 to 1864. In column (1) we run the baseline specification, in column (2) we restrict our sample to the first quartile of the distribution of distances to the nearest near-Piedmontese community. Columns (3) and (4) exploit the same measures of *intensity* of exposure to near-Piedmontese cultural values used in Section 4.3.2. As one can see, the estimates of our coefficients retain all their statistical significance and are stable in size. We consider this a clear indication that cultural distance and the intensity of the exposure to Piedmontese culture affected the strength of brigandage in the period in which brigandage was motivated primarily by institutional rejection. In columns (5) - (8), we use information on the types of crime for which the brigands were convicted. Although it is informative to consider the whole set of brigandage episodes together, it is essential to test our main hypothesis on the subset of events with high political connotation. In particular, we restrict our analysis to episodes that either are reported as having explicit political content (e.g., the organization of popular insurrections or clashes with regular police or army forces) or episodes that are classified as violent in nature (approximately 36% of all brigandage episodes). The estimated coefficients are always similar in magnitude and significance to those found in our previous results, and they are comparable to the one obtained using the episodes from the years 1860 to 1864.

4.3.4 Robustness checks

This section presents a series of checks to verify the robustness of the baseline estimates, to assess the stability of our results and to clarify our interpretation of the estimates. First, we use alternative proxies for the dependent variable and the main independent variable. Then, we test our model specification both in terms of model and controls. The estimates of the main coefficient of interest in these alternative specifications are reported in Table 6.

The first five specifications, the estimates of which we present in panel (a) of Table 6, refer to variations in the dependent variable, i.e., the intensity of brigandage. As we explained in our description of the data, observed brigandage episodes were recorded by several sources. Typically, police and other public safety forces would record episodes as soon as they were reported to them by officers or citizens. We deem these sources more reliable both in terms of geographical localization and in terms of temporal positioning. We therefore estimate our main specification (model (8) of Table 3) using brigandage data from a single source at a time. This exercise also allows us to dispel any doubt about the existence of multiple entries for the same episode across different sources. Row (1) uses episodes recorded by police forces only. The result is consistent with the baseline estimates, and the coefficient of interest is only slightly smaller in magnitude. A positive but not significant effect is, nevertheless, present even if the less reliable data from courts are used (row 2). The strongest effect is that obtained using data from other sources, which include ecclesiastical authorities, the Italian Ministry of Justice and other miscellaneous sources, including the military (row 3). In rows (4) and (5), we repeat our analysis using versions of the dependent variable that we deem particularly significant. In row (4), we recode our dependent variable aggregating all the entries that share the same date and the same place and are reported consecutively (within the same source), as these distinct reports might be originally generated by the same event[38]. The new definition of brigandage episodes reduces the number of episodes per municipality and addresses the potential concern of over-reporting. The coefficient is similar in magnitude and significance to that found in our previous results.

In panel (b) of Table 6, we propose four alternative measures of municipal proximity. In model (5), we use linear distance without taking the logarithm. As explained above, the use of the log-transformed version of this distance was *a priori* motivated by the fact that cultural similarity decreases more than linearly once one moves farther away from the center of cultural diffusion and by our desire to use geographical distance as a proxy for cultural distance. For the sake of robustness, we show that our result holds even when the simpler kilometric distance is used. Moreover, as culture spreads through suitable means of communication, we found it appropriate to check whether our result held when computing road distances rather than linear distances (row 6). This might be particularly relevant given the complex orographic features of the areas we study. Given historical evidence on the high degree of coincidence between nineteenth-century roads and the ancient network of Roman roads, we chose to use the latter (McCormick et al., 2013) to compute our approximate road distances. Indeed, the ancient Roman road network was the main communication system throughout the Middle and Modern Ages, i.e., the centuries in which cultural traits from the near-Piedmontese communities might have spread, through

[38]It could be the case that different convictions following a single guerrilla event are reported in multiple entries.

socio-economic contact, to the neighboring communities (see Figure 6). Although other minor roads not included in our network are likely to have been in use in these centuries, there is evidence that, well into the nineteenth century, many of the roadways in use in Southern Italy still exploited the ancient Roman tracks. Moreover, using the Roman road network guarantees the exogeneity of our distance measure. The effect that we obtain is similar to that derived using linear distances. Finally, rows (7) and (8) show the impact of near-Piedmontese communities themselves on our result. In row (8), we use as our main dependent variable the most discrete measure of distance, namely the indicator for near-Piedmontese communities. As one might expect, being an near-Piedmontese community has a strong negative effect on brigandage incidence. Nevertheless, our effect is not only driven by the centers of highest cultural proximity with the donor: in row (9), we use our main specification while dropping near-Piedmontese communities from our sample. While the absence of the units for which the effect is strongest reduces the magnitude of our coefficient, we nevertheless observe a sizable effect. This again confirms that cultural and social norms indeed spread from near-Piedmontese enclaves to Southern Italy municipalities and that the degree of cultural similarity may then have determined, *ceteris paribus*, the intensity of institutional rejection in the form of brigandage. This evidence thus also justifies ex post our choice of using a continuous rather than discrete measure of proximity.

Rows (9), (10) and (11) present model alternatives to the Negative Binomial regression of model (8) in Table 3. As Poisson regression is likely the most widely used count model, we repeated our analysis by estimating a Poisson model for our brigandage episodes. Moreover, we used the zero-inflated versions of both Poisson and Negative Binomial regressions to account for the large number of zeros in our dependent variable (just over one-third of Southern Italy municipalities experienced no brigandage). The following specifications refine our baseline model by adding further controls or by imposing less-stringent assumptions. Rows (12) and (13) show that our result holds when replacing provincial indicators with more disaggregated indicators (at the district level) or more aggregate indicators (at the regional level)[39]. In row (14), we add our province-level controls, while retaining region indicators. Similarly, line (15) adds soil quality indicators, and line (16) adds our attitude index derived from Corona (1995). These variables may be of help in assessing the validity of our interpretation. One may in fact suppose that reaction was weaker around near-Piedmontese areas not because of cultural factors, as we claim, but because these communities had characteristics that made them less sensitive to the

[39]Both in the pre-unification kingdom and in post-unification Italy, the 16 provinces of Southern Italy were the main administrative units. The main local government units were the municipalities, which constitute our reference population. The 57 districts were intermediate administrative subdivisions determined by the domains of jurisdiction of ordinary courts. Unlike the present arrangement, regions were purely geographic groupings of provinces with no administrative functions.

reform imposed by the Piedmontese, such as the sensible reduction in common-use lands. We do not have a complete mapping of Southern Italy municipalities in terms of land use and property. Nevertheless, rows (15) and (16) show that our results are insensitive to the addition of municipal-level controls referring to crop types, agricultural yields and, in particular, to a measure of past propensity to accept or oppose similar reforms. In row (17) we implement the linear model of column (9) in Table 3 taking into account spatial correlation[40]. Finally, to allow for potential correlation in the error term, we consider clustered standard errors at the district or at the province level (rows 18-19). The findings show that our result is significant and robust across the different specifications.

Finally, in panel d), we show that our evidence is not driven by influential observations. First, we trim (row 21) and winsorize (row 22) the extreme 1% of observations of our dependent variable. Furthermore, in rows (22)-(24), we consider alternative subsamples. In row (22), we exclude cities with more than 10000 inhabitants and province seats. We then exclude all the municipalities close [41] to Naples and the Papal States' border to rule out the possibility that our results are driven by the areas that received support by the former king and the church. These different specifications show that the distance from near-Piedmontese community is always statistically significant, negative and remarkably stable.

