AUTOCRATIC RULE AND SOCIAL CAPITAL: EVIDENCE FROM IMPERIAL CHINA*

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Abstract:

This paper explores the impact of autocratic rule on social capital—defined as the attitudes, beliefs, norms, and perceptions that support cooperation. Political repression is a distinguishing characteristic of autocratic regimes. Between 1661–1788, individuals in imperial China were persecuted if they were suspected of holding subversive attitudes towards the state. A difference-in-differences approach suggests that in an average prefecture, exposure to political repression led to a decline of 38% in local charities—a key proxy of social capital. In line with the historical panel results, individuals have lower levels of generalized trust today in affected prefectures. Taking advantage of institutional variation in 20th century China, and using two instrumental variables, we provide further evidence that political repression permanently reduced social capital. Moreover, individuals in prefectures with a legacy of literary inquisitions are more politically apathetic. More suggestively, there appears to be a self-reinforcing cycle in which autocratic rule becomes entrenched through causing a permanent decline in social capital.

Keywords: Social Capital, Collective Action, Autocracy, China

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> Terror can rule absolutely only over men who are isolated against each other and that, therefore, one of the primary concerns of all tyrannical government is to bring this isolation about.
>
> Hannah Arendt (1951, 474)

I Introduction

How does repression shape minds? Autocratic states frequently use political repression to stay in power. Many episodes of political repression were coupled with mass killing and the destruction of property, and these have received considerable scholarly attention. One crucial impact of political repression, however, is on attitudes and beliefs of citizens. This paper uses China as a historical laboratory to study how political repression reshapes the attitudes and beliefs of citizens, and weakens civil society. Through this mechanism, we show that social capital plays a central role in the evolution of economic and political institutions.[1]

The relationship between the state and society is one of the fundamental themes in the social sciences. Alexis de Tocqueville argued in *Democracy in America* (1835) that a thriving civil society supports a vibrant democracy.[2] This subject has recently attracted the interest of economists. Acemoglu and Robinson (2016) observe that state policies and behavior affect the nature and extent of social capital—i.e., those attitudes, beliefs, norms and perceptions that support cooperation. Empirical studies have begun to consider the effects of the state on civil society (Lowes, Nunn, Robinson, and Weigel, 2017; Dell, Lane, and Querubin, 2017) as well as the effects of civil society on the state (Satyanath, Voigtländer, and Voth, 2017). By measuring the impact of autocratic rule on society for almost 400 years at a decadal level, and making use of a series of historical shocks in imperial and modern China to achieve identification, we offer novel insights into this relationship: the state can transform society, but equally, the nature of society constrains the trajectory of the state.

Following the Manchu occupation of China in 1644, and the establishment of the Qing dynasty, imperial China saw a sharp increase in political repression and an entrenchment of autocratic rule. Intellectuals, the most influential figures in local society, saw new restrictions imposed on them. One watershed event was the intensification and routinization of literary inquisitions—investigations which targeted the speech and writings of intellectuals. According to Gong Zizhen, fear of persecution led to intellectuals disengaging from society, and withdrawing from public life (Gong, 1991). Social interactions between Intellectuals were curtailed. Historians concur that "[f]ear of persecution left a deep negative impact on cultural and intellectual life." Individuals had an incentive to report one another to the authorities. This "expansive . . . repression involved

[1] China's authoritarian resilience has been studied by political scientists (Nathan, 2003) and is now frequently discussed in the media e.g. https://www.reuters.com/article/us-china-congress-economy-breakingviews/chinas-autocracy-puts-end-to-reform-illusions-idUSKBN1CU19V.

[2] This insight has been expanded upon by many social scientists who link social capital to democracy. See Fukuyama (1995, 2001), Putnam (1994), Paxton (2002), Tabellini (2008), Gorodnichenko and Roland (2015), and Martinez-Bravo, Padró-i-Miquel, Qian, Xu, and Yao (2017).

the entire population" and "led to the formation of a social environment characterized by mutual deception" (Wang, 2002, 647). These persecutions represented an injection of "autocratic, unpredictable power" into local society (Kuhn, 1990, 225).

Our dataset comprises 86 literary inquisition cases, including all cases collected from the Qing Imperial Archives by historians in the 1930s.[3] The Qing Imperial Archives have preserved records and correspondence, from which we can trace each case from a local incident until it reached the imperial court. It is important that our data reflect authentic literary inquisition cases and are not contaminated by other types of executions involving palace conspiracies or court politics. For this reason, we follow historians in using a strict definition of literary inquisitions—for instance, historians do not consider arrests associated with openly anti-Qing movements as relevant for the discussion of literary inquisitions. For robustness purposes, we also consider a more expansive list of inquisition cases.[4]

A common challenge faced when studying the effects of political repression on society is the absence of natural experiments. In other settings, factors like conflict, economic downturns, and religious tensions have been shown to be important. For literary inquisitions, these factors were not significant, but wealth and ideology might have mattered. Literacy, for example, was an important determinant, since the vast majority of literary inquisition cases involved written materials. There was, however, a substantial random component to literary inquisition cases.

Two facts are important for understanding this random component. First, the subtlety and ambiguity of the Chinese language allowed considerable scope for interpreting the intention of the writer. Two different individuals could form dramatically different understandings of the same piece of writing. Second, the nature of traditional Chinese government prevented the standardization of criteria for determining what speech or writing were criminal. Embedded in the Confucian ideal of government was the notion that at each level of government, decisions should ultimately be left to the discretion of the magistrate, prefect, provincial governor or emperor. These officials were believed to embody Confucian notions of "virtue". This emphasis on personal discretion rather than general rules built in another source of arbitrariness into the generation of literary inquisition cases.

This emphasis on discretion, in conjunction with the centralization of political authority, meant that the subjective judgment of the emperor was critical.[5] The final decision was made by the emperor who had complete discretion. One individual was persecuted for writing: "Since the clear wind does not recognize words, [w]hy does it flip through the pages of my book?" Because the Chinese character for "Qing" is the same as that for "clear," this was interpreted as mocking

[3]This is the same data source and same number of cases (86) used in Koyama and Xue (2015) to explore the relationship between inquisitions and human capital accumulation. Between 1931 and 1934, these historians compiled a collected volume in 9 volumes based on this research (*qing dai wen zi yu dang ji*) (Palace Museum, 1934). This source is reprinted as House (2007). Our dataset includes *all* of the cases in both (Palace Museum, 1934) and House (2007).

[4]See Appendix 3.C.1 and Table A.12.

[5]See Figure A.1 (Appendix 1.A) for a depiction of the procedures involved in a typical inquisition case. While at every level of the bureaucracy, there was room for discretion, the only individual with complete discretion was the emperor who made the ultimate decision in all inquisition cases (Huang, 1974, 208).

the uncivilized character of the ruling dynasty (Gu, 2003, 127). But in a different incident, an individual, also reported for using the character "clear wind" in a negative context, and for praising the "bright moon," which was a possible reference to the previous Ming ("bright") dynasty, was reprieved when the emperor changed his mind at the last moment.[6] In this respect, literary inquisitions represented "the institutionalization of Imperial subjectivity" (Wakeman, 1998, 168).

This added layer of arbitrariness introduced a further source of randomness the realization of literary inquisition cases. The emperor's subjective decision to dismiss—rather than proceed with—a case could defer a prefecture's initial exposure to literary inquisitions by decades. And it is evident that in such instances, the resulting difference in the timing of exposure would not be predicted by the characteristics of the affected prefecture.

Qing China was a highly autocratic state. The power of the emperor was absolute, unconstrained by formal institutions. In particular, the emperor had the discretionary authority to determine the outcome of all literary inquisition cases. Qing China had the capacity to conduct literary inquisitions. In comparison with 20th century totalitarian states, however, the Chinese state lacked state capacity. Its interventions in local society were sporadic and not well informed. For the purpose of our research, this creates the type of variation that is ideal for examining the effects of political repression on social capital.

We estimate the impact of the literary inquisitions with a historical panel (1700-1830) in a difference-in-differences framework. The prefecture-decade is our unit of observation. Our treatment is an indicator variable that becomes equal to one in the decade following the first literary inquisition case.[7] The key identifying assumption is that, in the absence of a literary inquisition case, changes in the outcome variable would have been the same for both treated and untreated prefectures. With prefecture fixed effects, we filter out the effects of potential correlates of literary inquisitions, such as family structure, local attitudes to the Qing state, and political connections with the central government, as long as these do not change before and after exposure to literary inquisitions. To further refine this approach, we restrict our sample to prefectures that were alike before the exposure.

We first document a short-run effect of literary inquisitions on the number of reputable individuals. We show that literary inquisitions led to fewer reputable individuals and that this decline was more pronounced among individuals who came of age in the decade of a literary inquisition (Figure 1.i). This concurs with historical accounts that individuals withdrew from public life and sought to evade attention in order to keep a low profile.[8]

Next, we turn to the effects of literary inquisitions on social capital, as measured by the number of local charities (Figure 1.ii). This is our main outcome variable. We assemble a historical panel of charities based on work by Liang (2001). Charities are a classic measure of social capi-

[6]The emperor noted that "'Clear wind' and 'bright moon' are commonly used phrases in poetry and essays. How can one avoid using them?" (Gu, 2003, 127).

[7]For robustness, we also allow our treatment to turn on during the same decade as the occurrence of the first literary inquisition case.

[8]Another possible impact of the literary inquisitions is to lower the incentive to acquire an education. In Koyama and Xue (2015) we explore this.

tal: the level of charity provision reflects the degree to which individuals are willing to volunteer time and resources to help other members of society (see Putnam, 2004). These local charities were small-scale, apolitical organizations. They specialized in different activities: aiding widows, looking after orphans, running soup kitchens, paying for the cost of burials, or helping the poor in a region.[9] Charities were non-governmental organizations and played an important role in addition to the government provision of disaster relief studied by Shiue (2004). The imperial state did not have an incentive to target charities, which mitigates the concern that our results might be contaminated by other actions taken by the state. We show that literary inquisitions negatively affected charity formation.

We find that after a prefecture was first exposed to a literary inquisition case, the number of local charities in that prefecture fell by an average of 38% in the following decades, relative to prefectures that never had a literary inquisition, or prefectures that had not yet experienced a literary inquisition. Mapping out the full dynamic response of charity formation, we characterize the evolution of social capital after exposure to literary inquisitions, and show that the "charity gap" between prefectures which had and which had not been affected, kept widening for the next four decades before stabilizing. This effect did not go away towards the end of the charity data series in the early 20th century.

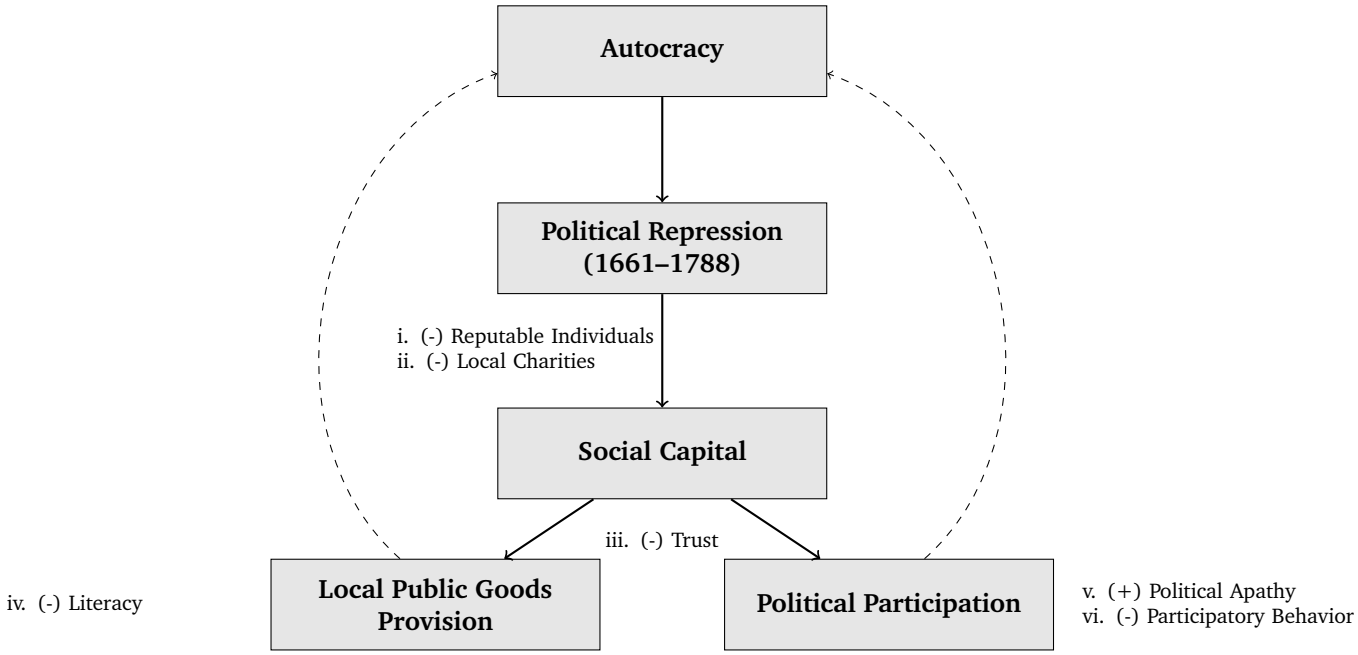
We account for the role of initial social capital and the presence of the state, examine the possible political motives behind literary inquisitions, and control for time-varying factors such as disasters and war. We do not find a differential impact of literary inquisitions on prefectures with a large or a small gentry. We also address concerns about spatial spillovers. In addition, we find no differential treatment from the central government in the form of disaster relief, and no effect of literary inquisitions on the establishment of government-sponsored academies.

Turning to data from the Chinese General Social Survey, and using the same geographical coverage as in our historical panel, we find that the Qing literary inquisitions are negatively correlated with generalized trust today, despite the collapse of imperial China, the disappearance of local charities, and the imposition of standardized political institutions (Figure 1.iii). All empirical analyses in the paper are carried out on the same matched sample as used in the historical panel.

Then, using the 1982 census data, we obtain a measure of literacy over the course of the 20th century, and employ it as a proxy for the provision of basic education. When education is provided informally, and in a decentralized fashion, social capital should be an important factor in determining its provision through local collective action. This was the case in early 20th century China, where primary schools were provided within communities and reliant on local cooperation. To separate social capital from human capital, we control for pre-20th century

[9]Tsu (1912), Smith (1987), and Rankin (1990). This philanthropic activity reflected a "clearly articulated the concept of a 'public' or 'communal' sphere, as opposed to a 'state' or 'private' sphere" (Rowe, 2009, 119). Prior to 1600, clans provided most of social services. From the 1600s onwards, local organizations that resembled modern charities emerged. See Appendix 1.J for more details on the establishment of charities and reasons for local gentry to be involved in charitable activity. The desire to establish charities was also influenced by neo-Confucianism and Buddhism. We discuss neo-Confucianism in Appendix 1.H.

Figure 1: The Structure of Our Analysis



human capital. We find that individuals from this cohort were 5 percentage points less likely to be literate in prefectures that experienced literary inquisitions (Figure 1.iv). This is an economically significant effect given the level of literacy in the early 20th century ($\approx 15\%$).

Because there is a gap between the end of our historical panel and the 1982 census from which we retrieve the literacy data, we show the robustness of our results to a number of intermediate shocks such as the Taiping Rebellion, the exodus to Taiwan following the Chinese Civil War, and the Cultural Revolution.

To establish causality in the cross section, we construct two instruments. Our first instrument is distance to the pre-conquest capital of Manchuria. Among possible determinants of literary inquisitions, one factor was distrust between the Manchu rulers and Chinese, exacerbated by a lack of familiarity with one another. Manchus and Chinese were already in contact before 1644, but the chance they had of interacting depended on physical proximity. The distance to the capital of Manchuria exogenously determined the chance that Manchus and Chinese would have interacted before the Qing takeover, and hence shaped the perceptions that the two groups had of one another in later periods. There is no obvious reason that a prefecture's distance to the pre-conquest capital of Manchuria would affect social capital in ways other than through literary inquisitions. Cross-ethnic interaction was uncommon and strictly regulated after the conquest of China in 1644.

Our second instrument is distance to the nearest Manchu army base. The farther away a prefecture was from an army base, the more difficult it was for the Qing to quell unrest. In this case, the emperor would be more vigilant when a local incident was reported to him. We further demonstrate the validity of our instruments with a test of overidentifying restrictions, as well as showing results with distance to the nearest imperial courier route as a placebo instrument. Our

IV estimates are comparable to the OLS estimates.

Next, we explore how the effects of political repression on literacy vary by the importance of social capital to the provision of basic education. We first exploit urban-rural differences. Social capital should matter most in places where public goods are provided locally and informally. For most of the 20th century, primary education in rural China closely matched this criteria. As expected, the effect of Qing-era repression on literacy was largest in rural areas, where primary education was least formalized.

We also make use of policy variation in the provision of education over time. We find that the negative effect of the Qing persecutions on literacy is evident for cohorts of individuals who reached schooling age before the education system was centralized in the 1930s, but the effect is much smaller for those educated between the 1930s and 1960s. It re-emerges for individuals educated during the Cultural Revolution, when a decentralized schooling system was introduced, and education again became dependent on local initiatives. The much larger effect we find when and where education was decentralized and informal, corroborates that social capital is an important channel underlying the long-run effect of literary inquisitions.

Finally, we estimate the impact of political repression on an outcome that is closely related to social capital: political participation (Figure 1.v and 1.vi). We find that individuals in affected prefectures are more likely to be politically apathetic and less likely to engage in community self-governance. Martinez-Bravo, Padró-i-Miquel, Qian, Xu, and Yao (2017) show that when villages in China adopt local elections, higher levels of social capital predict better public goods provision. Our study highlights the importance of political repression—a distinguishing feature of autocratic rule—in determining the level of social capital and political participation, and how these factors contribute to China's authoritarian resilience in the long run (Nathan, 2003; Perry, 2007; Gallagher and Hanson, 2013).