4.3.5 Placebo tests

The results presented thus far provide evidence that geographical proximity to a near-Piedmontese community was *ceteris paribus* associated with a lower intensity of brigandage. The robustness of this result to changes in the model's specification and the addition of several geographical and socio-economic controls suggests that this was not due to some specific peculiarity of near-Piedmontese communities, such as particular geographic characteristic or exceptional economic performance. As formal institutions were homogeneous across Southern Italy and given the absence of historical accounts of informal institutions distinguishing near-Piedmontese communities from neighboring settlements, the attribution of our result to cultural differences between near-Piedmontese and local communities appears sound. This, however, is insufficient to conclude that the driving cultural feature lay in the cultural proximity of these near-Piedmontese communities with respect to the donor environment. In a recent paper, for instance, Bracco et al. (2015) show that Albanian linguistic enclaves in Southern Italy display larger degrees of civicness than the average Southern Italy municipality. This finding is attributed to the more intense *social cohesion* that emerges within ethno-linguistic enclaves, within which bonds and relationships are formed because of an enclave's cultural dissimilarity

[40] In particular, we rely on the function used by Hsiang (2010).

[41] We consider all the municipalities in the top 5% of the distribution of distances to Naples and the Papal States.

with respect to the surrounding environment. One might then suspect that a similar mechanism underlies our results, i.e., that near-Piedmontese communities had developed internal social structures that, possibly through the channel of social cohesion, led them to display a lower propensity to violently reject the institutional transplant than their non near-Piedmontese neighbors. To assess the plausibility of this channel, we repeat our analysis using non-near-Piedmontese linguistic enclaves as reference points, instead of near-Piedmontese communities. At present, as well as in the past, Southern Italy hosts 79 non near-Piedmontese ethno-linguistic enclaves, the majority of which (54) are of Albanian descent, the remaining 25 being of Greek (23) or Croatian (2) origin. Column (1) of Table 7 reports the result of the estimation of our main specification when the distance to the nearest non-near-Piedmontese ethno-linguistic enclave is used as the main independent variable. In column (2), we restrict the dependent variable only to those municipalities in the first quartile of the distribution of distance to the nearest non-near-Piedmontese community. We demonstrated in Section 4.3.2 that our result is highly significant within a very short range (45 km) when using distance from near-Piedmontese enclaves; hence, we test whether this mechanism is significant also in this alternative set of enclaves. Since Greek communities have a very particular geographic location (see Figure 2) and are considerably distant from the areas where the near-Piedmontese communities lie, and also taking into account the result on communities of Albanian descent by Bracco et al. (2015), we repeat the analyses considering Albanian (columns 3-4) and Greek linguistic communities (columns 5-6) separately. All these specifications yield non-significant estimates for the coefficient of interest. Thus, our attenuation effect of the proximity to an ethno-linguistic enclave on the intensity of brigandage only appears when the enclaves with respect to which such proximity is evaluated are the near-Piedmontese communities. This excludes the possibility that the channel of social cohesion due to the status of being an ethno-linguistic enclave drives our results.

5 Brigandage and political participation

In this section, we turn to examine the impact of the institutional rejection on political participation in the aftermath of Italian unification. The imposition of the new institutions, the following unrest in response to the political regime change and the subsequent hard-handed repression by the national army are natural vehicles for the creation of a culture of mistrust and the reinforcement of negative attitudes toward the new political structure. Such an environment can lead to a decrease in cooperation among individuals and a reduction of the trust in national institutions, resulting in lower political participation. Indeed, as shown by Tabellini (2010), a poor social and political climate can induce worse cultural traits, which may in turn lead to socio-economic backwardness. Reminiscent of Banfield (1958) and Putnam (1993), we investigate whether there is a link between the persistent differences

in civic capital across Italian territories and the different degrees of institutional rejection, quantified by the intensity of brigandage. In this respect, we follow the existing literature and proxy political participation by electoral turnout, the only available measure available since 1861 at the local level. We expect lower political participation in the areas characterized by a higher incidence of brigandage.

5.1 Medium-term impact

A potential concern with this analysis is that lack of trust in the transplanted institutions may have caused brigandage in the first place, and thus, the lower turnout in areas characterized by more intense brigand activity may simply reflect their propensity to reject the transplanted institutions, in one way (violent guerrilla conflict) or another (non-participation in elections). It is also possible that direct differential exposure to the military invasion generated the distrust in the new regime, causing both lower levels of political participation and a higher intensity of unrest. To address these and other related concerns, before analyzing the long-run relationship between brigandage and political participation, we show that episodes from the "*grande brigantaggio*" (i.e., the major wave of essentially still politically motivated brigandage, taking place between 1862-1865) are associated with a reduction in electoral turnout immediately following Italian unification. Our strategy is to compare the first Italian national electoral round, of January 1861 (two months before formal unification), and the first post-unification electoral round, held in October 1865. As documented by our previous analyses, the patterns of local variations in brigandage were already clear in the early phases (1860-1861) of the reactionary movement. We thus assume, in this context, that turnout in the 1861 electoral round already incorporates the effect of local variations in the propensity for institutional rejection and the reaction to military invasion. By taking into account the relationship between differences in turnout between 1861 and 1865 and brigandage episodes occurring between 1862 and 1865, we are thus able to isolate the direct relationship between the latter and political participation, in addition to the underlying local differences in civic capital and trust in the new institutions.

To this end, we exploit an additional data source: the *Atlante Storico Elettorale d'Italia*, a dataset collected by the Istituto Carlo Cattaneo containing detailed information on Italian national elections since 1861. During the period we analyze, municipalities were grouped into roughly equally sized (in terms of voters) constituencies; each constituency elected one member of Parliament. Electoral data on turnout of elections in the period 1861-1919 are available at the constituency level. All municipalities in which there was at least one eligible voter were reported. We use historical sources to identify the formal constituency to which each municipality belonged to have a precise assessment of the number of brigandage episodes by constituency. One also needs to consider that our outcome variable only reflects the

political participation of the élites, who were less involved than popular masses in the rebellion against the Piedmontese[42].

We estimate the following linear model:

$$\Delta T_{i,j} = \alpha + \beta_1 Y_i + \beta_2' \mathbf{X}_i + \beta_3' \mathbf{H}_i + \gamma_j + \varepsilon_i \tag{2}$$

where $\Delta T_{i,j}$ is the difference in turnout between 1865 and 1861 in constituency i and province j; Y_i is the total number of episodes (per thousand inhabitants) that occurred between 1862 and 1865 in constituency i; $\mathbf{X_i}$ and $\mathbf{H_i}$ are vectors of geographical and constituency controls, respectively, the former being measured for the main municipality of the constituency, while the latter are aggregated from municipal controls (see Section 3); γ_j is a province indicator[43]; and, finally, ε_i is an error term satisfying the usual assumptions. We expect the estimate of β_1 to be significantly different from zero; specifically, we conjecture that a higher incidence of brigandage should be negatively related to changes in turnout.

The estimated coefficients are reported in Table 7. In columns (1)-(3), we regress the change in turnout on the brigandage episodes reported in the period between the two elections (1862-1865). In column (1), we control for province fixed effects, while in column (2), we add the geographical controls. Finally, in column (3), we implement the baseline specification (2). According to our estimates, one additional episode per thousand inhabitants is associated with a decrease of 2.8% in turnout between the two elections. This is a sizable effect if we consider that the average change in turnout (in absolute value) at the constituency level was 11% , supporting the assumption that brigandage had a significant effect on electoral participation. In columns (4) and (5), we use the total number of episodes of brigandage (per thousand inhabitants) in the period 1860-1870 and the episodes of brigandage reported in 1860-1861, respectively. The estimated coefficients are not statistically significant, which suggests that the change in turnout observed between the two elections may be related to the episodes of brigandage reported in the inter-electoral period rather than to other features generically associated with brigandage incidence.

[42]Indeed, according to the 1859 electoral law, eligible voters had to meet some requirements in terms of age (older than 25), minimum literacy and income (at least 40 *lire* per year). The combination of these criteria reduced the number of potential voters in the country to 400,000, corresponding to approximately 2% of total population.

[43]Province fixed effects are particularly relevant in our specification since they capture the correlation between the Pica law (implemented at the provincial level) and electoral turnout, as underlined by Accetturo et al. (2016).

5.2 Long-term impact

In the context of state formation, it would be interesting to know whether the impact of brigandage vanished with the end of the violent unrests or outlived them. Unfortunately, changes in electoral rules do not allow a meaningful direct comparison of turnout between the 1861 and later elections. In what follows, we provide suggestive evidence that the negative relationship between the intensity of brigandage and electoral turnout does not disappear before the turn of the twentieth century. Here, we estimate a set of linear models, one for each electoral round in the period 1892-1913[44]:

$$T_{i,j} = \alpha + \beta_1 Y_i + \beta_2' \mathbf{X}_i + \gamma_j + \varepsilon_i \tag{3}$$

where $T_{i,j}$ is turnout in constituency i and province j; Y_i is the total number of episodes (per thousand inhabitants) in the municipality where constituency i is established, designated simply as municipality i[45]; $\mathbf{X_i}$ is a vector of geographical and historical controls measured for municipality i; and γ_j and ε_i are as in model (2).

Table 9 reports estimates of β_1 when all episodes of brigandage are used as the main independent variable. We use the same set of controls as in the regression implemented in Section 4.3.1[46]. Columns (1)-(7) report the results: overall, the estimated coefficients remain highly robust across the various specifications, the estimated coefficient is always negative, fairly stable and, up to 1904, statistically significant. Our findings suggest that brigandage-intensive areas display significantly lower turnout until the turn of the twentieth century. These results indicate that immediate institutional rejection has a long-lasting impact – up to half a century after its occurrence – on political participation, as it undermines trust in the institutions of the newborn state.

[44] We restrict our attention to the period 1882-1913 because it provides us with homogeneous electoral rules and a substantial expansion of the electorate in comparison to previous elections (and thus with higher validity for our estimates): since the requirements on age, literacy and income were weakened, the new electoral rule more than doubled the number of people with the right to vote. Furthermore, we do not include contemporary controls (referring to the years in which we measure turnout), as they could themselves be outcomes of the unification process. We do not consider the three electoral rounds in 1882, 1886 and 1890 because we have very few constituencies (fewer than 40) due to the electoral reform.

[45] For these electoral rounds, it is not possible to map municipalities into constituencies, and thus, we restrict our analysis to the main municipality of each constituency, which usually corresponds with the most populated settlement.

[46] With respect to the main specification, we do not control for the distance to the closest near-Piedmontese community and the closest city; both distances become meaningless when we use constituency-level data.

6 Conclusions

This work analyzes the outcomes following the institutional transplantation that took place in 1860-1865, in the context of the Italian unification process. The imposition of the Piedmontese administrative and legal framework on Southern Italy sparked an armed reaction by the peasant classes in continental Southern Italy, which is known as *brigandage*. We use historical sources and construct a dataset that allows us to evaluate the intensity of this phenomenon at the municipal level. Next, we relate this measure to the distance of each municipality from the nearest of ten communities descending from near-Piedmontese settlers. Across several model specifications and using a variety of controls, we find robust evidence that distance from the nearest near-Piedmontese community (which we use as a proxy for cultural distance) is *ceteris paribus* associated with a lower intensity and incidence of brigandage. We interpret this result as evidence in favor of the hypothesis that, in the context of an institutional transplantation, cultural proximity with the donor environment reduces the propensity of the recipient environment for institutional rejection in the short term. Short-run rejection may have a direct impact on important social outcomes: here, we document a significant decline in electoral turnout in the aftermath of unification in places where more brigandage episodes were reported. Further suggestive evidence outlines a negative relationship between the intensity of institutional rejection and turnout that does not disappear until the turn of the twentieth century. These results are able to shed some light on the complex relationship between cultural distance, institutional innovation and institutional effectiveness.

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Figures and Tables

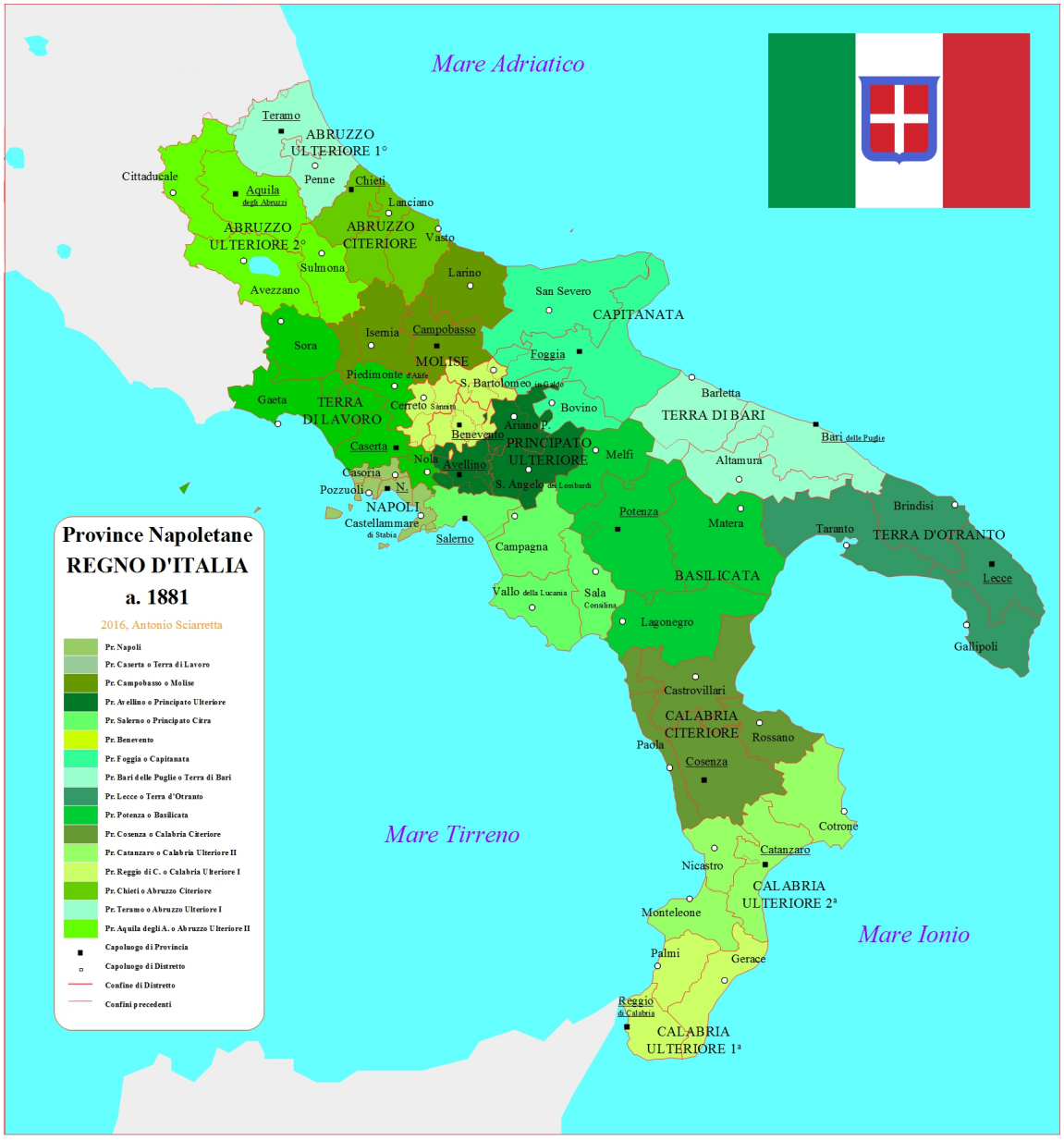

Figure 1: Administrative map of continental Southern Italy following the Italian unification (1881).