II Relationship to the Literature

Thinkers going back to Montesquieu (1748, 1989) have theorized about the relationship between civil society and political institutions. This theme is developed by Lipset (1960), Habermas (1962 [1989]), and Skocpol (1979), as well as in more recent work by Putnam (1994). Based on a cross-country analysis, Bernhard and Karakoç (2007) provide suggestive evidence that a legacy of dictatorship impedes the development of civil society. In economics, Tabellini (2010) estimates the effects of cultural traits such as trust and respect for others, and confidence in individual self-determination on regional development in Europe. Ticchi, Verdier, and Vindigni (2013) develop a theory in which regime transitions are mediated by political culture, which acts as a commitment device to defend democracy in the event of a coup.[10]

In the recent literature on the effects of social capital, the use of historical experiments to

[10]Note that social capital does not always promote democratization and liberalism. Acemoglu, Reed, and Robinson (2014) find that higher social capital is correlated with less accountable government in Sierra Leone. Satyanath, Voigtländer, and Voth (2017) find that social capital aided the rise of the Nazi party. Recent research finds that social capital affects other variables such as the level of regulation (Aghion, Algan, Cahuc, and Shleifer, 2010).

obtain exogenous sources of variation has been a major advance (Nunn and Wantchekon, 2011; Guiso, Sapienza, and Zingales, 2016). As to the impact of political institutions on social capital, recent research finds mixed evidence on how more centralized states affect civil society. On the one hand, a line of research finds that the presence of strong states can build trust (Johnson, 2015; Becker, Boeckh, Hainz, and Woessmann, 2016) and that a legacy of bureaucratic states is associated with more social capital and greater public goods provision (Dell, Lane, and Querubin, 2017). Research by Lowes, Nunn, Robinson, and Weigel (2017), on the other hand, finds that a powerful state crowds out pro-social values. Together these studies speak to a recent literature on the relationship between culture and institutions (Alesina and Giuliano, 2015).

States provide a *bundle* of policies and the effect of each individual component of this bundle on social capital may not coincide. A stable and centralized state can be conducive to social capital. But the process through which states maintain power can be destructive and potentially comes at the expense of social capital. Using within-China variation, we show that political repression, a key instrument states rely on to maintain power, has a long-lasting negative effect on the beliefs, norms and values that support a thriving civil society.

The historical experiment we examine has several properties that make it well-suited to studying the relationship between political repression and civil society. First, we look at a shock that penetrated civil society deeply without having more wide-ranging effects on the economy or formal institutions. Literary inquisitions differed from the Holocaust or Cultural Revolution, which had direct economic impacts as a consequence of the destruction of physical and human capital.[11] Our findings suggest that, even in the absence of large-scale violence, autocratic rule has powerful negative effects on society.

Second, we are able to document the effects of the shock on society, historically, and on more modern outcomes. Our setting ensures that both the conditions prior to the shock and the features of the shock are well delineated. This helps us better determine the mechanisms responsible for the lasting effects that we find.

Third, utilizing an approach introduced by Xue (2016), we use socialist China as a laboratory for isolating the culture channel—in this case, the social capital channel. The modern Chinese state eliminated most local differences, allowing us to rule out alternative channels such as human capital and formal institutions. We show that differences in social capital remained despite the imposition of state socialism when the state took over services previously provided by local communities.[12]

[11] Acemoglu, Hassan, and Robinson (2011) examine the legacy of the Holocaust in Russia. Waldinger (2010) finds negative effects of the expulsion of predominantly Jewish scientists in Germany. Giles, Park, and Wang (2015) use the "send-down" movement that took place during the Cultural Revolution to estimate the returns to schooling.

[12] For example, in most settings, social capital and other forms of culture co-evolve with institutions, raising the question: how can we identify either of the two as an independent mechanism underlying the observed persistence? If literary inquisitions had long-lasting negative economic effects, it would be less surprising to find that they also negatively affected trust and other measures of social capital. Similarly, if literary inquisitions led to different formal institutions, such as local laws and local governments, their effects on social capital will be indistinguishable from the direct effects of literary inquisitions on social capital. In the event that differences in local charities or schools have persisted to today, they could influence social capital through a lower level of human capital, health, or more

Several factors are specific to our historical setting. State-society relations were already out of balance before the Qing period.[13] The long tradition of using poetry and other forms of writing to discuss politics meant literary inquisitions struck at intellectuals' way of life. Their response to repression, moreover, was shaped by the Confucian ideal of self-preservation, which encouraged them to protect themselves and their families.[14] These features of imperial China are important for understanding the variation in political repression, and they allow us to study the channels through which repression affects society.

In addition, by focusing on the repressive policies of the autocratic state, we contribute to a nascent empirical literature on autocracy (Galor and Klemp, 2017; Bentzen, Kaarsen, and Wingender, 2017; Dower, Finkel, Gehlbach, and Nafziger, 2017). Our work also complements theoretical studies of autocratic states.[15] We uncover a mechanism through which political repression makes autocracy more resilient in the long run: political repression lowers social capital, making it harder to self govern and organize for institutional change. Apathy and indifference are legacies of autocratic rule that can make the population partially complicit in the status quo.[16] Our analysis complements previous research that has identified a virtuous democratic cycle whereby longer experience of democracy improves economic performance, which in turn further helps to consolidate democracy.[17]

III Historical Setting & Conceptual Framework

Chinese political institutions have long been authoritarian; the period we study, however, saw the *intensification* of imperial autocracy under the Qing dynasty. The power of the emperor became more absolute. The state became more repressive and prepared to regulate ideas, speech, and thought.[18] We detail the political economy of Qing China and the institutional background to the literary inquisitions in Appendix 1.A.

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inequality and poverty.

[13] Acemoglu and Robinson (2016) discuss how a balance between the strength of society and of the state is crucial for the emergence of liberal states.

[14] According to De Bary (2009), "For Confucius, self-sacrifice was nothing to be sought after; endurance and survival were preferable to martyrdom (Analects 15:7)". Confucians ideas about loyality to one's family also encouraged caution as a literary inquisition case put at risk one's entire family line.

[15] The theoretical literature on autocracy studies topics such as coup d'états, the problem of succession, and the use of repression (see Mesqita, Morrow, Siverson, and Smith, 2003; Svolik, 2012; Abramson and Velasco, 2016; Guriev and Treisman, 2018). See Gregory, Schröder, and Sonin (2011) for a model of repression in the Soviet Union.

[16] Studying Nazi Germany, Voigtländer and Voth (2014) show that public goods spending can help "buy" support for autocratic rule. Lichter, Loeffler, and Siegloch (2015) examine the impact of the Stasi during Communist rule on social capital.

[17] See Persson and Tabellini (2009) for a discussion of a virtuous democratic cycle. For the evidence for the positive relationship between democracy and economic growth, see Acemoglu, Naidu, Restrepo, and Robinson (2017).

[18] The state in Qing China dominated civil society. The autocratic character of the Qing state is consistent with the fact that it imposed low taxes and provided few public goods (Sng, 2014; Vries, 2015). In fact, the combination of low taxes and unconstrained autocratic rule reflected equilibrium choices made by Qing rulers (Ma and Rubin, 2017).

LITERARY INQUISITIONS

Relations between intellectuals and the state in imperial China were the product of long historical gestation. Intellectuals (*shì dà fū*) have played an important role in Chinese society since antiquity. They enjoyed certain legal and social privileges, including a degree of protection from predation by the ruler. We discuss their role in Chinese society in Appendix 1.I. Under the first ruler of a unified China, however, tens of thousands of books were burned and hundreds of scholars executed in an attempt to build a unified imperial ideology. This event, known as *fén shū kēng rú* (210 BCE), set the tone for the subsequent relationship between rulers and intellectuals. The Qing takeover of power represented yet another major blow to the autonomy of intellectuals.[19]

The late Ming period had seen private academies and a nascent civil society flourish (Wakeman, 1998) (see Appendix 1.G). Thinkers like Huang Zongxi emerged, arguing for constitutional restraints on imperial authority (Huang, 1994). This intellectual climate was disrupted by the Manchu conquest. As foreign occupiers, the Manchus perceived the fragility of their right to rule.[20] Specifically, they understood the need to regulate discourse: private academies were closed, curricula changed, and societies shut down. As Parker observes "China's new masters refused to allow their leading scholars either freedom of expression or freedom to exchange ideas" (Parker, 2013, 667).

Literary inquisitions (*wén zì yù*) were "legal punishment for criminal acts committed through speech and written words expressed in various forms, including conversations, letters, essays, poems, pamphlets, books, dramas, novels, and diaries" (Fu, 1994, 131). There was no independent legal system; all cases were pursued by the imperial bureaucracy.

Leo Strauss (1952) observed that esoteric writing was common in the premodern world.[21] In imperial China, speech and writings were always restricted. The Chinese language allows room for considerable ambiguity, however. Even prior to the Qing period, there was a long tradition of esoteric writing in Chinese history. As a survival strategy, writers were habituated to disguising their political views and criticisms in the form of poetry or historical commentaries. The prevalence of esoteric writing meant that all kinds of speech and writings were potential vehicles for subversive thoughts and hence could attract the attention of the Qing government, from diaries, memorials, clan rules, genealogies, inscriptions, epitaphs, dictionaries to many others.[22]

The Qing Imperial Archives contain detailed information about these literary inquisition cases.

[19] A Google search, conducted in September 2017, yields 656,000 results for "fen shu keng ru" (in Chinese). "Wen zi yu" (literary inquisitions) gives 947,000 results.

[20] For a detailed discussion of the role ethnicity played in the political economy of Qing China, see Appendix 1.K.

[21] Relatedly, Kuran (1987, 1995) points out how, under autocratic regimes, individuals have an incentive to falsify their true preferences. In Qing China, the knowledge that intellectuals might be falsifying their support for the regime was one source for the emperor's suspicion.

[22] Though they were studied by scholars in the early and mid-20th century (e.g. Goodrich (1935), Ch'i-ch'ao (1959), and Wiens (1969)), the literary inquisitions have not been the subject of a major study among modern historians with the exception of Wang (2014). The existing literature comprises either narrative accounts, detailed case studies (Spence, 2001), or comparatively brief mentions in more general accounts of Qing China. See, for example, Gernet (1972, 506), Huang (1974, 204–208), Guy (1987, 166–179), and Kuhn (2002). We explicitly compare the Qing literary inquisitions to earlier persecutions in Appendix 1.B.

The "range of accusations that could lead to a literary inquisition was virtually unlimited" (Wang, 2002, 634). Many cases had origins in civil disputes.[23] We describe the procedures involved in a literary inquisition case in Figure A.1 (Appendix 1.A). Information concerning potential cases was passed up the chain of command according to the discretion of county, prefecture, and provincial officials, with some probability, eventually reaching the emperor. The process involved in any specific incident reaching the imperial court was so uncertain that the outcome of two incidents that were similar in every dimension could be very different.

In the vast majority of cases, the emperor did not know the offending individuals personally. Literary inquisition cases, with rare exceptions, did not involve the premeditated removal of political opponents (as we discuss in Appendix 1.C). Also, note that no literary inquisitions cases concerned ethnic conflict or peasant revolts (See Tables A.14 and A.16). A breakdown of the different types of cases can be found in Appendix 1.C.2.

EXAMPLE CASES

A Petitioner Individuals could not easily anticipate what might arouse the anger of the emperor. Liu Zhengyu, a graduate of the lower level (shengyuan) exams, tried to impress the emperor by submitting a proposal to reduce peasant unrest. The magistrate passed it on to the provincial governor. The governor passed the document to the emperor. What got the governor's attention was that Liu was trying to suggest what state policy should be, an offense for someone of his status according to the Qing penal code. The governor recommended that his shengyuan status be removed for his presumption (but not because he suspected him of treason). When the emperor reviewed the entire proposal, however, he alighted on Liu's proposal to change the dress code for officials, interpreting it as a suggestion that the dress should revert to what it had been in Ming times. Believing that this sentiment betrayed dissatisfaction with the current regime and an eagerness to restore a Han Chinese dynasty, the emperor had Liu executed and reprimanded the governor for his mistake.

A Writer's Descendants In 1730, a literary inquisition case brought to light the writings of Qu Dajun, who had served in various Ming loyalist movements resisting the Manchus and had died in 1696. But over thirty years later, fearing persecution, Qu Dajun's son turned himself in for possessing his father's books as these contained many passages that could be interpreted as critical of the Manchus. Through these actions, he spared himself execution and was instead exiled. However, another case arose almost 50 years later in 1774, two of his distant relatives were punished for the possession of Qu Dajun's writings. Ironically, one was a half-literate peddler, the other an illiterate, who preserved his writings out of reverence despite being unable to read them.

[23]For this reason, inquisition cases tended to be bottom-up, but highly isolated events with very uncertain outcomes (see Figure A.1 in Appendix 1.C for a depiction of the procedure of a typical inquisition case). This made literary inquisitions very different from European witchcraft trials, which were often driven by local economic shocks and bad weather. The closest that China experienced to such mass-driven panics was the soul-stealers episode studied by Kuhn (1990).

A Dictionary Maker The character of these persecutions is further illustrated by the case of Wang Xihou, a 64-year-old dictionary maker. Having spent his life preparing for and taking exams, and compiling dictionaries, Wang posed no threat to the emperor. Nevertheless, although the governor general and provincial governor did not find anything inappropriate in Wang's dictionary, when the case was passed on to the Qianlong emperor, the emperor read Wang's dictionary for himself and decided to punish Wang for not showing sufficient deference to the dictionary commissioned by Qianlong's grandfather, the Kangxi emperor. He interpreted Wang's comment on the Kangxi dictionary as hiding a deeper criticism of the competency of the Qing emperors and the legitimacy of their claim to rule China (Reischauer and Fairbank, 1958, 382). The provincial governor who failed to reach the same conclusion as the emperor was nearly executed. Over 100 individuals were investigated. The publishers of the dictionary and someone who wrote a preface for it were punished, as were Wang's associates. Wang himself was sentenced to nine familial exterminations, the most severe punishment available. He was executed, as were all his sons, and 21 other members of his family were enslaved. For details about the Wang Xihou case, see Appendix 1.D.

Several key features stand out from surveying all of the literary inquisition cases: (a) From the perspective of individuals in a prefecture, literary inquisitions were an injection of arbitrary autocratic state power into local society. (b) Literary inquisitions were not the product of deliberation and premeditation of the emperor. (c) Literary inquisitions, according to the historical literature, were unrelated to either external wars, rebellions or unrest, or natural disasters (Goodrich, 1935; Guy, 1987; Wang, 2002). This can be verified by the lack of correlation between them and civil unrest or natural disasters in our data. (d) It was almost impossible for individuals to anticipate what speech or writing could ultimately result in a literary inquisition case. (e) Once a local incident was reported to a government official, the rest of the procedure was bureaucratic and centralized. The final decision rested with the emperor. (f) Governors who failed to investigate cases, or to pass on information concerning cases that the emperor later deemed important were punished as were others who failed to inform the authorities. (g) Punishment was harsh and public. Appendix 1.C.2 provides more details on case types and methods of punishment. These persecutions may appear irrational or inefficient; next we consider a model that rationalizes them.

A Model

A signaling model can be used to understand how literary inquisitions were employed. In the canonical Spence (1973) signaling model, an informed party takes a costly action to communicate their type to an uninformed party. In Appendix 2, we employ a similar signaling model to analyze the emperor's decision to employ literary inquisitions. In our model, rulers vary according to their legitimacy and strength. Legitimacy is common knowledge, but their strength is only known to the ruler himself and not observed by the population, who rebel if they believe the ruler to be illegitimate and weak. Rulers have the option of conducting persecutions to reveal their strength. But as persecutions require considerable administrative capabilities—suspects have to be found

and interrogated, witnesses questioned, books and writings collected—they are less costly for a strong ruler and more costly for a weak ruler.

There exists a separating equilibrium in which strong rulers, from dynasties that lack legitimacy, employ political persecutions to signal their strength and ability to root out opposition. Weak rulers find it too costly to conduct literary inquisitions. Rulers from legitimate dynasties have less need to use persecutions.

This rationalizes several features of the literary inquisitions and sheds light on the example cases. First, as Manchus, the Qing dynasty had less legitimacy than prior, ethnically Chinese, dynasties.[24] The sense of insecurity of the Manchus was exacerbated by their lack of familiarity with their Chinese subjects, who greatly outnumbered them.[25] In response, the Manchu rulers adopted a variety of strategies, including political repression.

Second, persecutions can occur in the absence of actual opposition. This is consistent with what we observe. Literary inquisitions were not directed at open critics of the regime (as there were none) nor at specific regions.[26] Literary inquisition took place during the High Qing period, a period during which the autocratic Chinese state was strong. The Kangxi (r. 1661–1722), Yongzheng (r. 1722–1735), and Qianlong (r. 1735–1796) emperors were among the most powerful rulers in Chinese history. Literary inquisitions peaked during the reign of Qianlong, an era of exceptional peace and political stability.[27]

Third, the criteria were subjective and impossible to anticipate. The guilt of those accused of "word crime" was "in the eye of the beholder", i.e., the emperor (Fu, 1994, 134). This is in keeping with our model in which the primary rationale for persecutions is simply to signal the strength of a ruler, rather than finding genuine culprits.

Fourth, punishment was public. The visible and highly publicized nature of executions for literary crimes is consistent with the goal of the emperor to make a statement.[28] Next we turn to our data and empirical strategy.

[24]The emergence of a sense of Han Chinese ethnic or national identity is dated to the Song dynasty (see Tackett, 2017). This ethnocentricity was tied to Confucianism.