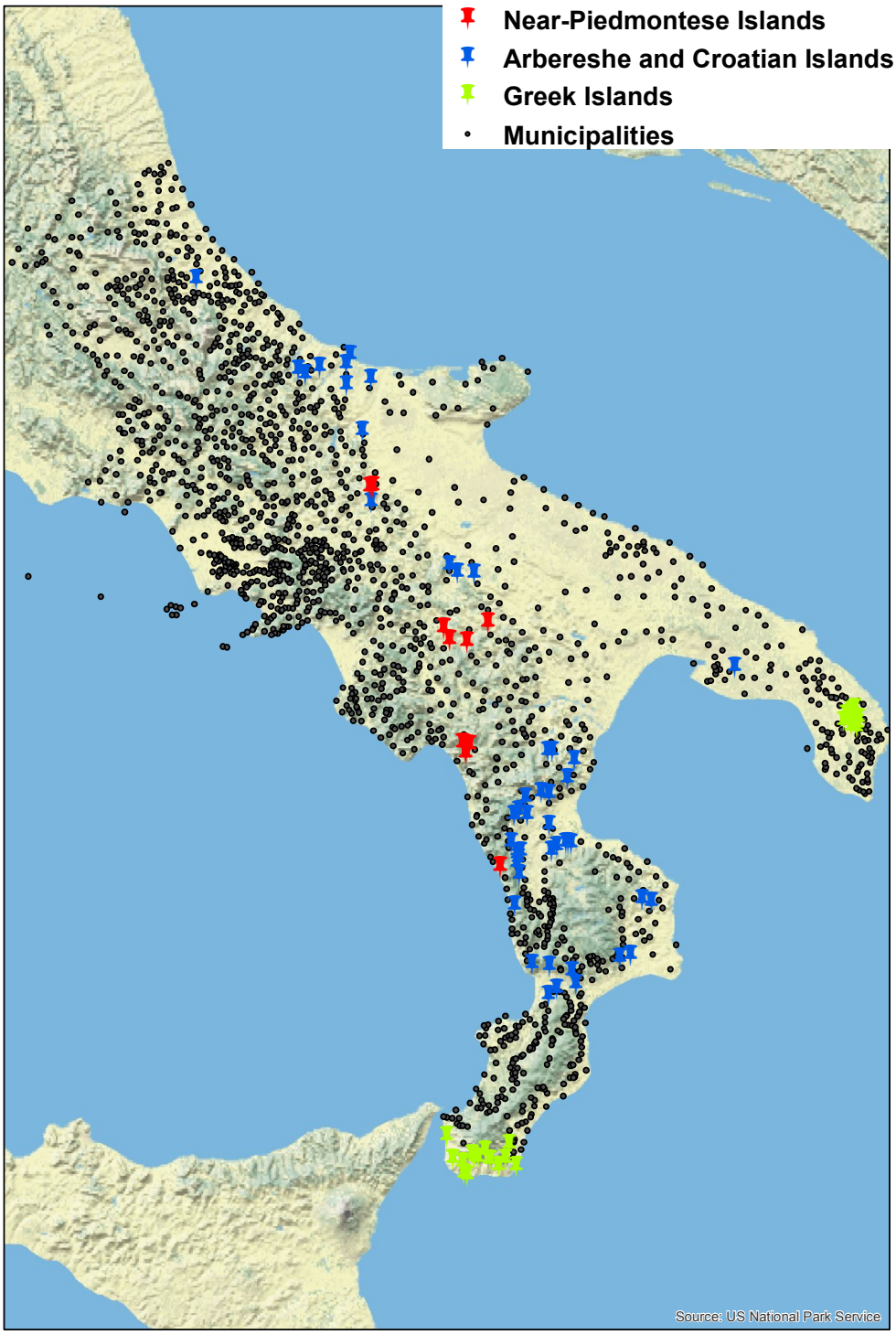

Figure 2: Municipalities in continental Southern Italy as of 1861 (dots), with near-Piedmontese communities (red pinpoints) and other linguistic enclaves (blue and green pinpoints).

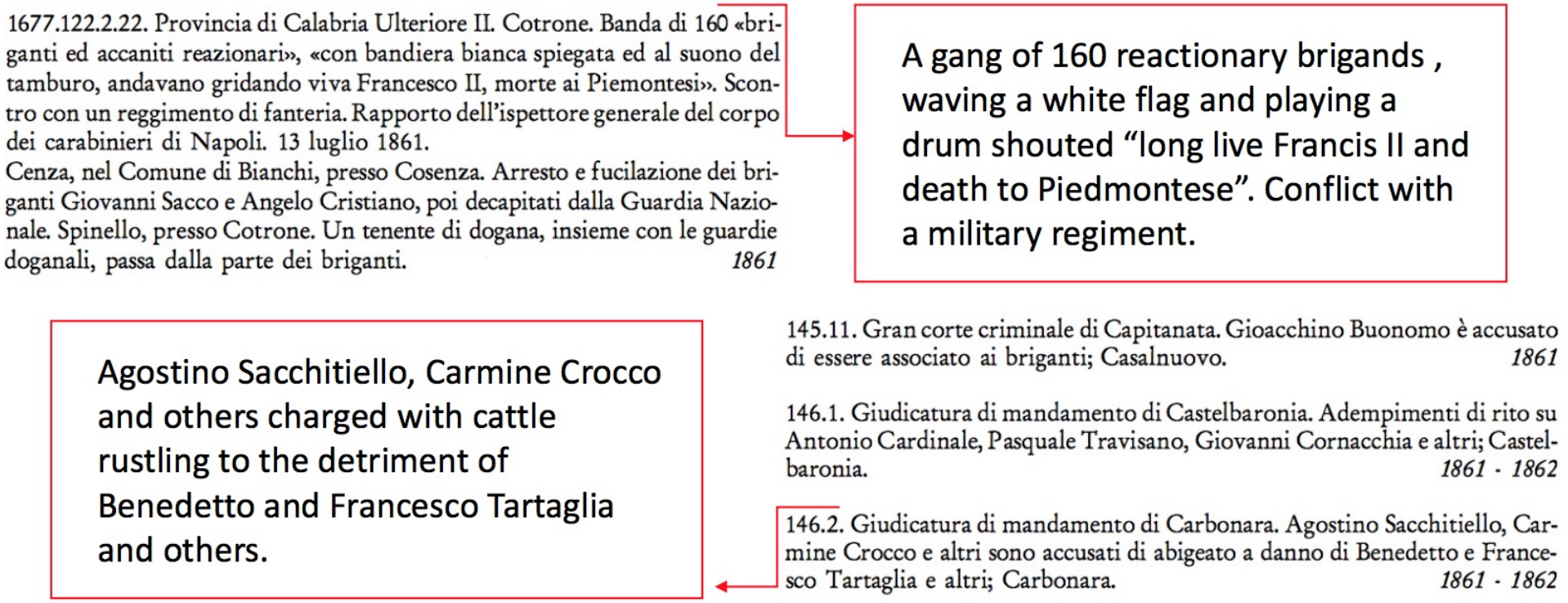

Figure 3: Excerpts from the State Archives used to construct our measure of brigandage intensity (i.e. the dependent variable of the dataset).

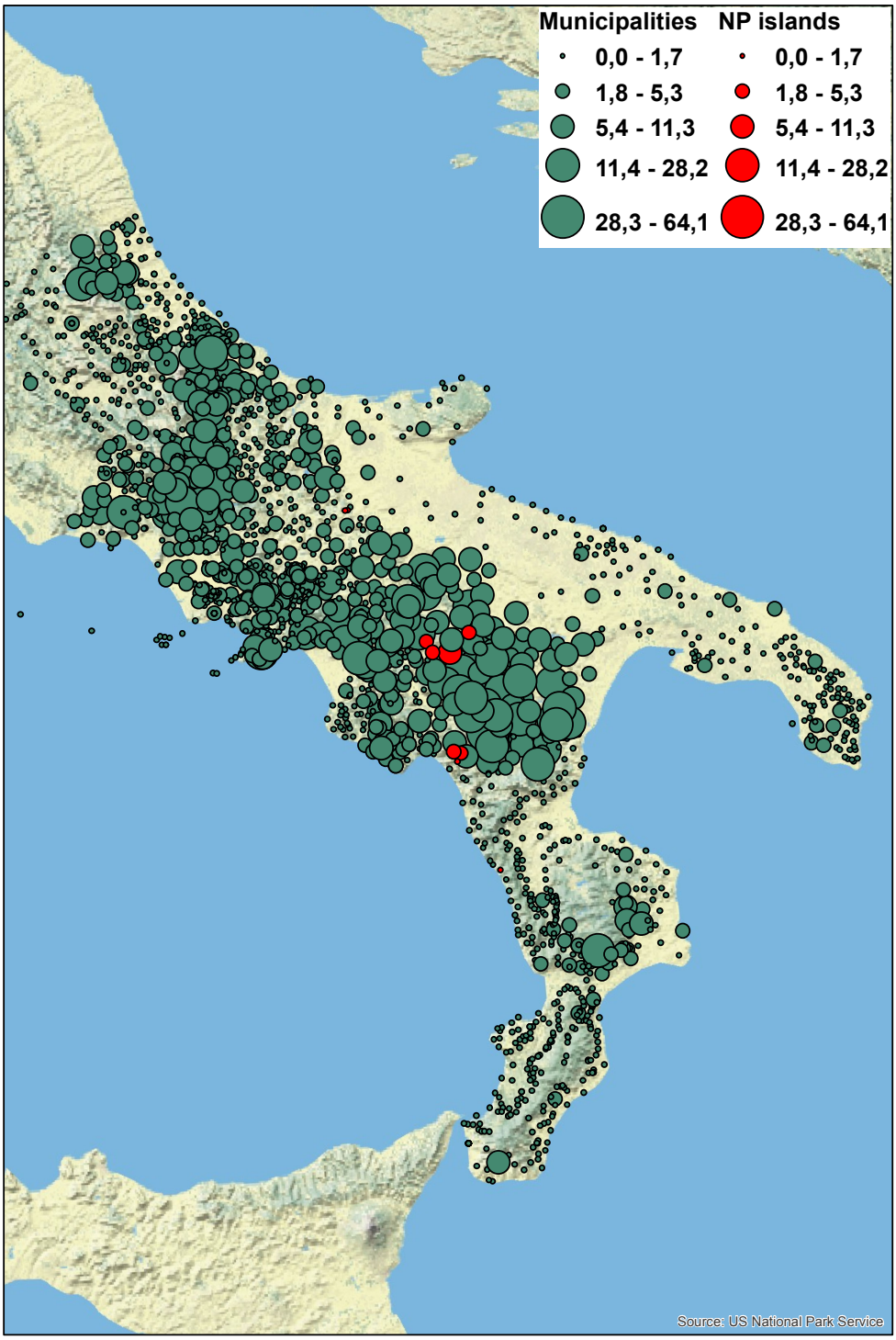

Figure 4: Intensity of brigandage (in episodes per 1,000 inhabitants) in Southern Italy municipalities. Near-Piedmontese communities are denoted by the red dots.

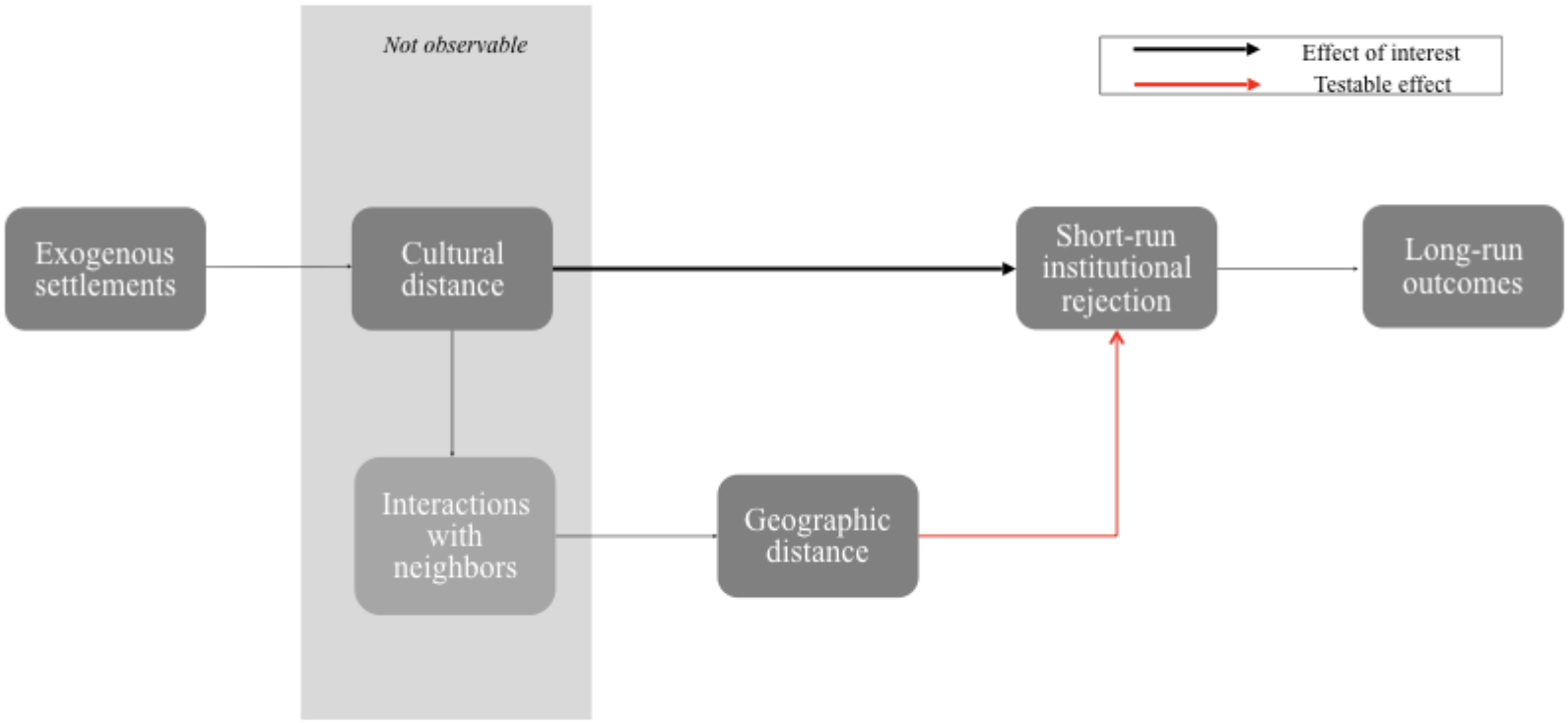

Figure 5: Overview of the empirical analysis.

Figure 6: The Ancient Roman road network from McCormick et al. (2013) used to compute road distances. Municipalities which do not lie on any roads are projected onto the nearest point belonging to the network. Near-Piedmontese communities are denoted by the red pinpoints.