[25]Han Chinese made up more than 90% of the population and over 95% in China proper.

[26]Literary inquisitions differed greatly from the Spanish Inquisition (See Vidal-Robert (2014) and Appendix 1.L). They also differed from decentralized persecution of religious minorities or witches in Europe as scapegoats for economic downturns or disasters. These persecutions were often a way to minimize social disorder by blaming minorities.

[27]The emperors who followed the Qianlong emperor were the Jiaqing emperor (r. 1796-1820), the Daoguang emperor (r. 1820-1850), and the Xianfeng emperor (r. 1850-1861). They were weaker rulers who did not engage in persecutions.

[28]Individuals were often punished by *Ling chi* or death by a thousand cuts. For other punishments, see Appendix 1.C.2. In the case of Wang Xihou, Guy observes that "the emperor was using the Wang case to make a statement . . . about his determination to preserve his dynasty's reputation. The singling out of one offender, repugnant though it may seem today, was not an uncommon means of communicating, in the 18th century to a large and diffuse community uncertain of Imperial directions" (Guy, 1987, 176).

IV Data and Empirical Strategy

A Data Sources

Data on literary inquisitions are from *Qing chao wen zi yu an* (Qing Literary Inquisition cases) (Zhang and Du, 1991). A total of 86 cases are included in *Qing chao wen zi yu an*, dating from 1661 to 1788. Zhang and Du's (1991) work is built on archival work done by historians at the Qing Imperial Archives in the 1930s, *Qing chao wen zi yu dang ji* (Palace Museum, 1934).[29] In Appendix 3.C.1, we employ a list of alleged literary inquisition cases. This list contains cases of a more ambiguous nature. Results using this list are shown in Table A.12.[30] Figure 2 depicts the prefectural origins of victims of literary inquisitions per quarter century.[31]

We use Jiang (2005), a modern compendium of reputable figures in Qing China, to estimate the impact of literary inquisitions on the number of reputable individuals. Jiang (2005) is encyclopedic. It includes approximately 25,000 individuals, who were born between 1562 and 1949, and were well known for reasons that included prominence in science and technology, medicine and healthcare, education, classical and literary scholarship, history, art, or poetry. For each individual, we have information on their name, birth year, and hometown.[32] We focus on individuals born between 1640 and 1819 from prefectures in our matched sample. The resulting dataset comprises 3,509 individuals. Figure A.8 provides a snapshot of this data.[33]

Our main outcome variable is the number of local charities. Social capital refers to the attitudes, beliefs, norms and perceptions that support cooperation (Guiso, Sapienza, and Zingales, 2011).[34] The provision of charity reflects the level of community spiritedness and volunteerism.

[29]There are three main sources: the archives of the Grand Council, palace memorials and veritable records. Officials could be punished for omissions made by their staff; "[t]he names, ages, and addresses of suspicious men were transmitted to government offices" (Wang, 2002, 622). The data is depicted in Figure A.2. Note that this information was confidential and only became publicly available following the collapse of the Qing Empire.

[30] Some of those cases concerned openly anti-Manchu movements or a product of factional politics among government officials. The results we obtain using a more expansive list have the same sign as our main estimates, but are less precisely estimated.

[31]There were three levels of administration in imperial China: the province, the prefecture and the county. China proper comprised 18 provinces and 275 prefectures. There were approximately seven to thirteen prefectures per province. An average prefecture in our matched sample was 15,000 square kilometers large. Prefectures in western China were considerably larger on average than those in China proper. Summary statistics are provided in Appendix 3.A.

[32]Hometown refers to an individual's ancestral home (*ji guan*). Individuals were traditionally identified on the basis of their hometown, and it was where their familial and cultural ties were, and where their family would have resided for generations. We have information on birth years for 19,780 individuals. Jiang (2005) also mentions if an individual had an alternative name and the original source upon which the entry is based.

[33]These data are less reliable when used in the cross section due to differential sampling coverage. In the historical panel, we focus on *changes* in the number of charities. As Jiang (2005) was complied long after the collapse of the Qing Dynasty, there is no reason to suppose that the selection criterion would be related to the incidence of literary inquisitions. Of course, if intellectuals burned or hide their writings out of fear, this would also cause them not to be included in Jiang (2005). But this is still consistent with the interpretation of our results in Section V.A. and Appendix 3.B.4.

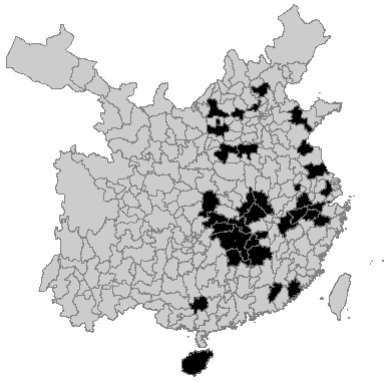
[34]Social capital thus defined refers to bridging rather than bonding social capital. It closely maps into the concept of generalized trust and is separate from individual-level, relationship-based advantages individuals obtain from belonging to certain groups which may advantage them without increasing societal-level cooperation. We study the impact of literary inquisitions on generalized trust in Section VI.A.

Figure 2: Prefectural Origins of Persecuted Individuals Per Quarter Century.

(a) Prefectural Origins of Persecuted Individuals, 1700–1725.

(b) Prefectural Origins of Persecuted Individuals, 1726–1750.

(c) Prefectural Origins of Persecuted Individuals, 1750–1775.



(d) Prefectural Origins of Persecuted Individuals, 1775–1800.

In Qing China, charities relied on close cooperation between members of the same community, but often of different clans.[35] Local charities were often highly specialized and provided a specific service to the community. For instance, specific charities provided help for the indigent, support of orphans, famine relief, and subsidized burial costs.[36]

Charity data are from Liang (2001), regarded as the most comprehensive compilation of charities in Qing China.[37] The database is based on primary sources, most of which were local gazetteers.[38] We provide a few sample entries of the data in Figure A.7 and a view of a Qing-era

[35]Historians have documented that, while traditionally these services were provided within the clan (Greif and Tabellini, 2012), by the Qing period these voluntary associations had expanded to provide relief to those outside of the clan; they were seen to represent a contribution to the community (Rowe, 2009).

[36]See Figure A.7 for snippets of our data.

[37]In this study, we rely on Wang Daxue's digitization of this data source. In Wang's dataset, we know each charity's name, location, date of foundation, and the original source Liang consulted. Information on the identity of founder is not available.

[38]Gazetteers recorded local histories. They are one of the most important data sources used in Chinese historical research. They contain copious materials on local administration, local economies, local cultures, local dialects, local officials, and local dignitaries (See Appendix 3.B.2). There are differences in gazetteer availability across prefectures,

orphanage in Figure A.3. Appendix 1.J discusses the nature of charities in late Ming and Qing China (Tsu, 1912; Smith, 1987; Rowe, 2009) and the motivations of local gentry involved in charitable activity, as well as the role played by the clan and by the state (Wong, 2000).

One might think that prefecture characteristics such as local history, family structure, or the nature of center-periphery relations might make political repression more likely. This is not a major concern to the extent that prefecture fixed effects absorb the effects of any time-invariant observables and unobservables. We also use socioeconomic macroregion fixed effects interacted with decade fix effects to account for region-level trends.[39] Additionally, in our robustness exercises, we interact prefecture characteristics with decade fixed effects, in case their effects on local charities vary over time.

To measure the preexisting stock of human capital, we employ data on the number of Ming-era graduates from the metropolitan exams (*jinshi*) from Zhu and Xie (1980). We collect data on political economy factors discussed by historians that might have affected the probability of an inquisition case striking in a prefecture. We employ data from Chen (1939) on conflicts between 1644 and 1690, as a measure of opposition to Qing rule. We use 1690 as an endpoint as this date marks the cession of all anti-Qing military resistance (See Table A.1). Resistance to the Qing takeover could reveal valuable information about a particular area, such as the ability of locals in an area to take collective action or the presence of anti-Manchu attitudes.

Anti-Manchu sentiment might also be reflected in the number of Ming loyalists, who worked for the Ming state, but refused to serve the Qing state. Notable opponents of the Qing, like Qu Dajun, devoted themselves to various Ming loyalist movements after the Qing takeover. Ming loyalists also withdrew from public life and became devoted to private spiritual pursuits becoming known as recluses (*yǐn shì*). For example, the celebrated scholar Gu Yanwu remained loyal to the Ming dynasty. Imprisoned by the Qing in 1655, on his release he returned to his hometown and withdrew from public life. The decision of such Ming loyalists to withdraw from public life could directly affect trends in charity formation in the long run. We collect data on the number of Ming loyalists from Sun (1985).[40]

We employ data on Ming-era independent academies. In the late Ming period, intellectuals formed academies to discuss ideas and to influence policymaking (Peterson, 2002, 479). These academies were part of a vibrant proto-liberal and "anti-authoritarian" intellectual culture that arose in late Ming China (Rankin, 1990; Wakeman, 1998; Hung, 2011).[41] They thus capture

but as seen in Table A.9, our matched sample has nice properties in terms of balancedness in gazetteer availability. In our matched sample, treated and untreated prefectures have a similar number of prefecture-level gazetteers or county-level gazetteers, regardless of the gazetteer database we use.

[39]Socioeconomic macroregions were vast areas with their own internal market systems and urban networks. The socioeconomic macroregions identified by Skinner, Henderson, and Berman (2013) are based on Skinner (1977). This data is used in Xue (2016). Details on our main controls are provided in Appendix 3.F.

[40]In several literary inquisition cases, individuals were investigated for possessing books written by Ming loyalists. Nostalgia towards the Ming Dynasty could also arouse suspicion.

[41]Many late Ming thinkers, such as the pioneer of constitutional thought, Huang Zongxi, were associated with independent academies. Huang was a scholar who developed arguments about constraining the power of the emperor and who has drawn comparisons with John Locke. After the Manchus came to power, he withdrew from public

aspects of local political culture and social life that could be correlated with both charity formation and literary inquisitions.

We also consider time-varying factors that could influence charity formation. A natural disaster or a series of natural disasters might increase demand for charities during that period. The Central Meteorological Bureau of China (1981) provides yearly data on floods and droughts from 1470 to 2000. We take panel data on conflicts from Chen (1939). As charities were typically organized by members of the gentry, and the majority of them were individuals who had studied for the imperial exams, we account for the number of examination graduates (*jinshi*) who acquired their degree during that decade (Zhu and Xie, 1980). Lastly, we examine outcomes that we do not expect to be affected by literary inquisitions, such as government-sponsored academies (Ji, 1996). We provide details of variables used in additional robustness checks and their sources in Appendix 3.F.

For our modern analysis, our main dependent variable is literacy in the 1982 census, which we obtain from IPUMS. We describe the host of historical controls we employ in Appendix 3.E. We measure generalized trust from the Chinese General Social Survey (CGSS) (Appendix 3.E.4). To measure the impact of political repression on political attitudes and political behavior, we draw on answers to survey questions in the CGSS and the Chinese Political Compass (CPoC), an online survey for political beliefs in China (Appendix 3.E.6).[42]

B Empirical Strategy

In our historical panel analysis, we estimate the effect of literary inquisitions on local charities in a difference-in-differences framework. The prefecture-decade is our unit of observation. Our treatment is the first literary inquisition case to occur in a prefecture. Treated prefectures receives treatments at different points in time. The key identifying assumption is that, in the absence of a literary inquisition case, changes in the number of local charities would have been the same for both treated and untreated prefectures.

The composition of our treatment and control groups evolves each decade: the control group comprises all prefecture-decades that have remained unaffected by literary inquisitions.[43] For post-periods, in the control group we not only have outcomes for prefectures that have never been treated, but also outcomes for prefectures that were yet to receive the treatment. The inclusion of prefectures that were treated eventually, but were not treated at the time, improves the quality of our control group by providing a more reliable counterfactual.

We examine the effect of literary inquisitions in the persecuted individual's home prefecture. Confucian culture, ancestor worship, and the agnatic linage system meant that an individual's identity was firmly lodged in his hometown, where his family and clan resided.

life. See Appendix 1.G and 1.F for a discussion of the significance of independent academies in the Ming period and intellectual trends in the late Ming period.

[42]The CPoC is used by Pan and Xu (2017) who use it to study political ideologies in modern China.

[43]For prefectures that never had a literary inquisition, all prefecture-decades are in the control group. For prefectures eventually affected by literary inquisitions, the prefecture-decades prior to exposure to literary inquisition cases are in the control group, all subsequent prefecture-decades are in the treatment group.

In Section VI, we examine the effects of literary inquisitions in several new contexts. Examining outcomes after local institutions were transformed by the modern socialist state, and exploiting variation in the institutional environment, we can isolate the effects of political repression on social capital.

B.1 Matching

A key assumption of a difference-in-differences estimation strategy is that conditional on past outcomes, potential outcomes are independent of assignment to treatment.[44] When control units are vastly different from treated units, this assumption often does not hold, and a difference-in-differences approach alone is insufficient (Kahn-Lang and Lang, 2018). One solution is to only include treated and control units which are sufficiently similar to each other.

Treated prefectures—prefectures that experienced a literary inquisition case—and untreated prefectures differed greatly in both their initial number of charities and other characteristics. Literacy was a precondition for a literary inquisition to occur. Prefectures that were larger, more urban, and had more educated inhabitants, were more likely to experience a literary inquisition.

Before implementing a difference-in-differences strategy, we apply matching methods to the raw data and construct a control group that is more comparable to the treated prefectures (see Heckman, Ichimura, and Todd, 1997; Dehejia and Wahba, 2002; Ho, Imai, King, and Stuart, 2007). Matching is particularly important in our setting because we compare outcomes over the course of 130 years, and during such a long period, differential trends are more likely to emerge (Heckman, Ichimura, and Todd, 1998; Abadie, 2005).[45] We employ propensity score matching to acquire a balanced sample (Appendix 3.B). For robustness, we also apply Coarsened Exact Matching (CEM) to our sample (Table A.8; Appendix 2.B.1) and show that results are comparable using the balanced sample generated by CEM..

We condition our sample on a minimal set of pre-treatment covariates. These include population size in 1600, the number of imperial courier routes, agricultural suitability, ruggedness, socioeconomic macroregions, and the total number of Ming Jinshi. We include the number of Ming jinshi as a measure of the pre-existing human capital stock. Figure A.5a visualizes matched units.

To illustrate why matching is necessary, Table A.6(a) shows that in the raw data, our treatment and control groups differ on several margins, including both economic geography and the stock of human capital. Importantly, they differ in the initial number of local charities. In 1700, treated prefectures had three times as many local charities than untreated prefectures (Table A.7). Many affected prefectures were in the Lower Yangtze Region which was populous, prosperous and had a large number of intellectuals as well as charities in 1700.[46] After matching,

[44] In the Rubin causal model, potential outcomes, are all values that could be observed in some real or hypothetical experiment that compares the results under an active treatment with the results under the control (Holland, 1986; Rubin, 2005).

[45] In Table A.21, we extend our analysis to 1900, in which case we compare outcomes over 200 years.

[46] Table A.4 shows the breakdown of cases by province, as well as the number of prefectures affected by literary inquisitions. The two provinces in the Lower Yangtze Region, Zhejiang and Jiangsu, had 12 prefectures affected by literary inquisitions. This is 21% of all affected prefectures. A total of 23 out of 84 cases can be traced back to this

Table 1: Trends in Charity Formation

	N. of Local Charities			
	1700	1750	1800	1850
Literary Inquisition	0.474	2.421	2.947	3.421
No Literary Inquisition	0.456	2.933	3.84	5.489

This table reports the number of local charities by 1700, 1750, 1800 and 1850 in an average prefecture with or without literary inquisition cases.

we arrive at a balanced sample as shown in Table A.6(c). Importantly, matching results in balancedness in additional pretreatment covariates that are outside of the set of covariates upon which we conditioned our sample (Table A.7). For example, the matched sample is balanced in terms of possible determinants of inquisition cases, including the number of Ming loyalists and private academies.[47] Note that the matched sample is not balanced in terms of the number of conflicts between 1644-1690, but when we explicitly account for these conflicts in Table A.13, our estimates are unaffected. Details on covariate balance, distributions of propensity scores, and the choice of caliper size are provided in Appendix 3.B.

In order to achieve greater internal validity, our research design necessarily trades-off a degree of external validity. The matched sample has on average fewer Ming jinshi (3.8 individuals) than does the treated prefectures in the full sample (4.5 individuals). This is inevitable as treated prefectures had more Ming jinshi on average before matching than did untreated prefectures. Our results speak to the impact of literary inquisitions on the subsample of prefectures that fall within the matched sample. Our results will not directly speak to the effects of literary inquisitions on those prefectures with vastly different characteristics from those in the matched sample, although it is possible to extrapolate our results from the matched sample to the full sample.

Table 1 examines the number of charities in treated and untreated prefectures in the raw data. Prefectures in our matched sample had a comparable level of charity formation in 1700. But this was no longer true by 1750. In Section V.B, we go on to estimate the effects of literary inquisitions in a difference-in-differences framework.

V Results from the Historical Panel

A Initial Examination: The Effects on Reputable Individuals

Qing-era political repression affected all of society, but its impact was especially felt by intellectuals. The role of these individuals in Chinese society was based on their scholarship, literary activities, and involvement in local organizations (Bol, 2008).[48] Within their local communities,

region.

[47] As the sample is now balanced on covariates that are possible determinants of literary inquisition, it is less essential to control for them in our main specification. Nevertheless, when we do so in Table A.13, our results are unaffected.

[48] These individuals were typically graduates of the imperial examination system used to recruit candidates into the bureaucracy. But only a small portion of the intellectuals served in the bureaucracy; the rest, did not serve the

intellectuals influenced social norms and culture as teachers and role models. A subset of them—those particularly active in local society or well-known for their writing, scholarship, or artistic achievements—would have been recorded as reputable individuals.

We establish that literary inquisitions had a short-run effect on the number of individuals becoming reputable. For each decade, we look at reputable individuals who are 15-30, 31-45, and 46-60 years old. There are 2 to 2.5 reputable individuals on average per prefecture-decade-cohort. The largest decline is seen among individuals aged 15-30 years old around the time of literary inquisitions. Exposure to literary inquisitions resulted in a decline of 36% ($-0.36 = -0.903 \div 2.476$) in the number of individuals becoming reputable for this cohort (Table A.10). Details of our main specification and our interpretation of results can be found in Appendix 3.B.4.

As the recorded location in Jiang (2005) reflects the location of the hometown of a reputable individual, a decline in the number of reputable individuals cannot be caused by promising, but not yet established, individuals migrating away from an affected prefecture.

The deaths of individual intellectuals, as well as the destruction of property and wealth associated with some literary inquisition cases, might affect civil society by reducing the number of individuals who were in a position to organize charities. However, the number of victims was small relative to the number of gentry—too small to explain the effects we find.

A literary inquisition case sent out a clear signal about the despotic nature of the regime, and the absolute power of the emperor, and necessitated a readjustment in relations between the emperor and intellectuals. Prior beliefs about the type of activities that could get one into trouble were overturned: from this point onwards, it became clear that any speech or writing could arouse suspicion, and could be grounds for punishment, and that all of this was entirely subject to the interpretation of the emperor.[49]

As we discuss in Appendix 3.B.4, we expect literary inquisitions to have had a large impact on individuals who were young during the decade of an inquisition case. Older individuals had probably produced their main work and were already well-known. In line with this, estimated coefficients are negative, but smaller in magnitude and not precisely estimated in columns 2 and 3.[50]

government formally. As we discuss in Appendix 1.I, the gentry had tremendous cultural and social influence in local society, but they did not have the political power of European aristocrats.

[49] In the short run, it was exceedingly difficult for intellectuals to adapt to the threat of persecution. Since there were no certain grounds or definitely safe topics, it was better for writers not to write or to confine themselves to technical matters of philology. We discuss the actions individuals took, including self-censorship, in order to avoid attention in Appendix 1.E.

[50] One way to understand these results is that compared to column 1, columns 2 and 3 include far fewer individuals whose probability of becoming reputable was liable to be affected by literary inquisitions. For example, in column 3, the outcome variable is the number of individuals who were 46-60 years old during that decade. An individual who was 46-60 years old, three decades after a prefecture's exposure to literary inquisitions, would be 15-30 years old at the time of literary inquisitions. His chance of becoming reputable might well have been affected by literary inquisitions ("treated"). But the chance of an individual who was 46-60 years old one decade after a prefecture's exposure might not have been. In other words, columns 2 and 3 contain fewer "treated" periods. However, this can also be an indication that the effect of literary inquisitions on the number of individuals becoming reputable is not very long-lasting. Appendix 3.B.4 explains the rationale behind an "age-based" classification of individuals into "more liable to be affected" and "less liable to be affected".

These findings are consistent with the observation made by historians that intellectuals exercised severe self-censorship. They destroyed or refrained from publishing their writings; or they simply did not write.

The "chilling" effect of literary inquisitions on the incentive individuals had to engage in activities that would lead them to becoming reputable is to be distinguished from the claim that literary inquisitions had an impact on the size of gentry. In fact, we already account for the size of gentry with prefecture fixed effects, our use of a matched sample, and by flexibly capturing the time-varying effects of the size of gentry.

B Local Charities: Baseline Results

Having provided evidence that political repression reduced the number of reputable individuals, we now explore the effect of literary inquisitions on local charities. We estimate:

$$\#\text{ Local Charities}_{p,d} = \beta \text{Literary Inquisition}_{p,d} + \Omega_p + \mathbf{\Lambda}_d + \mathbf{X}'_p \mathbf{\Lambda}_d + \epsilon_{p,d} \ , \tag{1}$$

where $\#$ Local Charities$_{p,d}$ denotes the number of local charities in prefecture p, and decade d from 1700 to 1820.[51] Literary Inquisition$_{p,d}$ is an indicator variable that becomes equal to one in the decade following the first literary inquisition case in prefecture p and decade d.[52] $\mathbf{\Omega}_p$ is a vector of prefecture fixed effects. $\mathbf{\Lambda}_d$ is a vector of decade fixed effects.[53]

Prefecture characteristics might be correlated with both exposure to literary inquisitions and the level of charity provision. In our baseline specification, $\mathbf{X}_p$ includes the number of Ming jinshi, log population density in 1600, Skinner's socioeconomic macroregions, and latitude and longitude. We interact these time-invariant characteristics with decade fixed effects.

According to our preferred specification, there were 1.024 fewer local charities in an average decade after the first literary inquisition case (column 3). This corresponds to 38% of the mean or 24% of the standard deviation of local charities ($-0.243 = -1.024 \div 4.218$). We consider the dynamic response of charity formation to a literary inquisition in Section V.F.

As Liang (2001) documents the date of foundation of charities, this decline is best explained by fewer new charities being formed, rather than by the closure of existing charities. These effects are unlikely to reflect a fall in the size of the local gentry. Moreover, this fall in the formation of local charities cannot be explained by a change in policy towards charities.[54]

[51] In our main sample, the majority of literary inquisition cases are concentrated between 1724 to 1783.

[52] For robustness, we also allow our treatment to turn on during the same decade as the occurrence of the first literary inquisition case. Results are similar in both sign and magnitude as shown in Table A.11.

[53] In Appendix 3.C, we use charities per capita and obtain very similar results (Table A.18).

[54] Note that local charities were small-scale organizations; records of charities were not kept by a state registration system (as there was none), but by local gazetteers. Unlike in the modern West, charities in imperial China had no political influence. Whereas overt political organizations were prohibited throughout the Qing rule. They cannot be observed either before or after the literary inquisitions. The policies and laws pertaining to establishing charities did not change in this period: it remained easy and low cost to establish local charities (Smith, 1987). Unlike the White Lotus Society, local charities were never banned or discouraged, and they did not need to go underground. Moreover, to be a source of potential bias, such changes in policy would have to be region specific. In China, however, local magistrates were given no authority to make laws or to institute policies on their own.

Table 2: Historical Panel: The Impact of Literary Inquisitions on Local Charities

	# Local Charities			
	(1)	(2)	(3)	(4)
Literary Inquisition	-0.750*	-0.988**	-1.024**	-1.024**
	(0.419)	(0.419)	(0.506)	(0.469)
Initial Pop. Density × FE	Yes	Yes	Yes	Yes
Ming Jinshi × FE	No	Yes	Yes	Yes
Latitude/Longitude × FE	No	No	Yes	Yes
Socioeconomic Macroregion × FE	No	No	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
Clusters	Prefecture	Prefecture	Prefecture	Prefecture-Decade
N. of Periods	13	13	13	13
Observations	1417	1417	1417	1417
Adjusted R^2	0.779	0.792	0.828	0.828

This table reports difference-in-differences estimates of the effect of literary inquisitions on the number of local charities. The unit of observation is the prefecture-decade. Column 1 only controls for the interaction between decade fixed effects and log population density in 1600. Column 2 adds controls for the interaction between the number of Ming-era jinshi and Skinner's socioeconomic macroregion and decade fixed effects. Column 3 adds controls for latitude and longitude interacted with decade fixed effects; it is our baseline specification. In column 4, we use the same specification as in column 3, and cluster our standard errors by both prefecture and decade (Cameron and Miller, 2015). In all other specifications, robust standard errors are clustered at the prefecture level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Our results do not imply that the only change was in the number of local charities. The character of charities could have changed as well. However, the data we have do not permit us to investigate in further details that aspect of the decline in charity formation.[55]

We focus on the local effects of literary inquisitions. The local effects of literary inquisitions would have been important as long as one of the two conditions holds: (i) people had greater information about literary inquisitions in their own locality than of cases elsewhere; (ii) they were more psychologically affected by literary inquisition cases that occurred to members of their own prefecture. For the period we study, both conditions held. The absence of newspapers, or other forms of media, meant that information generally disseminated slowly and within a limited geographical range.[56] A small number of elites would have been aware of cases at a national level. Certainly, exceptional cases, such as that of Zeng Jing studied by Spence (2001), attracted wide attention. To the extent that a few cases attracted national attention, our estimates are a

[55]Liang (2001, 169) observes that the founders of charities in the Qing period were less charismatic compared to their counterparts in the Ming period.

[56]The examination system was one concrete channel through which information spread within a given area. A far larger number of individuals sat for the prefecture-level exams than for higher-level exams (province-level and national-level exams). Individuals who sat for prefecture-level exams would learn about events that happened within the same prefecture, but not those that happened elsewhere. There was also undoubtedly an aggregate effect of political repression but, while this would be interesting to study, it is difficult to derive a reliable estimate due to a lack of control groups.

lower bound of the true effect of the literary inquisitions.

C Local Charities: Initial Conditions

By restricting our main sample to prefectures that were alike before 1700, we have already reduced potential biases caused by differential trends in charity formation (Abadie, 2005). Prefectures exposed to literary inquisitions had roughly the same number of local charities by 1700 as those that were not exposed (Table 1). In Table 3, we add interactions between the number of charities by 1700 and decade fixed effects to our specification. For robustness, we use several alternative measures of social capital in addition to the number of charities by 1700 (Panel A).

For columns 1-5, we sequentially add the number of local charities by 1700, the number of Buddhist temples by 1700, the number of funding agencies by 1700, a linguistic fragmentation index, and the first principal component of these variables.[57] Martinez-Bravo et al (2017) use Buddhist temples as a proxy for social capital in modern China. Funding agencies were local organizations that accepted donations to support the travel of examination candidates to capital cities. We control for linguistic fragmentation, as this is often negatively correlated with social capital.[58] Our coefficients of interest remain stable when we allow the effects of initial social capital to vary over time.

Commerce and economic prosperity can lead to challenges to traditional authority and demand for self-governance. One pathway to inclusive institutions is that trade empowers local economic elites who then press for more inclusive institutions (Acemoglu, Johnson, and Robinson, 2005; Angelucci, Meraglia, and Voigtländer, 2017). The interests of commercial and economic elites could clash with those of the ruler, as often occurred in Europe. In Ming China, urbanized areas produced political movements such as the Fu-she and the Donglin Academy, which played an important role shaping political ideas and intellectual debate. As such developments were seen to threaten the Manchu rulers, these areas might have been both more likely to experience literary inquisitions, and also to have seen more charity formation over time.[59] In this case, our estimates would represent a lower bound.

In Table 3, Panel B, we interact measures of the local economy and the presence of the state with decade fixed effects. First, we include the interaction between agricultural suitability and decade fixed effects (column 6). Next, we consider urbanization. Satyanath, Voigtländer, and Voth (2017) find that urbanization predicts associational density in Weimar Germany. The earliest charities in China emerged in the late Ming period to help the urban poor.[60] To account for initial levels of urbanization, we use estimates of total urban population from 1393—the only

[57] For funding agencies, panel data are available. Thus we can estimate our main specification with funding agencies as an alternative outcome, obtaining qualitatively similar results.

[58] Alesina and La Ferrara (2000) show that fractionalization is an important determinant of social capital. We use the linguistic fragmentation index employed by Bai and Jia (2016).

[59] Note that the role of merchants in China differed from that in Europe. In Europe, merchants often obtained political power and status, and would be involved in the financing of charities and other community projects. In China, these tasks were the responsibility of intellectuals.

[60] Liang, however, argues that charities can be traced back to a tradition of self organizations including peasant associations.

Table 3: Historical Panel: Initial Social Capital, Local Economy and the Presence of the State

Panel A: Initial Social Capital	# Local Charities				
	Charities by 1700 (1)	Buddhist Temples by 1700 (2)	Funding Agencies by 1700 (3)	Linguistic Fragmentation (4)	1st Principal Component (5)
Literary Inquisition	-0.927*	-1.056**	-1.024**	-1.034**	-0.892*
	(0.494)	(0.523)	(0.510)	(0.491)	(0.493)
Baseline Controls × FE	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes	Yes
N. of Periods	13	13	13	13	13
Observations	1417	1417	1417	1404	1404
Adjusted R^2	0.841	0.827	0.826	0.829	0.833
Panel B: Local Economy and the Presence of the State	# Local Charities				
	Ag. Suitability (6)	Urbanization (7)	Yangtze/Grand Canal (8)	Coast (9)	Courier Routes (10)
Literary Inquisition	-0.999*	-1.663**	-0.993**	-1.120**	-1.022**
	(0.508)	(0.637)	(0.475)	(0.519)	(0.505)
Baseline Controls × FE	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes	Yes
N. of Periods	13	13	13	13	13
Observations	1417	975	1417	1417	1417
Adjusted R^2	0.831	0.823	0.830	0.828	0.830

This table reports difference-in-differences estimates of the effect of literary inquisitions on the number of local charities, controlling for initial social capital, as well as measures of the local economy and the presence of the state, interacted with decade fixed effects. Baseline controls include the number of Ming-era jinshi, log population density in 1600, latitude and longitude, and socioeconomic macroregion fixed effects. All columns use the same controls as in column 3 of Table 2. Columns 1 to 5 control for the interactions between decade fixed effects and the number of local charities by 1700, the number of Buddhist temples by 1700, the number of funding agencies (to support examination candidates) by 1700, linguistic fragmentation and the 1st principal component of all the above measures of social capital. Columns 6 to 10 control for interactions between decade fixed effects and agricultural suitability, urbanization during the Ming Dynasty, whether a prefecture is located on the Yangtze River or the Grand Canal, whether a prefecture is on the coast, and distance to the nearest imperial courier route. In all specifications, robust standard errors are clustered at the prefecture level and reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

year for which estimates of the urban population exist (column 7). To account for the degree of commercialization, we account for whether a prefecture was on one of the two major trade networks in imperial China, the Grand Canal or the Yangtze River (column 8), or on the coast (column 9). Finally, in column 10, we control for proximity to the nearest imperial courier route. Imperial courier routes were used by the state to deliver official communications. We use this as a measure of state presence.[61] Overall, our results remain robust after we allow the effects of initial conditions to vary over time.

[61] See Xue (2016). The logic of using proximity to royal roads as a measure of state capacity is employed by Acemoglu, Garcia-Jimeno, and Robinson (2015).

D The Demand for Charities: Time-Varying Controls

Natural disasters increased demand for charities: "the need for aid was ... defined by the emergency" (Smith, 1987, 310). If natural disasters also increased the probability of literary inquisitions, we would underestimate the effect of political repression on local charities. Table A.14 shows that literary inquisitions were not associated with natural disasters (columns 3–4).

Disaster relief and tax relief were major government expenditures in Qing China (Shiue, 2004). These services could either substitute for, or complement, local charities. If the imperial authorities began to treat affected prefectures differently following a literary inquisition, and shifted government spending towards or away from affected prefectures, this could then have an indirect effect on the number of local charities. In Table A.20, we show that controlling for a time-varying measure of disaster or tax relief does not change our results.

It is possible that literary inquisitions could have incited conflicts if they were perceived as "unjust". For this to be a source of bias, however, conflicts have to be correlated with literary inquisitions. Alternatively, when there was a conflict, the state might decide to repress the ideology or economic interests responsible, leading to an increase in literary inquisitions. The destruction associated with conflicts could increase the demand for charity. In Table A.14, we show that literary inquisitions were not simple responses to conflicts (Panel A); nor did conflicts break out in the aftermath of literary inquisitions (Panel B). To address remaining concerns, we control for the number of conflicts per decade in Table A.16.

E Additional Robustness Checks

First, we interact additional prefecture-level characteristics with decade fixed effects. As we have demonstrated in Section III, the number of Ming loyalists, the number of anti-Qing conflicts between 1644 and 1690, and the number of Ming-era independent academies are possible determinants of literary inquisition cases (See discussion in Section IV.A). We include them in Table A.13 and our coefficients of interest remain stable in all three cases.

Second, we show that there is no differential impact of literary inquisitions on prefectures with a large or a small gentry (Table A.19; Appendix 3.C.6). We look at the number or density of Ming jinshi in the first two columns, and the quota or the quota per 10,000 individuals for the lowest-level exams in the last two columns.

Third, we address concerns about spatial spillovers and contagion (Table A.17; Appendix 3.C.3). If the number of charities falls in one place, it might fall in neighboring prefectures too. To address this, we correct for spatial autocorrelation (Panel A) and account for spatial spillovers (Panel B).

We also conduct a range of other robustness checks in Appendix 3.C. Our results are unchanged when we: (a) vary the starting date and ending date of our analysis (Table A.15, columns 1-4; Appendix 3.C.2); (b) drop prefectures which had no charities by 1750 (Table A.15, column 5); (c) drop prefectures which had no charities by the end of the sample period (Table A.15, column 6); (d) drop prefectures which had no Ming jinshi (column 7); (e) drop prefectures which

are recorded as having any significant number of immigrants (Table A.15, column 8); and (f) use 50-year time periods to reduce serial correlations and to extend the analysis to the end of the 19th century (Table A.21; Appendix 3.C.7).[62]

Finally, we consider a different outcome variable: government-sponsored academies (Appendix 3.C.8). These academies were founded by government officials and focused on training candidates for higher level examinations. As expected, we do not see any impact of literary inquisitions on these academies (Table A.22).

F Dynamic Effects

We estimate the dynamic effects of literary inquisitions on the number of local charities, using a fully flexible difference-in-differences model (Appendix 3C.5). Figure A.6 plots the coefficients from this fully flexible model. We do not observe noticeable pre-trends. Following the first literary inquisition, the number of local charities falls for the four subsequent decades, relative to the number of local charities in prefectures without literary inquisitions, before stabilizing at a permanently lower level. Tracing out the dynamic response of local charities to literary inquisitions, we establish that political repression had a long-lasting impact on charity formation. These results refine our understanding of the evolution of social capital following the literary inquisitions. The deterioration of social capital seems to be a slow and cumulative process.