Table 1: Descriptive statistics and means comparison

	(1) nP communities	(2) Other municip.	(3) Difference
Area 1861 (ha)	4361.30	4163.67	-197.63
Pop. 1861 (ths.)	3.01	3.66	0.65
Pop. growth 1824-61	-0.11	-0.04	0.06
Altitude (100m)	6.71	4.14	-2.58***
Raggedness (100m)	10.13	7.24	-2.89*
Ozak index	8.35	8.28	-0.07***
Dist. Naples	138.98	160.19	21.20*
Dist. n. prov. seat.	33.64	32.13	-1.51
Dist. town	30.59	19.01	-11.58
Dist. coast	35.17	22.11	-13.06
Dist. Papal States	218.56	191.57	-26.99
Dist. Piedm. isl.	0.00	89.25	89.25***
Roads Piedm.	0.00	116.35	116.35***
Observations	10	1845	1855

All distances are expressed in kilometers. Tests for the difference in means allow for unequal variances in the sub-samples (* p<0.1, ** p<0.05, *** p<0.01).

Table 2: Descriptive statistics by brigandage intensity

	(1) Occasional brig.	(2) Frequent brig.	(3) Highly freq. brig.
Area 1861 (ha)	3752.844	4577.075	5054.140
Pop. 1861 (ths.)	3.723	3.595	3.481
Pop. growth 1824-61	-0.059	-0.031	0.000
Altitude (100m)	3.768	4.530	5.095
Raggedness (100m)	6.768	7.749	8.566
Ozak index	8.256	8.305	8.325
Dist. Naples	192.026	128.084	115.596
Dist. n. prov. seat.	31.437	32.845	35.287
Dist. town	18.043	20.109	22.103
Dist. coast	19.220	25.144	28.029
Dist. Papal States	227.312	156.074	144.298
Dist. Piedm. isl.	98.919	78.610	69.879
Roads Piedm.	128.291	103.147	92.547
Observations	928	927	463

All distances are expressed in kilometers.

Table 3: Baseline Results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dep. Var.	Epi. tot.	Epi. tot.	Epi. tot.	Epi. tot.	Epi. tot.	Epi. tot.	Ep. p.m.	Ep. p.m.	Ep. p.m.	Epi. tot.	Epi. tot.	Epi. tot.
(log) Dist. Pie..	1.420**	1.718**	1.460**	0.115*	0.151**	0.140**	0.599***	0.677***	0.671***	0.146**	0.189***	0.194***
	(0.716)	(0.773)	(0.723)	(0.0611)	(0.0613)	(0.0611)	(0.166)	(0.168)	(0.169)	(0.0623)	(0.0625)	(0.0624)
Population	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Restr.	Restr.	Restr.
Geo. Cont.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dist. Cont.	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Mun. cont.	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Model	OLS	OLS	OLS	Neg.Bin.	Neg.Bin.	Neg.Bin.	OLS	OLS	OLS	Neg.Bin.	Neg.Bin.	Neg.Bin.
(A-P)/R^2	0.409	0.424	0.490	0.156	0.160	0.166	0.357	0.361	0.360	0.114	0.117	0.122
Obs.	1855	1855	1855	1855	1855	1855	1855	1855	1855	1855	1855	1855

Province FEs and Pop.growth 1824-61 are included in all specifications. Geographical controls include: (log) Area 1861 (ha), (log) Pop. 1861 (ths.), Altitude (100ms), Raggedness (100ms), Longitude and Latitude. Distance controls include: (log) Dist. Naples, (log) Dist. prov. seat, (log) Dist. town, (log) Dist. coast, (log) Dist. Papal States. Municipal controls include dummy variables for the presence in each municipality of: civil, criminal or commercial courts; of the local episcopal or archiepiscopal seat; of secondary education institutes; of hospitals; and of relevant manufactures or proto-industrial plants. Robust standard errors in parentheses (* p<0.1, ** p<0.05, *** p<0.01).

Table 4: Mechanisms

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.	Ep. p.m.	Ep. p.m.	Ep. p.m.	Ep. p.m.	Ep. p.m.	Ep. p.m.
(log) Dist. Piedm.	0.397***	0.256	-0.571	0.699		
	(0.0651)	(0.490)	(0.719)	(1.369)		
Share of nP enclaves in 50Km					-11.78***	
					(2.778)	
Share of nP pop in 50Km						-10.79***
						(3.726)
Quartile	1st	2nd	3rd	4th		
Indicator					N. of nP	Exposed pop.
Obs.	464	464	464	463	516	516

Geographical, Municipal controls, Pop.growth 1824-61 and Province FEs are included in all specifications. Province FEs are included in all specifications. Geographical controls include: (log) Area 1861 (ha), (log) Pop. 1861 (ths.), Altitude (100ms), Raggedness (100ms), Longitude, Latitude, (log) Dist. Naples, (log) Dist. prov. seat, (log) Dist. town, (log) Dist. coast, (log) Dist. Papal States.Municipal controls include dummy variables for the presence in each municipality of: civil, criminal or commercial courts; of the local episcopal or archiepiscopal seat; of secondary education institutes; of hospitals; and of relevant manufactures or proto-industrial plants. Robust standard errors in parentheses (* p<0.1, ** p<0.05, *** p<0.01).

Table 5: Further Results

	Episodes 1860-1864				Political and Violent Episodes			
	All munic.	1st quartile	50km from nP	50km from nP	All munic.	1st quartile	50km from nP	50km from nP
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(log) Dist. Piedm.	0.191***	0.442***			0.179***	0.416***		
	(0.0724)	(0.0814)			(0.0621)	(0.0711)		
share of nP in 50km			-15.03***				-9.969***	
			(3.470)				(2.992)	
share of nP pop. in 50km				-13.26***				-9.934**
				(4.487)				(4.122)
Observations	1,855	464	516	516	1,855	464	516	516
Pseudo R^2	0.119	0.164	0.159	0.157	0.130	0.161	0.156	0.155

Geographical, Municipal controls, Pop.growth 1824-61 and Province FEs are included in all specifications. Province FEs are included in all specifications. Geographical controls include: (log) Area 1861 (ha), (log) Pop. 1861 (ths.), Altitude (100ms), Raggedness (100ms), Longitude, Latitude, (log) Dist. Naples, (log) Dist. prov. seat, (log) Dist. town, (log) Dist. coast, (log) Dist. Papal States. Municipal controls include dummy variables for the presence in each municipality of: civil, criminal or commercial courts; of the local episcopal or archiepiscopal seat; of secondary education institutes; of hospitals; and of relevant manufactures or proto-industrial plants. Robust standard errors in parentheses (* p<0.1, ** p<0.05, *** p<0.01).

Table 6: Robustness Checks

	β_1	s.e.	Obs.
a) Dependent Variable			
1) Source: Police	0.188**	(0.0758)	1,855
2) Source: Courts	0.140	(0.0877)	1,855
3) Source: Others	0.409**	(0.185)	1,855
4) Different Aggregation	0.190***	(0.0585)	1,855
b) Proximity Variable			
5) Distances in kilometers	0.00451**	(0.0019)	1,855
6) Roman roads	0.228***	(0.0527)	1,855
7) Near-Piedmontese dummy	-0.946***	(0.250)	1,855
8) Excluding near-Piedmontese	0.144*	(0.0801)	1,845
c) Specification			
9) Poisson	0.229***	(0.0517)	1,855
10) Zero-inflated Poisson	0.225***	(0.0520)	1,855
11) Zero-inflated Negative Binomial	0.188***	(0.0621)	1,855
12) District FEs (57)	0.168**	(0.0730)	1,855
13) Region FEs (5)	0.129**	(0.0562)	1,855
14) Region FEs + Province-level controls	0.269***	(0.0584)	1,855
15) Soil quality	0.179***	(0.0628)	1,826
16) Attitudes	0.193***	(0.0623)	1,855
17) Spatial Correlation	0.671***	(0.1674)	1,855
18) Clustering at District level	0.194**	(0.0919)	1,855
19) Clustering at Province level	0.194**	(0.0821)	1,855
d) Alternative Samples			
20) Trimming	0.187***	(0.0624)	1,855
21) Winsorizing	0.191***	(0.0619)	1,855
22) No big cities	0.206***	(0.0633)	1,855
23) No neighborhood Naples	0.172***	(0.0621)	1,855
24) No neighborhood Papal States	0.165**	(0.0655)	1,855

Geographical, Municipal controls, as described in Table 4, and Pop.growth 1824-61 are included in all specifications.The reported coefficient is the one on the log distance from the closest near-Piedmontese community unless differently specified. Robust standard errors in parentheses unless differently specified. (* p<0.1, ** p<0.05, *** p<0.01).