G Discussion of the Historical Panel

Following a literary inquisition case, charity formation in a prefecture declined permanently thereafter. To understand these results, it is important to note their context.

Prior to the Qing period, it was already understood that the state was autocratic. In the early Qing period, the options available to intellectuals were further restricted: private academies were shut down and meetings of large groups of individuals were forbidden. All Chinese males were compelled to adopt the distinctive Manchu haircut, as a sign of submission. Literary inquisitions, however, signaled a further change in the relationship between intellectuals and the state. In their wake, individuals in a prefecture came to realize that they lived under an unconstrained autocratic state.

Literary inquisitions generated "a hydra of suspicion and denunciations" (Brook, 2005, 178). Individuals were expected to denounce suspects and had a strong incentive to do so as they could be punished themselves for failing to report others. This made relationships among both strangers and acquaintances fraught with suspicion and peril. As a result, intellectuals became more careful in their behavior. This greater caution could entail ceasing to write or publish, avoiding conversations and interactions with others, and, more generally, withdrawing from active participation in the public sphere. Consequently, reduced social interactions and less social activity could lead to a further reduction in trust.

[62] In our main analysis, we focus on the periods prior to and shortly after a literary inquisition. A relatively small number of periods minimize the chance of false rejections in a difference-in-differences setup (Bertrand, Duflo, and Mullainathan, 2004).

Local charities are used as a summary measure of social capital. We are agnostic about the exact process through which the number of charities declined. Note that charities also provided local public goods, as the premodern state lacked the capacity to deliver social services or insurance. Following the decline of local charities, help within clans, or the extended family, could partially substitute for the services of charities. Also, fewer charitable organizations and less charitable activity taking place in a community, might lead to a further decline in volunteerism and active participation in the public sphere. Both processes would imply a cumulative process in social capital formation, and certainly, our dynamic panel results are indicative of such a process (Figure A.6).[63] A move from organizing charities to relying on families is, in any case, highly consonant with a fall in social capital.

These results speak to how culture could change in response to political repression. Social capital comprises the attitudes and beliefs that help to support cooperation. Attitudes and beliefs about the value of interacting with others for cooperation shifted in response to the new political environment. Parents always have an incentive to instill in their children attitudes that will help ensure their survival. Following a literary inquisition, it became apparent that, to do so, they would have to instill more cautious attitudes. This included being careful in dealing with others and speaking in public. Such lessons could have had the effect of further reducing social interactions and social ties. Over a span of three or four generations, this new view about what behavior was safe and what was risky was reinforced, becoming new norms embedded in the community. Moreover, there were few other shocks in this period: no sign that the relationship between intellectuals and the state would readjust; nor was there a window of opportunity for civil society to become revitalized or for beliefs to start to evolve in a different direction.

VI The Effects of Political Repression on Social Capital Today

We consider the effects of literary inquisitions after the collapse of the Qing Empire and in different political and institutional settings. First, we document a negative correlation between the Qing persecutions and generalized trust in modern China. Second, we examine the impact of Qing persecutions on the provision of basic education. Third, we consider how their impact varied according to whether the institutional environment was centralized and formal, or decentralized and informal. Figure 3 illustrates the key stages in our analysis.[64]

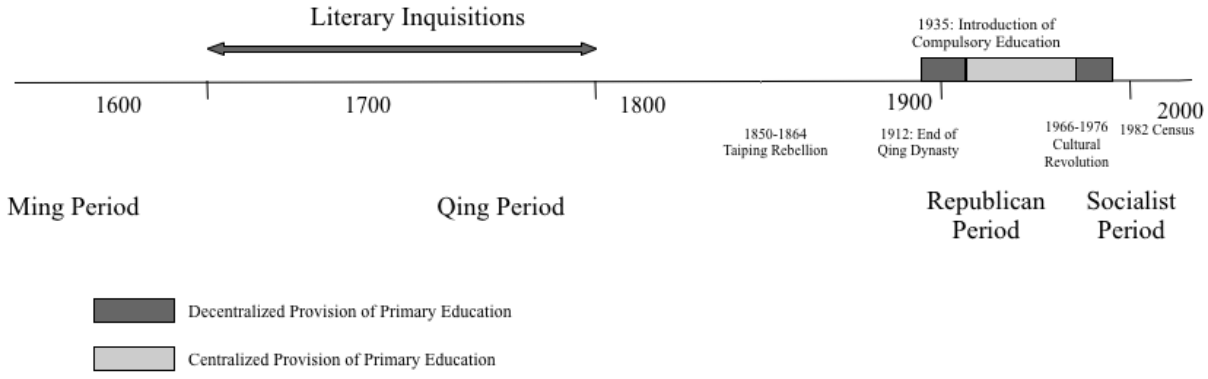
A Generalized Trust

The Chinese General Social Survey (CGSS) demonstrates some intriguing correlations between literary inquisitions and generalized trust today. Generalized trust is one of the most

[63] Compared to the effect of literary inquisitions on the number of individuals becoming reputable (see Appendix 3.B.4), their effects on charity formation were much longer lasting (Table A.21). This is to be expected as establishing and running charities was a cooperative venture and hence likely to be highly responsive to a reduction in social capital.

[64] Throughout, we employ the same sample of prefectures, balanced on pre-1700 characteristics, used in the historical panel for our analysis of modern China. We explain how we match China's historical prefectures to modern-day prefectures in Appendix B.3.

Figure 3: Key Stages in the Analysis



widely used measures of social capital.

Our sample has the same geographic coverage (i.e. matched sample) as in the historical panel.[65] The percentage of the prefectures that are treated (16%) is similar to the percentage of the treated in the historical sample (17%). More details on how we link our data from the past to the present can be located in Appendix 3.B.3. We follow the same procedure to construct all of our modern samples for the remainder of the paper.

Table 4 suggests that the Qing persecutions are associated with lower generalized trust. This effect is economically significant: in our main specification, political repression is associated with a decline of 0.179 in trust, which is 16.7% of its standard deviation (column 3).[66] We first examine an unconditional relationship between generalized trust and the Qing persecutions (column 1). Our estimates do not change greatly when we include individual characteristics, such as age, gender, and education (column 2), and other factors that the literature has shown to be correlated with trust, such as log per capita income, the proportion of the population belonging to ethnic minorities, the proportion of the population living in urban areas, years of schooling, linguistic fragmentation, and socioeconomic macroregion fixed effects (column 3).

We do not expect the Qing persecutions to affect trust between family members. Trust within the family is a form of particularized trust, and not subject to the same forces shaping generalized trust. In the face of a decline in the provision of community-wide charities, if anything, individuals would want to rely on their family members more. Besides, the Qing state encouraged individuals to denounce others to the authorities, but unlike modern totalitarian states, individuals were not expected to denounce family members. Columns 4–6 of Table 4 confirm that there is no relationship between trust within families and the Qing persecutions.

Treated and untreated prefectures had a similar level of social capital before the exposure of literacy inquisitions (Table A.7). However, a decline in social capital following the literary inquisitions, might have had additional consequences that could have produced low trust. This

[65]The intersection of the CGSS sample (91 prefectures) and the matched historical sample includes 31 prefectures. 26 of the 31 prefectures contain responses to the questions we examine. Given the sample size, our results should be interpreted with caution. In Section VI.B, we use census data so as to attain a larger sample.

[66]These results are also robust to controlling for the number of death during the Cultural Revolution.

Table 4: Literary Inquisitions and Generalized Trust (CGSS)

	Generalized Trust			Trust in Family		
	(1)	(2)	(3)	(4)	(5)	(6)
Mean of Dep. Var	3.477	3.477	3.486	4.798	4.798	4.796
Literary Inquisition	-0.187**	-0.158*	-0.179*	0.0397	0.0340	-0.000251
	(0.0845)	(0.0921)	(0.0915)	(0.0460)	(0.0438)	(0.0383)
Individual Controls	No	Yes	Yes	No	Yes	Yes
Contemporary Controls	No	No	Yes	No	No	Yes
Socioeconomic Macroregion FE	No	No	Yes	No	No	Yes
Observations	3346	3343	3246	3345	3341	3244
Adjusted R^2	0.00354	0.0293	0.0481	0.000581	-0.000423	0.0152

This table reports OLS estimates of the relationship between literary inquisitions and trust in modern China using data from the CGSS (2010). The dependent variables are on a 1-5 scale. Columns 1–3 examine the relationship between literary inquisitions and generalized trust. Columns 4–6 show that there is no relationship between literary inquisitions and trust within the family. Individual controls include fixed effects for gender, age, and the level of education. Contemporary controls are log GDP per capita, log total population, years of schooling, share of urban population and share of agricultural workforce, all from 2010. We also control for the linguistic fragmentation index. Columns 2 and 5 just include individual controls. Column 3 and 6 add contemporary controls and socioeconomic macroregion fixed effects. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

could have involved differences in local institutions and human capital. State socialism ensures minimal variation in local institutions across modern China. Moreover, due to the stringent laws that apply to all non-governmental organizations, there are no equivalent institutions to the kinds of local charities that were common in the Qing era. The functions of these organizations in local society have been taken over by the state, which engages in both redistribution and the provision of local public goods, or by for-profit entities.

The modern socialist state has mitigated some of the economic consequences that might have occurred as a result of the gap in charities, which could have constituted other channels of the long-run effect of the literary inquisitions, but a gap in the values that underpinned the provision of charity has remained.

B Basic Education in Early 20th Century China: OLS Estimates

We have documented a negative correlation between literary inquisitions and generalized trust in today's China. If there is an effect of the Qing persecutions today, this effect should also have been present and had consequences in the 20th century.

When public goods are provided informally, and in a decentralized fashion, social capital would be an important factor. So if political repression reduced social capital, we should find an effect of the Qing persecutions on public goods when its provision was decentralized and informal.

The imperial Chinese state did not actively govern at a local level and provided few public goods; basic education was the responsibility of clans.[67] At the beginning of the 20th century,

[67] See Feuerwerker (1980), Kuhn (2002), Sng (2014), and Vries (2015).

the provision of basic education gradually shifted from a clan-based, to a village-based system. During this time, the provision of basic education depended on the effort of village members. As a consequence, local collective action became a particularly important factor in determining the provision of basic education in the early 1900s (Hao and Xue, 2017). Centralized primary education only took off in the 1930s under the Nationalist government. Centralization continued through the Communist period, until the Cultural Revolution, which saw the decentralization of education, the devolution of state funding, and greater reliance on local initiatives.

Examining individuals aged over 70 in the 1982 census provides a snapshot of the provision of basic education in early 20th century China. Born before 1912, and educated in the 1910s and 1920s, these individuals were educated under decentralized and informal institutions. We estimate:

$$\text{Literate}_{p,i} = \alpha + \beta \text{Literary Inquisition}_p + \Omega \mathbf{X}_p + \Theta \mathbf{Z}_i + \Gamma_{\text{prov}} + \Psi_m + \epsilon_{p,i} \ . \tag{2}$$

The dependent variable is equal to one if an individual was literate at the time of the survey. The explanatory variable Literary Inquisition$_p$ takes the value of 1, if prefecture p ever experienced literary inquisition cases. $\mathbf{Z}_i$ contains individual-level characteristics such as gender, household size, and marital status. Γ_{prov} and Ψ_m are province and socioeconomic macroregion fixed effects, respectively.[68] The inclusion of province fixed effects ensures that broad regional differences are accounted for.

$\mathbf{X}_p$ is a vector of historical and geographical, and contemporary prefecture-level controls. These include agricultural suitability, ruggedness, population density in 1820, per capita taxation in 1820, distance to Beijing, distance to the nearest imperial courier route, whether a prefecture was on the Grand Canal or Yangtze River, on the coast, or an important center of transport and communication (*Chong*), an important center of business (*Fan*), difficult to tax (*Pi*), or affected by high crime (*Nan*) in 1820, and whether a prefecture was a treaty port. Variables such as per capita taxation in 1820, distance to Beijing, and distance to the nearest imperial courier route are included to account for the impact of the state.[69] We include two measures of historical human capital: the density of jinshi degree holders and the density of the prefecture-level quota for shengyuan degrees (per 10,000). The second measure also captures variation in the institutions that shaped human capital, as the quota was stipulated by the state.

Our sample has the same geographic coverage (i.e. matched sample) as in the historical panel. The percentage of the prefectures that are treated (14%) is slightly below the percentage of the treated in the historical sample (17%).

Contemporary controls refer to controls that capture conditions around 1982. As our period of interest is the early 20th century, in principle, we do not include more recent controls. We do, however, control for the percentage of the population aged over 65 at the time of the survey.

[68] Note that these individual-level characteristics may be endogenous to literacy outcomes.

[69] We use variables from 1820 as this was the year that the last official survey or assessment of Qing China, "The Comprehensive Geography of the Great Qing Realm" (*da qing yi tong zhi*), was complied.

Table 5: Basic Education in the Early 20th Century

	Literate			
	(1)	(2)	(3)	(4)
Mean of Dep. Var.	0.153	0.108	0.153	0.153
Literary Inquisition	-0.0447**	-0.0283*	-0.0453**	-0.0524**
	(0.0205)	(0.0166)	(0.0206)	(0.0220)
Log Jinshi Density	0.0136	0.00559	0.0266	0.0336**
	(0.0153)	(0.0104)	(0.0163)	(0.0163)
Over 80 Year Olds Only	No	Yes	No	No
Individual Controls	No	No	Yes	Yes
Contemporary Controls	No	No	No	Yes
Historical and Geographical Controls	Yes	Yes	Yes	Yes
Observations	72658	12035	72658	72658
Adjusted R^2	0.0340	0.0244	0.233	0.233

This table reports OLS estimates of the relationship between literary inquisitions and literacy in the early 20th century. The dependent variable is whether an individual was literate at the time of the survey. All individuals were over 70 when surveyed in 1982. All specifications include province fixed effects and socioeconomic macroregion fixed effects. Individual controls include gender, marital status, and the number of couples in the household. Contemporary controls include log total population, % over 65, and % Manchu. Historical and geographical controls include the density of the examination (shengyuan) quota in 1820, per capita taxation in 1820, agricultural suitability, population density in 1820, per capita taxation in 1820, distance to Beijing, distance to the nearest imperial courier route, whether a prefecture was on the Grand Canal or Yangtze river, on the coast, or was an important center of transport and communication (Chong), and business (Fan), difficult to tax (Pi) or affected by high crime (Nan), whether a prefecture was a treaty port and ruggedness. Column 1 just includes our historical and geographical controls. Column 2 restricts the samples to individuals aged over 80 in 1982. Column 3 adds individual-level controls. We use the specification in column 4 as our baseline. It includes all sets of controls. Robust standard errors, clustered at the prefecture level, are reported in parentheses. There are 72 clusters. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Individuals born in the early 20th century, may have faced different probabilities of surviving into the 1980s, depending on whether they were literate. This could introduce a source of bias, if probability of survival differed between literate and illiterate individuals, and these differentials varied across prefectures affected and unaffected by the Qing persecutions.

Table 5 reports the effects of literary inquisitions on the literacy levels of cohorts educated in the early 20th century. According to our preferred specification, in a prefecture with a legacy of literary inquisitions, the probability of individuals being literate is 5.2 percentage points lower (column 4), corresponding to 15% of the standard deviation of literacy ($0.15 = 0.052/0.348$).[70] This is comparable to the effect we find in the historical panel: approximately 20% of the standard deviation of the number of local charities. Across the specifications, jinshi density has the expected signs, and its coefficient is statistically significant in column 4. This indicates a positive correlation between historical human capital and literacy in the early 20th century.

It is possible that 70 year olds surveyed in 1982 only acquired literacy as adults. There

[70] In Table A.23, we show that these results are also robust to controlling for that we have discussed in Section IV, as potential determinants of literary inquisitions, such as the number of Ming jinshi, Ming-era academies, and Ming loyalists (See Appendix 3.D.1).

were major anti-illiteracy campaigns in the 1950s (see Peterson, 1994). However, these were unlikely to have an impact on literacy levels of individuals who were already in their 40s and 50s. Moreover, for our estimates to be biased, the probability for individuals to become literate through adult education programs at a later date has to be correlated with the Qing persecutions.

Literary inquisitions did not affect educational outcomes at all levels. There is no relationship between the Qing persecutions and having attended middle or high school among 70 year olds (Table A.24; Appendix 3.D.2). This null result supports the social capital channel—middle and high schools were often set up by provincial governments and hence, unaffected by a lack of social capital. In Section VI.D, we examine other contexts in which social capital had lower importance in the provision of basic education.

C Basic Education in Early 20th Century China: Political and Demographic Shocks

China experienced several episodes of political turmoil between 1840 and 1982. If some of these events that affected literacy levels in the population, occurred in the same locations as the Qing persecutions, our estimates may be biased. We check our results against three major historical events: the Taiping Rebellion, the exodus to Taiwan in 1949, and the Cultural Revolution. In Section VI.D, we implement an instrumental variable strategy to address remaining concerns.[71]

First, we account for the Taiping Rebellion which took place between 1851 and 1864. The impact of the Taiping Rebellion on local society was two-fold: on the one hand, the Taiping Rebellion was associated with tremendous destruction—modern estimates suggest that the conflict caused the population to fall by as much as 20 million (Platt, 2012). On the other hand, areas that were affected by the Taiping Rebellion saw greater local autonomy in subsequent decades, as the Qing responded to the rebellion by empowering local gentry to raise taxes and armies to fight the rebels (see Kuhn, 1979).

From Table A.21, we know that the gap in the number of local charities between affected and unaffected prefectures remained through the Taiping Rebellion period. We further investigate the role of the Taiping Rebellion in Table A.27, by including information on whether or how long a prefecture was occupied by the Taiping troops. Across the specifications, the coefficient estimate of literary inquisitions remains negative and statistically significant.