Table 7: Placebo Regressions

	Non nP enclaves		Arbereshe enclaves		Greek enclaves	
	All episodes	1st quartile	All episodes	1st quartile	All episodes	1st quartile
	(1)	(2)	(3)	(4)	(5)	(6)
(log) Dist. non-Piedm.	0.0261	0.0688				
	(0.0435)	(0.0695)				
(log) Dist. Arbereshe			0.0669	0.0613		
			(0.0456)	(0.0659)		
(log) Dist. Greek					0.0276	0.0203
					(0.100)	(0.119)
R^2	0.121	0.169	0.121	0.184	0.121	0.110
Obs.	1855	464	1855	464	1855	464

Geographical, Municipal controls, Pop.growth 1824-61 and Province FEs are included in all specifications. Province FEs are included in all specifications. Geographical controls include: (log) Area 1861 (ha), (log) Pop. 1861 (ths.), Altitude (100ms), Raggedness (100ms), Longitude, Latitude, (log) Dist. Naples, (log) Dist. prov. seat, (log) Dist. town, (log) Dist. coast, (log) Dist. Papal States. Municipal controls include dummy variables for the presence in each municipality of: civil, criminal or commercial courts; of the local episcopal or archiepiscopal seat; of secondary education institutes; of hospitals; and of relevant manufactures or proto-industrial plants. Robust standard errors in parentheses (* p<0.1, ** p<0.05, *** p<0.01).

Table 8: Electoral Turnout 1861-1865

	(1)	(2)	(3)	(4)	(5)
Dep. Var.	Δ Turnout	Δ Turnout	Δ Turnout	Δ Turnout	Δ Turnout
Ep. p.m. 1862-1865	-0.022*	-0.026*	-0.027*		
	(0.011)	(0.015)	(0.013)		
All Ep. p.m.				-0.021	
				(0.013)	
Ep. p.m. 1860-1861					-0.021
					(0.047)
Geographical Controls	No	Yes	Yes	Yes	Yes
Constituency Controls	No	No	Yes	Yes	Yes
R^2	0.185	0.229	0.301	0.301	0.289
Obs.	124	124	124	124	124

Geographical controls include: (log) Area 1861 (ha), (log) Pop. 1861 (ths.), Altitude (100ms), Raggedness (100ms), (log) Dist. Naples, (log) Dist. prov. seat, (log) Dist. coast, (log) Dist. Papal States and a dummy for near-Piedmontese communities in the constituency. Constituency controls include dummy variables for the presence in each constituency of: civil, criminal or commercial courts; of the local episcopal or archiepiscopal seat; of secondary education institutes; of hospitals; and of relevant manufactures or proto-industrial plants. Province FEs are included in all specifications. Robust standard errors are clustered at province level. (* p<0.1, ** p<0.05, *** p<0.01).

Table 9: Electoral Turnout 1892-1913: Long Term Effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	1892	1895	1897	1900	1904	1909	1913
All Episodes p.m.	-0.005*	-0.006*	-0.002	-0.007**	-0.004**	0.003	0.001
	0.002	0.003	0.003	0.003	0.002	0.004	0.004
Geographical Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipal Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.528	0.462	0.455	0.441	0.481	0.509	0.606
Obs.	125	125	125	126	126	126	126

Geographical controls include: (log) Area 1861 (ha), (log) Pop. 1861 (ths.), Altitude (100ms), Raggedness (100ms), (log) Dist. Naples, (log) Dist. prov. seat, (log) Dist. coast, (log) Dist. Papal States. Municipal controls as in Table 4. Province FEs, (log) Pop.1861, Pop.growth 1824-61 and dummy variables for the winning party are included in all specifications. Robust standard errors are clustered at province level. (* p<0.1, ** p<0.05, *** p<0.01).

Appendix A

	Basilicata		Liguria		Piemonte	
	S. Chirico	Tito	Sassello	Borgomaro	Castelnuovo	Villafalletto
corpo	*kuɛ̯́rpu*	*kǫ́rp*	*kǫ́ypu*	*kǫ́rpu*	*kǫ́rp*	*kǫ́rp*
osso	*ɥɛ́ssu*	*ǫssə*	*ǫ́su*	*ǫ́su*	*ǫ́s*	*ǫ́s*
grosso	*γrɥéssu*	*γrǫ́ssu*	*grǫ́su*	*grǫ́su*	*grǫ́s*	*grǫ́s*
grossa	*grǫ́ssa*	*γróssa*	*grǫ́sa*	*grǫ́sa*	*grósa*	*grǫ́sa*
coscia	*kóssa*	*kúǫša*	*kǫ́ɛ̌ša*	*kǫ́ɛ̌ša*	*kǫ́ɛ̌ša*	*kǫ́esa*
macina	*máćina*	*[súǫla]*	*mǫ́era*	*máeya*	*mǫ́ra*	—
cuore	*kǫ́r"*	*kúǫrə*	*kǫ́ɛ*	*kǫ́ɛ*	*kǫ́er*	*kœ́r*
nuora	*nǫ́ra*	*núǫra*	*nɛ́rya*	*nɛ́ya*	*nǫ́la*	*nǫ́ra*
sorella	*sǫ́rə*	*súǫra*	*sɛ́*	*sɛ́*	*[suréla]*	*sɛ́ri*
fuori	*ʃǫ́ra*	*ʃúǫra*	*ʃǿera*	*deʃǿera*	*fǫ́ra*	*fǫ́ra*
piove	*č'ǫ́vit'*	*č'úǫvə*	*ćǿeve*	*ćǿeve*	*pyɛ́ve*	*pyɛ́vi*
fuoco	*ʃɥéku*	*ʃúǫɣu*	*ʃɛ*	*ʃǿegu*	*ʃœgu*	*ʃǿe*
oggi	*ǫ́yi*	*úǫyi*	*aŋkǿe*	*aŋkɛ́ey*	*aŋkɛ*	*ŋkǿe*

Figure A1: Examples of linguistic similarities between Lucanian, the Gallo-Italic dialect of Tito, Western Ligurian and Southern Piedmontese. Source: Rohlfs (1988)

Figure A2: Maps of the Gallo-Romance clusters in Basilicata. Source: Rohlfs (1972)

Italiano	*Dialetto di Guardia*	*d'Angrogna*	*di Cosenza*
Mio padre	Mon paire	Mon paire	Patrima
Mia madre	Ma maire	Ma maire	Mammama
Mio avo	Mon Donn	Mon Donn	Nannuma
Mia ava	Ma gnogna	Ma nonna	Nannama
Tuo zio	Ton barba	Ton barba	Ziuma
Tua zia	Ta dant	Ta dant	Ziama
Suo fratello	Son fraire	Son fraire	Frate suo
Sua sorella	Sa sorr	Sa sorr	Suoru sua
Tuo nipote	Ton nibù	Ton nebu	Neputìta
Tua nipote	Ta nessa	Ta nessa	Id.
Mio suocero	Mon sière	Mon messer	Suocruma
Mia suocera	Ma madona	Ma madona	Socrama

Figure A3: Examples of linguistic similarities between Guardia Piemontese and Val d'Angrogna (Piedmont). Source: Vegezzi Ruscalla (1862)