Second, we investigate the effects of the exodus to Taiwan in 1949. During the transition to the Communist regime, about two million individuals left for Taiwan. Since more educated individuals were more likely to migrate to Taiwan, if the decision to flee to Taiwan in 1949 was positively correlated with the a legacy of literary inquisitions, we might overestimate the negative effect of Qing persecutions.

We collect new data to derive an estimate of the share of the population who migrated to Taiwan in 1949.[72] Using genealogical records available at the Taiwan Family Genealogy Catalogue Database (TFGCD), we build crude measures of out-migration at a prefecture level. The TFGCD

[71] Neuman, Rosenbaum, Ludwig, Zubizarreta, and Silber (2014) provides an example of conducting an instrumental variable analysis after propensity score matching.

[72] Taiwan was the main destination for migrants fleeing mainland China around 1949.

aggregates information from a range of sources, a key component of which is the Taiwan special collection maintained by the Genealogical Society of Utah (GSU). In Appendix 3.D.4, we describe the procedures involved in constructing these measures in detail. Our main results are robust, regardless of which measure of out-migration we choose (Table A.28).

Finally, we incorporate another historical shock into our analysis: The Cultural Revolution (1966-1976). Although the Cultural Revolution cannot have affected the "true" level of literacy in the early 20th century China, it could affect the measure of literacy we use as well as our coefficient estimates of the Qing persecutions. The Cultural Revolution was extremely violent, and its victims were more likely to be the educated. If the Qing persecutions are correlated with the number of deaths during the Cultural Revolution, we might overestimate the negative effect of the former. Using data on the number of deaths from Walder (2014), we examine the effects of the Cultural Revolution in Table A.29. In most specifications, the coefficient estimate of the Cultural Revolution takes on a negative sign. Our main results remain robust across all specifications. In Appendix 3.D.5, we discuss various measures we constructed to measure the intensity of Cultural Revolution.

D Basic Education in Early 20th Century China: IV Estimates

Controlling for the major historical shocks experienced by China since 1840 has no material impact on our results. Nevertheless, literary inquisitions might still be correlated with unobserved characteristics of a prefecture. In our historical panel analysis, we exploit variation in the first occurrence of a literary inquisition in a prefecture for identification, and rely on prefecture fixed effects to absorb time-invariant, prefecture-level characteristics such as family structure or the presence of the state. These are not available in a cross-sectional analysis, although we do include province fixed effects. We construct two instrumental variables to circumvent omitted variable bias and to establish causality.

As discussed in Section III, an important cause of literary inquisitions and the intensification of autocratic rule was ethnic distrust between Manchus and Chinese. Literary inquisition cases were replete with misunderstandings and misapprehensions. The emperor and the imperial bureaucracy often did not have sufficient information to judge a case. When a case originated from a place that was unfamiliar, this problem was exacerbated.[73] Given that the emperor's primary concern was signaling strength and deterring potential opposition, this could incline the emperor to greater severity: "just to be on the safe side."

Prior to the Qing conquest, people from some parts of China had more interactions with the Manchus than did people from other parts of China. In prefectures where there was less of a history of such interactions, there would have been fewer opportunities for inter-ethnic trust to build up.[74]

[73]This problem also applied to the imperial bureaucracy in which Manchus often occupied the highest positions within the bureaucracy as they were trusted more (see Xi, 2018).

[74]Chinese from parts of China with little interactions with the Manchus prior to the Qing Conquest, also had greater distrust and antipathy to Qing rule. In contrast, Chinese in Shandong displayed markedly different attitudes towards the Manchus. The two peoples traded with one another in the period before the Qing conquest (Wakeman,

Shenyang (Mukden) was a city in Manchuria that had been an important center for the Manchus and their ancestors for centuries. Upon the formation of a state in the early 1600s, Shenyang became the Manchu capital. Distance to Shenyang provides a source of exogenous variation in the level of interaction between Chinese and Manchus prior to the Qing conquest. Those who lived in the proximity of Shenyang had a higher chance to have already interacted with the Manchus prior to the Qing takeover. Historically, there was no obvious reason for social capital in those prefectures to be systematically correlated with their distance to Shenyang, other than through literary inquisitions. Once the Manchus invaded China in 1644, they moved their capital to Beijing. As it was outside of China proper, Shenyang exerted little influence on Han Chinese.

There are some obvious limitations to this instrument. Prefecture characteristics are spatially correlated. The explanatory power of distance to Shenyang may vary across China.[75] Below we explore a second instrument.

Another factor that would have affected the probability of literary inquisition cases, was the ability of the Qing state to crack down, in the event that revolts were instigated by anti-Manchu ideology. We collect data on the locations of the 31 army bases staffed by the Manchu Eight Banners—the only units fully trusted to subdue revolts.[76]

Theoretically, the Eight Banners would have been located to best counter threats to the regime. In reality, the locations of the Eight Banners were constrained by geographic factors. The most important factor was that the Eight Banners were predominantly cavalry and needed to be stationed near forage to maintain their effectiveness. This was a constraint that was not present for earlier dynasties which had relied on infantry (Lorge, 1999). For this reason, the locations of the Eight Banners differed significantly from those of armies in previous dynasties. For instance, there were comparatively few Eight Banner bases in South and Southwestern China, and these regions were difficult for the Eight Banner troops to penetrate due to a lack of high quality forage.

The median distance of a prefecture to the nearest Eight Banner army base in our sample is 150km, whereas the maximum is 400 km. If the revolt was around 150 km away, they could reach the location within 2-3 days, but if the revolt was around 400 km away, it would take as long as 10 days to reach.[77]

1985).

[75]Note that the instrument is not simply capturing differences between Northern and Southern China, since socioeconomic macroregion fixed effects and province fixed effects are used throughout.

[76]The Eight Banners were the most effective component of the Qing army. They received higher pay and were highly trusted by the Qing emperors. According to Kuhn (1979, 10): "The Eight Banners could of course be expected to render the most undeviating loyalty to the throne; descendants of the original Manchu conquerors and their Chinese allies, they had been brought under the close political control of the royal family". There was also the Green Standard Army, made up of Chinese, which was much larger but less trusted by the Qing emperors.

[77]For a discussion of the speed of movement of premodern armies we are indebted to Andrea Matranga. The key constraints were (1) whether sufficient fodder was available on route; otherwise cavalry mounts needed many hours a day to graze; (2) the size of the force; larger armies necessarily moved more slowly because of the limited width of roads. The costs of moving a body of soldiers are non-linear.

Table 6: Basic Education in the Early 20th Century: IV Estimates

Panel A: Second Stage IV Estimates								
	Literate							
	Shenyang		Eight Banners			Shenyang + Eight Banners		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Literary Inquisition	-0.0939^{+}	-0.116**	-0.0790***	-0.101***	-0.109***	-0.0838***	-0.106***	-0.112***
	(0.0604)	(0.0578)	(0.0301)	(0.0342)	(0.0362)	(0.0316)	(0.0304)	(0.0309)
Log Jinshi Density	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Distance to Nearest Ming Army Base	No	No	No	No	Yes	No	No	Yes
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Contemporary Controls	No	Yes	No	Yes	Yes	No	Yes	Yes
Historical and Geographical Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: First Stage IV Estimates								
Log Distance to Shenyang	1.0771***	1.0175***				0.8154***	0.7710***	0.7855**
	(0.323)	(0.299)				(0.254)	(0.256)	(0.257)
Distance to Nearest Eight Banners			0.0024***	0.0025***	0.0024***	0.0021***	0.0022***	0.0021***
			(0.001)	(0.001)	(0.001)	(0.003)	(0.002)	(0.003)
Log Jinshi Density	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Distance to Nearest Ming Army Base	No	No	No	No	Yes	No	No	Yes
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Contemporary Controls	No	Yes	No	Yes	Yes	No	Yes	Yes
Historical and Geographical Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kleibergen-Paap Wald rk F Statistic	11.10	11.58	11.45	10.45	9.87	10.90	9.85	9.54
Hansen J Statistic	0.00	0.00	0.00	0.00	0.00	0.059	0.054	0.011
Observations	72659	72659	72659	72659	72659	72659	72659	72659

This table reports our IV estimates for the effects of literary inquisitions on literacy in the early 20th century. The dependent variable is whether an individual was literate at the time of the survey. All individuals were over 70 when surveyed in 1982. All specifications include province fixed effects and socioeconomic macroregion fixed effects. Columns 1–2 report results using log distance to Shenyang as an instrument. Columns 3–5 employ distance to the nearest Eight Banner army base as an instrument. Columns 6-8 include both instruments. Distance to nearest Ming army base is controlled for in columns 5 and 8. Columns 2, 4 and 7 have the same controls as in column 4 of Table 5. We report the Kleibergen-Paap Wald F statistic, the value of which suggests that our instruments are not weak. For columns 6–8, we report the Hansen J Statistic. The corresponding p-values (0.81, 0.82 and 0.92) do not reject the null that both instruments are valid. Robust standard errors clustered at the prefecture level are reported in parentheses. $^{+}$ $p < 0.15$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Revolts in prefectures within a few days' march of the Eight Banners were easier to subdue, whereas revolts in more distant locations would have more time to ferment and to gather supporters. All else equal, when dealing with incidents originating from prefectures closer to Eight Banner bases, the emperor had less need to send out a costly signal in order to deter opposition, and he would have felt safer "letting incidents go" for which he lacked the precise information.

Table 6 reports results using (a.) distance to Shenyang (columns 1–2); (b.) distance to the nearest Eight Banner base (columns 3–5); and (c.) both instruments (columns 6–8). In the first stage, distance to Shenyang and distance to the nearest Eight Banner base both increase the probability of literary inquisitions. In columns 5 and 8, we also control for distance to the nearest Ming army base, a measure of whether a location was militarily significant, and our coefficient of interest remains unchanged. Across the specifications, we find a strong and consistently negative effect of the Qing persecutions on literacy. Coefficient estimates are slightly larger than those we obtain using OLS, but remain comparable. When we include both instruments, they pass the Sargan-Hansen test of overidentifying restrictions (columns 6–8): the Hansen J-statistic does not reject the null that both instruments are valid.[78]

One potential concern is that distance to the nearest Eight Banner base captures the level of state capacity or the ability to exert political control. This is unlikely as imperial China was governed by a centralized civilian bureaucracy. The Eight Banners had their own laws and did not govern Chinese (Elliott, 2001). Also, state capacity does not seem to affect the probability of literary inquisitions. Based on the first stage, distance to the nearest imperial courier route does not predict literary inquisitions (Table A.30). This addresses concerns that state capacity might be driving our results, when distance to the nearest Eight Banner base is used as an instrument (Table 6, columns 3–5).

E From Decentralization to Centralization

We have shown that the Qing persecutions negatively affected literacy in the early 20th century, when social capital played an important role in the provision of basic education. To shed more light on the social capital channel, we now investigate whether the effects of Qing persecutions on basic education vary according to the importance of social capital to the provision of basic education. Below we expand our sample to include all individuals who were at least 15 years old in 1982.

Social capital matters most for the provision of education when education is provided informally, and in a decentralized fashion. Through most of the 20th century, basic education in rural China remained informal and decentralized.[79] Compared to urban China, basic education in rural China was much less affected by the centralizing policies of both Nationalist and Communist governments. If social capital is a relevant channel, we expect the effect of literary inquisitions

[78]The Sargan-Hansen test is a test of overidentifying restrictions. The joint null hypothesis is that the instruments are valid, i.e., uncorrelated with the error term, and that the excluded instruments are correctly excluded from the estimated equation. If the null hypothesis is rejected, then at least one instrument is not valid.

[79]State building efforts in the countryside began in the mid 19th century, but did not make major progress (Kuhn, 2002).

on literacy to be larger in rural China. This is supported by our findings in Table A.25: there is a strong association between literary inquisitions and literacy for the rural sample (columns 1-2), but not for the urban sample (columns 3-4).

With the evidence presented thus far, an alternative explanation could still be that cultural values are less persistent in an urban setting.[80] Also, it could be that literacy rates were so high everywhere in urban China that there was just not enough variation in literacy left to exploit. To provide further evidence on the social capital channel, we introduce another source of variation in the importance of social capital to the provision of basic education.

We make use of policy variation in the provision of basic education over time. In 1935, the Nationalist government passed a compulsory education law, and centralized basic education. This made social capital less important. Centralization continued during the Communist period. But the schooling system became decentralized during the Cultural Revolution (1966-1976), when basic education was delegated to local communities. This decentralization is evident in aggregate statistics. The share of spending on education in the national budget fell from 6.4% to 4.2% between 1966 and 1970. Meanwhile, the percentage of teachers in rural China who worked for community-funded schools increased from 52.6% to 73.4% between 1965 and 1978.

To examine how the legacy of political repression interacted with the importance of social capital to basic education, we interact a categorical variable whether an individual was educated under a decentralized schooling regime, with the Qing persecutions. To do this, we identify cohorts of individuals in the 1982 census who were educated under a decentralized schooling system (born either before 1929 or after 1959), as well as those educated under a more centralized system (born between 1929 and 1959).

Consistent with our expectations, the estimated effect of literary inquisitions on basic education is halved for individuals born between 1929 and 1959, compared to individuals born before 1929 (Table A.26, column 2). Schools began to rely heavily on local funding during the Cultural Revolution, and the literacy gap between affected and unaffected prefectures expanded again. During this period, literacy continued to rise and access to primary and middle schools improved nationwide. Our findings, however, suggest that the extent of this rise differed between prefectures with and without a legacy of literary inquisitions.

We find these results striking: the effects of literary inquisitions are present both in a low literacy regime—when average literacy was 15%—and in a high literacy regime—when average literacy was 85%—so long as schooling was decentralized.

In previous sections, we have shown that literary inquisitions have a causal impact on the provision of basic education. Our findings are robust to accounting for major shocks such as the Taiping Rebellion, the exodus to Taiwan, and the Cultural Revolution. The effects of literary inquisitions on basic education are muted for the urban sample, and smaller for cohorts of individuals educated in a centralized schooling system. This is consistent with the predictions from

[80] Voigtländer and Voth (2012), for example, find that the transmission of medieval antisemitism was attenuated in larger cities.

the social capital channel. After the 1930s, investment in education under state centralization was able to raise literacy rates across the county, shrinking the literacy gap. However, the gap in literacy that re-emerged under a new period of decentralized schooling, suggests that the underlying causes of adverse outcomes under decentralized schooling were not addressed during the decades of centralized state provision. This provides further evidence that the long-run effect of literary inquisitions operate through the channel of social capital.

VII Political Repression, Political Attitudes and Authoritarian Resilience

Low social capital undermines civic engagement and the willingness of individuals to participate in politics (Putnam, 2001). Willingness to participate in politics is difficult to observe in an autocracy, where many forms of political activity are illegal or restricted. Nevertheless, even in the absence of elections and voting, political participation can take the form of involvement in one's local community. According to Putnam (1966), community involvement reveals important information on broader attitudes towards political engagement.

In Table 7, we investigate the impact of the Qing persecutions on several common measures of political apathy and civic engagement (Scrivens and Smith, 2013). We employ data from the Chinese General Social Survey (CGSS), and restrict our sample to the same geographic coverage (i.e. matched sample) as used in the historical panel analysis. Starting with attitudinal questions, we find that individuals in prefectures with a legacy of literary inquisitions are less likely to say that people like themselves can have an impact on decisions made by government (columns 1-2), and less likely to believe that their suggestions to the government will be adopted (columns 3-4), reflecting greater political apathy in affected prefectures. It is possible that this political apathy simply reflects a pragmatic response to the autocratic regime. However, this is unlikely to explain our findings because all respondents faced the same autocratic regime. [81] Next, we examine participatory behavior. In particular, we consider engagement in self-governing local committees. Our main findings are that survey respondents from affected prefectures are less likely either to volunteer on local committees (columns 5-6), or to make suggestions to local committees (columns 7-8). Across the specifications, the magnitude of the coefficients is around 20% of the standard deviation of the outcome variables.

In Table A.25, we saw that the effects of political repression on basic education were larger in rural areas, raising the possibility that social capital was transmitted differently in urban areas. This conjecture is not supported by our findings in Table A.31. The same results from Table 7 are found for the urban sample, and for all four survey questions. The differences in political attitudes and political behavior are not driven by differences in political knowledge or capabilities (Table

[81] Hence it cannot be that individuals in prefectures with literary inquisitions have more political apathy because they face a more autocratic central or local government. An alternative explanation for the political apathy we observe is a less cooperative and favorable attitude towards autocracy. Indeed, we find in Table 8 that respondents in affected prefectures have a more positive attitude towards democracy. Below we provide further evidence on non-participation by examining community-level participation.

Table 7: Authoritarian Resilience? Political Participation: Attitudes and Behavior

	Political Apathy				Volunteering on Local Committees		Making Suggestions to Local Committees	
	OLS				Logit			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mean of Dep. Var	3.540	3.546	2.582	2.580	0.0677	0.0666	0.121	0.121
Literary Inquisition	0.199**	0.134*	-0.131*	-0.136*	-0.753**	-1.080***	-0.435*	-0.693**
	(0.0815)	(0.0746)	(0.0711)	(0.0767)	(0.360)	(0.419)	(0.248)	(0.290)
Marginal Effects	0.199**	0.134*	-0.131*	-0.136*	-0.047**	-0.065***	-0.045*	-0.071**
	(0.0815)	(0.0746)	(0.0711)	(0.0767)	(0.024)	(0.027)	(0.027)	(0.031)
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Contemporary Controls	No	Yes	No	Yes	No	Yes	No	Yes
Adjusted R^2/ Pseudo R^2	0.0507	0.0543	0.0101	0.0114	0.0397	0.0485	0.0495	0.0577
Observations	3320	3224	3298	3201	3280	3184	3335	3238

This table reports OLS and logit estimates of the relationship between literary inquisitions and modern political participation. All specifications include socioeconomic macroregion fixed effects. Columns 1-4 examine the relationship between literary inquisitions and political apathy. Columns 1-2 are for the question: "People like me won't have any influence on how the government makes its decisions." Columns 3-4: "My suggestions to the government will be adopted." The answer for these questions is on a 1-5 scale, from completely disagree to completely agree. Columns 5-6: " Have you volunteered to work on local committees?" Columns 7-8: "Have you ever make suggestions to local committees?" The answers for these questions are binary. We report marginal effects. For columns 1-4, these are identical to our OLS estimates. Individual controls include fixed effects for gender, age, and education. Contemporary controls are the same as in Table 4 and include log GDP per capita, log total population, years of schooling, share of urban population and share of agricultural workforce, all from 2010. Robust standard errors are clustered at the prefecture level and reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A.32). Nor do these findings reflect differences in individualism or collectivism (Table A.33).[82]

These results parallel findings from Eastern Europe, where exposure to Communist rule has left a legacy of apathy and cynicism towards politics, resulting in an "impoverished public sphere".[83]

Political apathy has an impact on political outcomes. Many scholars have drawn on the modernization hypothesis to predict that economic growth would lead to the democratization of autocracies such as China (Zhao, 2000). Recent research on the democratic protest movements in Hong Kong by Cantoni, Yang, Yuchtman, and Zhang (2016, 2017) seeks to better understand the traits of anti-authoritarians, i.e. individuals willing to protest against authoritarian regimes. Research examines the determinants of successful democratic elections in rural China and highlights the importance of social capital (Martinez-Bravo et al., 2017a, 2017b). For lasting positive changes to occur, there needs to be a critical mass of individuals willing to advocate for and contribute to democracy, even at a cost to themselves.[84]

Next, we consider attitudes towards democracy. Inglehart and Welzel (2005) argue that

[82] See Appendix 3.E.5 for further details.

[83] Post-Communist societies are characterized by lower membership in civic organizations (Bernhard, 1996). Bernhard and Karakoç (2007) discuss the extent to which this is a general phenomenon characteristic of post-totalitarian societies.

[84] Reforming or overthrowing autocratic regimes requires both coordination and individuals who are willing to engage in political protests at a high personal cost and little personal benefit.

democratic values are an important precondition for democratization. It is conceivable that individuals inured to autocratic rule are too used to state direction to believe that democracy is worth striving for, but this is not what we find. The Chinese Political Compass (CPoC) surveys political beliefs and political ideology. CPoC is an online survey collecting anonymous responses. One drawback of surveys is that respondents can be affected by social desirability bias or preference falsification. Compared to traditional surveys, CPoC offers the advantage of anonymity.[85]

Table 8 considers three different questions in the CPoC that elicit individuals' views over alternative political systems. We find that individuals in prefectures with a legacy of literary inquisitions are less likely to agree with the following statements: "Western-style multi-party systems are not suitable for China" (columns 1-3), "Free speech is a Western concept and will only lead to chaos" (columns 4-6), and "Modern China needs to be guided by the wisdom of Confucius" (columns 7-9). Because the CPoC is an online survey, we control for internet access. In columns 3, 6 and 9, we also add the full set of controls used in Table 5 for robustness.[86] For other questions in the survey, such as those regarding social issues, there is no systematic difference in individual responses between prefectures with a legacy of literary inquisitions and those with no such past.

These findings improve our understanding of China's authoritarian resilience. Some scholars have suggested that individual preferences in autocracies are such that they favor authoritarianism.[87] We provide an alternative account. Overall, there is little evidence that literary inquisitions reshaped political preferences, making individuals more hostile to liberalism and more inclined to autocracy. In fact, they have greater skepticism towards a traditional Confucian culture that has often been used to reinforce autocratic rule.[88] We find that individuals in prefectures which had a legacy of literary inquisitions are not more supportive of autocratic rule, but they are less inclined to involve themselves in public affairs, and hence, less likely to act on these ideas.

Orwell (1948) and Arendt (1951) pointed to the danger that autocracies would produce populations incapable of self-governance, and thus well suited for autocratic rule. Our results shed light on one of the key mechanisms through which autocratic rule can result in these negative

[85]Thus we believe that our results reflect differences in political attitudes, rather than differences in the expression of those attitudes. Note that when the data were collected in 2014, the level of internet surveillance was much lower compared to today.

[86]The coefficient estimate of the Cultural Revolution is positive with regards to responses to the multi-party system and Confucianism questions, but there are no differences in attitudes towards free speech. This supports the previous discussion about the difference between the Cultural Revolution and the Qing literary inquisitions (Section IV.C). We do not attempt to interpret these coefficients as variation in the number of deaths in the Cultural Revolution was not generated by random assignment, reflecting factors such as preexisting inequality, the intensity of the class struggle, and quotas of class enemies imposed by the government. The coefficient estimates of literary inquisitions are unaffected when we include the number of deaths in the Cultural Revolution.

[87] Adorno, Frenkel-Brunswik, Levinson, Sanford, et al. (1950), for example, study the rise of authoritarian regimes in terms of the prevalence of an "authoritarian personality".

[88]As we discuss in Appendix 1.H, like previous dynasties, the Qing depended heavily on Confucianism in establishing their legitimacy. Despite the overhauling of traditional values that took place during the Cultural Revolution, in today's China, the link between Confucianism and autocracy remains important. The recent strengthening of autocratic power in China has been accompanied by a renewed emphasis on Confucianism (see Elliott, 2012; Kai, 2014).

Table 8: Authoritarian Resilience? Attitudes Towards Democracy (CPoC)

	Multi-Party Systems, Unsuitable[§]			Free Speech, Chaos[♮]			Confucianism, Essential[†]		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mean of Dep. Var	0.417	0.417	0.417	0.587	0.587	0.587	0.238	0.238	0.238
Literary Inquisition	-0.147***	-0.139***	-0.159***	-0.0962*	-0.0852+	-0.107**	-0.149**	-0.114*	-0.123**
	(0.0302)	(0.0292)	(0.0369)	(0.0545)	(0.0593)	(0.0441)	(0.0676)	(0.0619)	(0.0623)
Survey FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Internet Access	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Individual Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Contemporary Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Historical & Geographical Controls	No	No	Yes	No	No	Yes	No	No	Yes
Observations	52046	52046	51834	52062	52062	51850	52075	52075	51863
Pseudo R^2	0.0121	0.0123	0.0124	0.0163	0.0165	0.0167	0.0356	0.0357	0.0359

This table reports logit estimates the relationship between literary inquisitions and modern attitudes to democracy. The dependent variables are responses to questions in the Chinese Political Compass (CPoC). We code them according to two categories: 0 ("disagree", "strongly disagree") or 1 ("agree", "strongly agree"). All specifications include province fixed effects and socioeconomic macroregion fixed effects. Individuals are asked whether they agree with the following statements: Western-style multiparty systems are not suitable for China[§]; Free speech is "Western" and will only lead to chaoes[♮]; Modern China needs to be guided by wisdom of Confucius[†]. Individual controls include year of birth, sex, income, and the level of education. Contemporary controls are the same as in Table 4, including log GDP per capita, log total population, years of schooling, share of urban population and share of agricultural workforce, all from 2010. Historical and geographical controls are the same as in Table 5. Survey FEs include fixed effects for the "day of the month" and "month of the year" in which individuals took the survey. Robust standard errors are clustered at the prefecture level. $^{+}$ $p < 0.15$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

outcomes: by changing attitudes and behavior towards political participation.

We view a low level of political participation as a necessary consequence of low social capital. Specifically, low political participation is a reflection of low social capital in the political domain. Our study links the Qing persecutions to modern political outcomes. Modern experimental work can shed further light on the exact mechanisms linking low social capital to political apathy.[89]

VIII Conclusion

The literary inquisitions (1661–1788) marked a period of sustained repression that led to deep societal changes. Using a panel dataset, we demonstrate that political repression reduced the number of individuals becoming reputable; we then show that repression led to a decline in local charities. The resulting gap in the number of local charities between affected and unaffected prefectures did not close.

Both the results from the historical panel and those from post-Qing cross sections suggest that political repression permanently reduced social capital. The effect of literary inquisitions on social capital has survived, even after local institutions were transformed by the modern socialist state. We provide evidence that individuals in affected prefectures trust less today.

In some domains, states can partially compensate for low social capital, for instance, by building schools, investing in infrastructure, or centralizing the provision of public goods. Throughout the 20th century, affected prefectures saw worse provision of basic education when institutions were decentralized; literacy did improve under centralized provision. However, our study also suggests that formal institutions did not undo the deeper societal changes caused by autocratic rule: low social capital continues to constrain the capacity of institutions when they are decentralized. This is also reflected in domains that are intrinsically decentralized and heavily reliant on social capital, such as community self-governance.

We establish social capital as a missing link to understanding the dynamics of state-society relations. Autocracies can provide order and public goods when social capital is low. For this reason, autocracy may appeal to individuals in societies with low social capital. Hence, by reducing social capital, autocratic rule can introduce a self-reinforcing cycle that favors its survival and persistence. These insights shed new light on the challenges faced by nascent democracies and on the reversal of democratization in countries with a long history of autocracy."

It may seem natural to compare the effects of literary inquisitions to other more recent historical events. However, it is not straightforward to do so. Literary inquisitions were a highly specific shock on the cultural values that sustain cooperation. Many of the other shocks that have impacted China since 1750—the White Lotus Rebellion, Opium War, Taiping Rebellion, Sino-Japanese War, or Great Leap Forward had large but more complex effects on Chinese society, affecting many aspects of the local economy which in turn had effects on social capital. Thus the effects of the Taiping Rebellion which involved mass deaths due to conflict, disease, and

[89] In ongoing work, Zhu and An (2018) conduct survey experiments on the coordination consequences of media censorship.

starvation, would differ considerably from those of sustained political repression. In fact, recent research suggests that civil wars and shocks of this nature can increase social capital as they lead to greater community cohesion (Gneezy and Fessler, 2011; Voors et al., 2012; Gilligan, Pasquale, and Samii, 2014).

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Online Appendices (For Web Publication Only)

1 Historical Appendix

A Background for the Literary Inquisitions

We now provide a overview of the political economy of Qing China, supplying more details concerning the incentives and constraints facing the rulers of China in the 17th and 18th centuries. The purpose of this overview is to provide additional details to help the reader understand the context shaping the literary inquisitions that we study in the main paper.

The analysis in the main paper focuses on the High Qing Period (c. 1680-1796). We first provide further details on the turbulent period of transition that preceded it. The Ming-Qing transition saw the collapse of the Ming regime, the invasion of China by the Manchus and the establishment of a new regime. The following decades saw both major internal rebellions and external wars (Wakeman, 1985a, 1985b) (Table A.1).

The Ming-Qing transition was accompanied by famine, climate change, and sizable population loss (Parker, 2013). The initial transition involved massacres and a high degree of tension between the Manchu conquers and the Han population (Wakeman, 1985a). After this period, the policies of the Manchu rulers changed as they strove to integrate Han elites into their new government. We focus on the period that followed this political stabilization.

The High Qing period was one of great political stability, imperial expansion and internal peace, but also political repression. Emperors such as the Kangxi and Qianlong emperors are seen as among the most powerful in Chinese history. Their authority was uncontested. Nevertheless, as we documented in the main text, the High Qing period also saw the *intensification* of imperial autocracy in China. The Qing rulers achieved this stability by restricting freedom of expression and organization and by suppressing any potential signs of opposition. As members of a tiny conquest elite, the Qing rulers were extremely sensitive to potential opposition from the Han Chinese. Thus while China has always been ruled through an autocracy, the Qing period stands out as a period of intense autocratic rule.

Individuals were prohibited from meeting to discuss ideas and severe censorship was implemented banning individuals from owning suspect literature.[90] Private academies, which in the late Ming period had become places where intellectuals could engage in policy debate, were shut down (Dardess, 2002) and the imperial academies were purged on the grounds that they were suspected of encouraging factionalism.[91] The Qing also embarked on a campaign of propaganda. County magistrates organized lectures to instill the principle that the filial obedience sons owed their fathers extended to the emperor (Hung, 2011, 35-36). They greatly expanded the scope of treason in the Qing Penal Code particularly with regards to permissible speech or writings.

The Qing maintained their distinct Manchu identity. Manchu banner troops were stationed across China to maintain control, and Manchus were not allowed to intermarry with the Han population. In the capital Beijing, Han Chinese were expelled from the inner city which was settled by Manchu bannermen.

Why did the Qing emperors use political repression? At first sight, the Qing rulers would appear not to need to resort to persecutions. In the terminology of Svolik (2009), the Qing Empire after 1680 was an *established* rather than a *contested* dictatorship, as the emperor could

[90] This category even included "frivolous fiction". Eventually three of the four classic works of Chinese literature were prohibited. Historians speculate that some of the later chapters of *The Dream of the Red Chamber* were destroyed by their author Cao Xueqin due to fear of being persecuted.

[91] See Chen and Jiang (1725), Huang (1974), and Wakeman (1998).

not be credibly threatened by other members of the ruling coalition. This apparent strength and stability is somewhat misleading, however. Rather, historians have suggested that the real puzzle is "how the Manchus—who were outnumbered by the Chinese by about three hundred and fifty to one—managed to conquer China in the first place and then go on to rule for nearly three hundred years"? (Elliott, 2001, 3).

Literary inquisitions played a crucial role in enabling the Qing emperors to deter potential opposition. As Kuhn puts it:

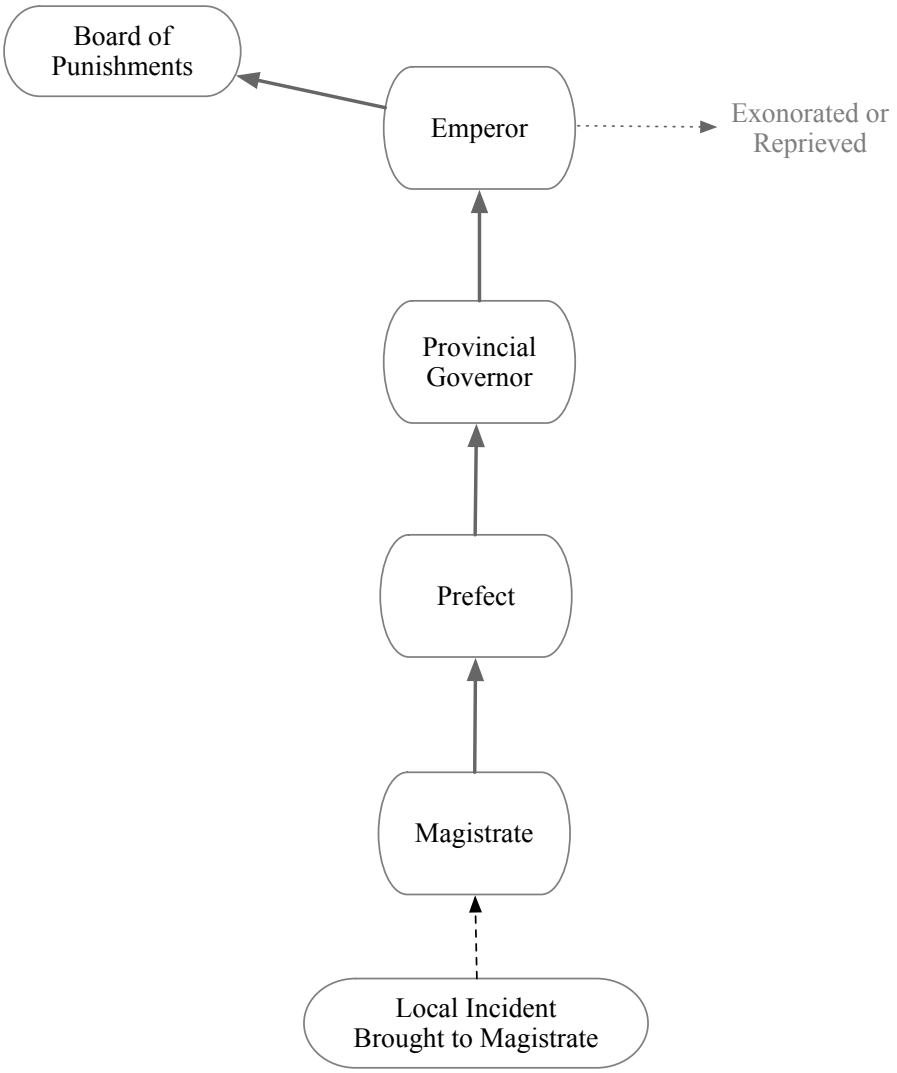
> 'The interests of the Throne had to be boosted by repeated injections of autocratic, unpredictable power, which were best administered in the context of political crime. The shadow (and who can certify the unreality of shadows?) was the fear of forces unseen' (Kuhn, 1990, 225).

In particular, the Qing rulers sought to dominate the Han literati who made up the bureaucracy and governed the empire. As we document, this policy of intimidation and periodic terror was accompanied by "persuasion and remuneration". As Fu (1994, 141) observed: "Autocracy has two faces . . . suppression of political heresy and Confucian persuasion went hand in hand; book censorship was followed by state-sponsored compilations of classics".

B Comparison with other persecutions in Chinese History

We focus on the Qing period because it was during the Qing dynasty that the Chinese state developed an institutional infrastructure aimed at rooting out disloyalty by punishing individuals for subversive speech or writing. Of course, the Qing period was not the only period in Chinese history when the state used political persecutions. Earlier emperors purged political enemies, often *en masse*. But the Qing-era literary inquisitions were different to these persecutions. For instance, the purges conducted by the first Ming emperor were less systematic and institutionalized and restricted to those related to a circle of officials close to the emperor (see Goodrich, 1935; Fu, 1994; Wang, 2002). Literary inquisitions, in contrast, were not limited to those in positions of power, but reached down to quite ordinary individuals including dictionary makers and fortune tellers (Wang, 2002). In the words of one historian, it was in the Qing period "that literary inquisitions in China . . . reached a level of perfection" (Fu, 1994, 138).