53. L'elemento galloitalico. Alle immigrazioni piemontesi (v. num. 4) si possono attribuire i seguenti cognomi: *Antonaglia, Balasco, Bargellino, Braida, Cerone, Clausi, Di Lema, Doti, Mongiovi, Orenga, Piccitto, Posca, Ribba, Sadotti, Saluzzi, Sanchìrico, Tomasco, Vainieri, Varallo, Varanzano, Vergalliti, Verna.*

Figure A4: List of surnames attributed to the Piedmontese migration in Basilicata. Source:Rohlfs (1985)

Table A1: Table 3 reporting all coefficients

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. Var.	Epi. tot.	Epi. tot.	Epi. tot.	Epi. tot.	Epi. tot.	Epi. tot.
(log) Dist. Piedm.	1.420**	1.718**	1.460**	0.115*	0.151**	0.140**
	(0.716)	(0.773)	(0.723)	(0.0611)	(0.0613)	(0.0611)
(log) Pop. 1861	5.964***	5.126***	3.272***	0.804***	0.735***	0.663***
	(0.718)	(0.661)	(0.475)	(0.0581)	(0.0603)	(0.0584)
Pop. growth 1824-61	1.626***	1.527***	0.430	0.0360***	0.0307***	-0.0145
	(0.183)	(0.167)	(0.466)	(0.00871)	(0.00843)	(0.0183)
Latitude	-0.773	-1.088	-0.163	-0.426***	-0.471***	-0.399***
	(1.587)	(1.603)	(1.602)	(0.161)	(0.163)	(0.151)
Longitude	-0.760	0.389	0.384	-0.00940	0.247*	0.269**
	(0.869)	(1.015)	(0.933)	(0.110)	(0.136)	(0.136)
(log) Area 1861	2.324***	3.068***	2.265***	0.397***	0.468***	0.439***
	(0.342)	(0.370)	(0.321)	(0.0496)	(0.0529)	(0.0529)
Altitude (100m)	0.507***	0.421***	0.364**	0.0644***	0.0548***	0.0530***
	(0.134)	(0.162)	(0.154)	(0.0156)	(0.0180)	(0.0181)
Raggedness (100m)	0.103*	0.108*	0.175***	0.0380***	0.0394***	0.0431***
	(0.0593)	(0.0595)	(0.0574)	(0.00751)	(0.00749)	(0.00711)
(log) Dist. Naples		-1.349	-1.941**		-0.325***	-0.438***
		(1.238)	(0.758)		(0.121)	(0.111)
(log) Dist. seat		-0.978*	0.232		-0.00341	0.101**
		(0.554)	(0.412)		(0.0513)	(0.0480)
(log) Dist. town		-1.054*	-0.529		-0.0647	-0.0319
		(0.587)	(0.552)		(0.0428)	(0.0405)
(log) Dist. coast		0.945***	1.150***		0.122***	0.141***
		(0.297)	(0.261)		(0.0369)	(0.0350)
(log) Dist. Papal States		-0.330	-0.00467		-0.146*	-0.136*
		(0.663)	(0.589)		(0.0799)	(0.0776)
Archbishop			8.118*			0.601***
			(4.698)			(0.182)
Bishop			8.776**			0.0989
			(3.464)			(0.105)
Civil court			-4.544			0.0381
			(11.94)			(0.473)
Criminal court			31.43***			1.374***
			(11.93)			(0.403)
Comm. court			4.704			-2.273***
			(13.27)			(0.717)
Liceo			10.81			0.0568
			(9.823)			(0.328)
Collegio			-0.259			-0.184
			(11.06)			(0.356)
Sec. school			-1.621			0.0531
			(2.477)			(0.133)
Manufacture			1.848			-0.179
			(2.929)			(0.143)
Hospital			6.559			0.209
			(7.452)			(0.160)
Geographical Controls	No	Yes	Yes	No	Yes	Yes
Dist. Cont.	No	Yes	Yes	No	Yes	Yes
Mun. cont.	No	No	Yes	No	No	Yes
Emp. Model	OLS	OLS	OLS	Neg.Bin.	Neg.Bin.	Neg.Bin.
(A-P)/R^2	0.409	0.424	0.490	0.156	0.160	0.166
Obs.	1855	1855	1855	1855	1855	1855

Table A2: Table 3 reporting all coefficients

	(7)	(8)	(9)	(10)	(11)	(12)
Dep. Var.	Ep. p.m.	Ep. p.m.	Ep. p.m.	Epi. tot.	Epi. tot.	Epi. tot.
(log) Dist. Piedm.	0.599***	0.677***	0.671***	0.146**	0.189***	0.194***
	(0.166)	(0.168)	(0.169)	(0.0623)	(0.0625)	(0.0624)
Pop. growth 1824-61	0.0244	0.0281	-0.0266	0.0205***	0.0167**	-0.0363*
	(0.0470)	(0.0464)	(0.0681)	(0.00747)	(0.00780)	(0.0192)
Latitude	-0.651	-0.627	-0.636	-0.436***	-0.459***	-0.406**
	(0.424)	(0.430)	(0.433)	(0.166)	(0.169)	(0.162)
Longitude	-0.105	-0.0341	-0.0225	0.0292	0.249*	0.267*
	(0.242)	(0.232)	(0.234)	(0.114)	(0.141)	(0.141)
(log) Area 1861	0.405***	0.452***	0.413***	0.289***	0.328***	0.291***
	(0.0717)	(0.0751)	(0.0800)	(0.0397)	(0.0423)	(0.0449)
Altitude (100m)	0.178***	0.136***	0.136***	0.0782***	0.0642***	0.0635***
	(0.0403)	(0.0476)	(0.0479)	(0.0152)	(0.0184)	(0.0185)
Raggedness (100m)	0.0804***	0.0807***	0.0821***	0.0420***	0.0426***	0.0455***
	(0.0156)	(0.0156)	(0.0158)	(0.00775)	(0.00777)	(0.00747)
(log) Dist. Naples		-0.508***	-0.543***		-0.322***	-0.409***
		(0.178)	(0.176)		(0.120)	(0.113)
(log) Dist. seat		0.0715	0.108		-0.000459	0.0829
		(0.0745)	(0.0785)		(0.0511)	(0.0507)
(log) Dist. town		0.173**	0.199**		0.0180	0.0524
		(0.0741)	(0.0773)		(0.0407)	(0.0385)
(log) Dist. coast		0.197***	0.209***		0.130***	0.146***
		(0.0633)	(0.0636)		(0.0376)	(0.0364)
(log) Dist. Papal States		-0.0656	-0.0678		-0.145*	-0.140*
		(0.154)	(0.155)		(0.0799)	(0.0777)
Archbishop			1.023			0.483**
			(0.807)			(0.190)
Bishop			0.217			-0.0302
			(0.316)			(0.106)
Civil court			-0.385			-0.0147
			(1.038)			(0.535)
Criminal court			1.468			1.442***
			(1.009)			(0.422)
Comm. court			-1.402			-2.399***
			(1.122)			(0.803)
Liceo			-0.560			-0.0617
			(0.850)			(0.362)
Collegio			-0.199			-0.355
			(0.885)			(0.363)
Sec. school			-0.107			-0.0210
			(0.266)			(0.135)
Manufacture			0.0852			-0.321**
			(0.468)			(0.147)
Hospital			-0.278			0.112
			(0.676)			(0.156)
Geographical Controls	No	Yes	Yes	Yes	Yes	Yes
Dist. Cont.	No	Yes	Yes	No	Yes	Yes
Mun. cont.	No	No	Yes	No	No	Yes
Emp. Model	OLS	OLS	OLS	Neg.Bin.	Neg.Bin.	Neg.Bin.
(A-P)/R^2	0.357	0.361	0.360	0.114	0.117	0.122
Obs.	1855	1855	1855	1855	1855	1855