Figure A.1: From a Local Incident to a Literary Inquisition Case



C LITERARY INQUISITIONS

C.1 Data

Our source of data on literary inquisition cases is *Qing chao wen zi yu an* (Qing literary inquisition case). This source is based on *Qing chao wen zi yu dang ji* (Palace Museum, 1934), including cases collected and compiled by historians from the Qing Imperial Archive. A total of 86 cases are included in *Qing chao wen zi yu an*, dating from 1661 to 1788. This is the same data source and same number of cases as we used in (Koyama and Xue, 2015).[92] This includes all cases recorded in the Qing Imperial Archive and hence is regarded as a comprehensive list of genuine inquisition cases.

Literary inquisition cases all involved "speech crimes". If a case involved violence or civil unrest or any other action against authority, it would not be categorized as a literary inquisition case. There are more expansive lists, the most expansive of which includes 180 cases. However, this larger list is much more ambiguous as it includes both early persecutions that occurred during the Ming-Qing transition and other less clear-cut cases (i.e., cases that were not strictly speaking

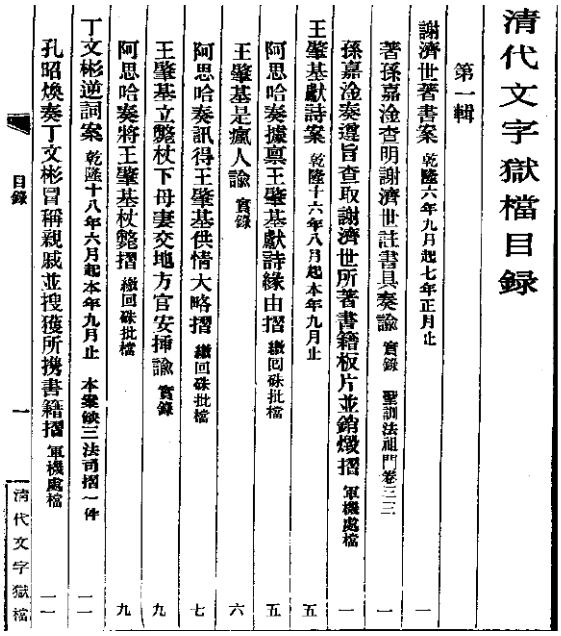
[92]Koyama and Xue (2015) contained an error in the text which referred to the number of cases as 88, rather than 86. The actual number of cases is identical in both papers.

Table A.1: Timeline of Major Events in Qing China

Year	Event	Description
1618	Manchu leader issues Seven Grievances	Manchu leader Nurhaci cites a list of Seven Grievances as casus belli against the Ming
1625	Nuchaci conquers city of Shenyang	Manchus establish Shenyang as their capital and, in 1634 rename it, Mukden.
1635	Hong Taiji renames the Jurchen as Manchus.	
1644	Fall of the Ming Dynasty	Beijing falls to a peasant army and the last Ming emperor commits suicide. The Qing are invited in to defeat rebels and conquer Beijing.
1644	Shunzhi Emperor proclaimed Emperor of China	
1644–1660	Suppression of rival regimes in southern China.	
1652	Individuals forbidden to meet in large groups	
1661-1723	Reign of the Kangxi emperor	
1661	*Case of the History of the Ming Dynasty*	Over 70 individuals executed (and many more punished) for publishing a history of the Ming dynasty
1673-1681	Revolt of the Three Feudatories	Defeat of the Three Feudatories marks the pacification of China and the beginning of a long period of internal peace.
1723-1735	Reign of the Yongzheng emperor	
1728	*Zeng Jing case*	
1735-1796	Reign of the Qianlong emperor	
1753	*Lu Lusen case*	
1773	Qianlong emperor initiates campaign to destroy 'evil' books	
1777	*Wang Xihou case*	
1796-1820	Reign of the Jiaqing emperor	
1799	Qianlong emperor dies	
1796–1804	White Lotus Rebellion	First major rebellion in Qing China
1839-1842	First Opium War	Defeat by Britain weakens the authority of the Qing regime

This table depicts the major historical events in the history of Manchus and Qing China. The period during which the Qing literary cases took place is from 1660-1788. Particular literary inquisition cases discussed in the main text are in italics.

Figure A.2: Literary Inquisition Cases as Presented in *Qing chao wen zi yu dang ji*.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“speech crimes”).

Based on our hypothesis, events related to the crackdown of specific individuals for anti-Qing *actions* should not introduce the same dynamics related to social interactions and social trust. In Appendix 3.C.1 (Table A.12), we report our results using the more expansive set of persecution cases. We find the estimates to be of a similar magnitude, but less precise. This is consistent with our prior that using a less precise definition introduces noise and measurement error.

The fact that we use the most accurate and parsimonious list of inquisition cases means that our dataset has no such cases that were clearly based on factional politics within the imperial court. Nevertheless, a small number of ambiguous cases remain. For example in 1755, an official called Hu Zhongzao was investigated for a poem where he wrote the character for murky or muddy (*zhuó*) before the character Qing. Some historians interpret this case as being about factional political conflicts between Hu’s mentor, Ortai and Zhang Tingyu. In general, these cases were rare exceptions. Bias, moreover, is only an issue if charity formation in a prefecture was somehow related to factional politics at the imperial court.

C.2 The Procedure of a Literary Inquisition Case

The Qing Empire had a highly centralized and hierarchical bureaucracy that was subordinated to the emperor. The authority of the emperor was replicated at the provincial level in the authority of the governor, at the prefecture level in the authority of prefect, and at the county level in the authority of magistrate. Governors, prefects and magistrates were all appointed and rotated regularly, and were not expected to respond to local interests or concerns. Governors were responsible to the emperor alone.[93]

To better understand the process involved, Figure A.1 depicts a stylized literary inquisition case. A civil dispute might give rise to a denouncement to a county-level magistrate. If the case was deemed serious, it would be passed to the provincial governor. As literary inquisition cases often involved written materials, the provincial governor would have consultants scrutinize the

[93]The Yongzheng emperor instituted an elaborate system which allowed lower-level officials to directly report to the emperor in secrecy. This institutional change further strengthened emperor’s control over the bureaucracy.

offending writings for evidence of treason. The position of provincial governors in Qing China was dependent on the discretion of the emperor. They could be suspected of fermenting disloyalty if they did not crack down on any instance of suspected subversive activity. Any case that was potentially serious would go to the imperial court in Beijing and be examined by the emperor himself. Provincial governors who did not pass on information to the emperor could be punished themselves. During the Qianlong period, individual officials were made responsible for particular regions and were liable for forbidden books that were later discovered in those regions. Officials were made responsible for omissions made by their staff: "[t]he names, ages, and addresses of suspicious men were transmitted to government offices" (Wang, 2002, 622).[94]

Qing China was governed by a civilian bureaucracy selected from the imperial examination system. Nevertheless, authority remained personalized rather than rule-based. In theory, the authority of the emperor was unconstrained. And this emphasis on the discretionary nature of authority was replicated at lower levels of government.

Individuals guilty of treason were subject to the Qing penal code. The emperor had to approve all death sentences. The proscribed punishment in such cases was death by *Lingchi* (slow slicing). In some cases, the guilty party would be executed by beheading or sentenced to internal exile. Collective punishment was an important part of the sanctioning of offenders in literary inquisition cases. The extended families of guilty parties were routinely punished by the Qing legal code:

> "the culprit would be tortured to death by slicing; his father, uncles, sons and grandsons, his brothers and sons of his brothers who were over the age of fifteenth would be executed; such males under the age of fifteen along with the along with the culprits mother, wife, concubines, daughters, sisters, and daughters-in-law would be enslaved; all properties of the culprit would be confiscated. In cases involving a deceased person, the body of the culprit would be dug out of the grave, the deceased culprit would be decapitated or mutilated, and then displayed. The living family members of the deceased culprit would be executed, or exiled if they were lucky" (Fu, 1994, 134).

Given the emphasis in traditional Confucian culture on one's family, and on maintenance of the family line, this was an important part of the deterrence effect of inquisition cases. In one case, when an offender did not have an extended family to punish, the emperor regretted the fact that just killing the offending individual seemed like insufficient punishment.

Consistent with the emphasis on deterrence, the degradation and mutilation of the bodies of offenders was an important aspect of their punishment as in other premodern societies (Foucault, 2012). This was particularly significant given the importance of maintaining the integrity of the body in traditional Chinese culture.

There was some variation in punishment. Of these 86 cases, 74 out of 86 involved public trials in which the accused were investigated for crimes against the state. In over half of the cases (54), the victim was a degree holder. In almost half of the cases, more than one individual was accused and in 38 cases more than three individuals were accused. Celebrated cases, such as the investigation of Zeng Jing in 1728, documented in great detail by Spence (2001), saw dozens of individuals investigated, imprisoned, and enslaved in addition to the eventual execution meted out to Zeng Jing in 1735. The largest inquisition case involved 70 executions and the punishment of over a thousand individuals (the *Case of the History of the Ming Dynasty* or the Zhuang Tinglong Case). Our results, however, are not driven by these large-scale persecutions.[95]

[94] To the extent that there were periods of more intense paranoia concerning "speech offenses," such as during the reign of the Qianlong emperor, these are absorbed by decade fixed effects.

[95] For example, the *Case of the History of the Ming Dynasty*, for example, is not part of the matched sample.

The death penalty was employed in almost half of the cases for which we know the methods of punishment. Among the other punishments, individuals could be subject to exile and at least 100 lashes (often equivalent in practice to a death penalty) while in a small minority of cases only the offending writing was destroyed.

Naturally, it would be interesting to explore whether more severe or intensive punishments were associated with a greater deterrence effect. Our sample size limits our capacity to explore heterogeneous treatment effects.

D An Example Literary Inquisition Case

The case of Wang Xihou provides a good example for us to examine the procedures involved in a literary inquisition case. We discussed this case in the main text. Here we provide more details. Wang Xihou was the author of ten books including a dictionary. He had passed the provincial-level examinations in 1750 at the age of 38, but never passed the national-level exams. He was responsible for developing improved indexing techniques and for suggesting that entries be categorized according to the domain that they belonged to.

This case provides a good example of how literary inquisitions were used to generate fear and awe amongst Han intellectuals. Wang Xihou was not disloyal to the regime nor a Ming loyalist of any kind. He came to the attention of the authorities largely by chance, but once he was brought to the attention of the emperor, he was made an example of (Guy, 1987).

We can study the steps that led to Wang's execution in 1777.

1. The case was first brought to the attention of the magistrate of Xinchang (Wang Xihou's hometown) by Wang Longnan, a village member. Wang Longnan had been banished from the province for fomenting litigation in the past. When he returned, he was reported by Wang Xihou. In return, he accused Wang Xihou of being disloyal to the Manchu regime.

2. Wang Longnan found a statement in the dictionary in which Wang Xihou seemed to cast doubt on the scholarly ability of the Kangxi emperor. Wang Xihou praised the Kangxi dictionary, but he mentioned that having as many as 46,000 characters in a slightly disorganized form, makes it hard to look for any particular words.

3. Having reported these writings to the magistrate, the magistrate in turn reported the case and passed a copy of Wang Xihou's dictionary to the provincial governor of Jiangxi.

4. The governor assigned the dictionary to the consultants of his book bureau who searched the book for questionable passages. This provincial governor, was a Manchu who had been previously commended for finding subversive books. These consultants assessed Wang Xihou's writings and judged that they violated the Great Qing Code but did not constitute treason. They suggests that Wang Xihou's juren status should be stripped from him.

5. The Governor did not think the dictionary was too problematic. Nevertheless, fearing the consequence of failing to report a speech crime, he chose to report up the chain of command to the emperor.

6. The Qianlong emperor was extremely offended by Wang Xihou's dictionary. He accused the governor of overlooking and missing other offensive passages.

7. Wang Xihou was ordered to Beijing. His case was passed to the Board of Punishment. As a result, over a hundred individuals were investigated and interrogated. Wang Xihou was

executed on 22 December 1777. All his sons were also killed and twenty-one other members of his family were enslaved.

8. The provincial governor, who failed to find anything criminal in Wang's dictionary, was almost executed as well, but escaped with being exiled. Other officials involved in the case were demoted or lost their jobs.

Other examples also confirm that it was not easy for individuals to safeguard themselves from being persecuted. Referring to a case where a writer was accused of using poetic constructions that would inspire hatred of the Manchus, Kuhn (1990, 65) notes that this involved "what even then must have seemed a far-fetched textual construction". There are other cases of individuals who were decided not anti-Manchu falling victim to the inquisition. Fang Bao, for example, was jailed for a preface that he did not in fact write (Schmidt, 2003, 369). Poetry that expressed sadness or regret could be interpreted in political terms.

An important characteristic of literary inquisitions was that magistrates and provincial governors who did not forward suspected inquisitions cases to the emperor were themselves charged with failing to do their duty. This exacerbated the arbitrary and idiosyncratic character of the persecutions. In the words of one historian:

> "Beyond these there was a host of other things that could get writings banned. Rash fortune-telling and discussion of military strategy could be offenses, as could poetic works with "excessive anger" or "excessive hate," or even expressions of "sorrow" regarding specific episodes in history. It was a crime to call oneself a non-collaborator, an expression used to refer to adherents of the former dynasty living under a new one without serving it. Use of taboo words and phases, or even nonsensical expressions like "a dog's wild bark" were offenses. Inappropriate word choice also led to the banning of books. For example, the unauthorized use of "to pardon" or referring to the army that conquered the Ming empire as "Ch'ing (Qing) troops instead of "imperial soldiers" or "the sovereign's troops" were banned. Careless use of such words as "Han," "Great enterprise," "Ch'ing (Qing), "sun and moon (the components of the character for "Ming"), "barbarian", "Ming," and similar words also could be punishable." (Wang, 2002, 628-629).

This highlights the highly arbitrary and unpredictable nature of persecutions under the Qing and is consistent with the simple model we outline in Appendix 2.

E The Impact of the Literary Inquisitions

Inquisition cases were prominent and widely publicized. They involved relatively small numbers of individuals but they had a much larger cultural and psychological impact on society:

> "At any point in the Ch'ing (Qing) dynasty, news of major cases traveled quickly and had a capacity to induce fear. Punishment was also arbitrary. The governor of Kiangsi (Jiangxi), Hai-ch'eng (d. 1794), was one of the most thorough investigators of infractions, but he was himself nearly executed after he was judged to have not been vigorous enough in pursuing the *Tzu-kuan* (*Comprehensive dictionary*) case. The crimes in these literary inquisition cases that involved improper political theory, slander of Sung philosophers, whimsical historiography, and so forth might seem trivial, but the severity of the punishments made writers avoid certain topics. This had a great impact on 18th-century intellectual culture" (Wang, 2002, 614).

Moreover, there were more subtle effects as the intellectuals disengaged from the public sphere. Intellectuals in traditional China were responsible for the provision of many basic public goods. And by the Ming period, they had come to play a growing role in the formation of policy and public discourse (Wakeman, 1998). Under the Qing, these developments went into reverse.

We know from other examples that a small number of persecutions can have a large impact. The "chilling effect" that the persecution of Giordano Bruno in 1600 had on scientists in Catholic Europe is well attested to in the historical literature, though the number of scientists actually investigated by the Roman inquisition was very small (Mokyr, 2007). Historians have discussed the consequences of these persecutions for the activity of intellectuals.[96] Kuhn (2002, 9) quotes Pak Chiwŏn, a Korean visitor to China in 1780 that "Even about the most commonplace affairs, they burn the records of their conversations without leaving a scrap of paper". Our data on reputable individuals across the Qing period allows us to provide the first systematic test of this.

Finally, an important difference between early modern Europe and Qing China is that Europe was comprised of many competing states (Ko, Koyama, and Sng, 2017). Thus Descartes could escape to the Netherlands and Sweden and Rousseau to England (Mokyr, 2007, 2016). But given the vastness of the Qing Empire, this option was not available for Chinese intellectuals. Those who fell foul of the emperor could not escape, but rather had to submit to imperial authority.

F Late Ming Intellectual Trends

In the late Ming period, under the influence of Wang Yangming (1472–1529), a more liberal branch of neo-Confucian thinking emphasized the active role scholars could play in local governance. In the late 16th century, Wang Yangming's writings became particularly influential and academies flourished in which intellectuals came to play a role in cultivating a nascent public sphere (Bol, 2008). Indeed it is in this context that Mokyr (2016) discusses a possible Late Ming "Chinese Enlightenment". This stream of thought could have led to the development of more useful knowledge and could also have led to the emergence of more liberal political ideas. Bai (2012, 166) notes that "in addition to, 'gaining the emperor's ear so as to practice the Way' (de jun xing dao), these Confucians tried to "enlighten the people so as to practice the Way" (jue min xing dao). They established private schools, and cultivated the village gentry (xiang shen), trying to . . . render local communities autonomous".

However, Mokyr notes that "what little there was of a stirring of intellectual progress before 1644 could not survive what de Bary has called the 'Manchu suppression'" (Mokyr, 2016, 322). The Qing actively suppressed the Wang Yangming school. In particular, they felt threatened by the way in which it encouraged horizontal relationships between members of the gentry "as an alternative to filial loyalty to the emperor-patriarch" (Hung, 2011, 36).

Huang Zongxi (1610-1695) can stand as an example of the role played by intellectuals in late Ming China. He was a proponent of the Wang Yanging school of Neo-Confucianism. Huang was also involved with the Fu-she Academy as we note in the main text. He was the author of a history of the first thirteen reigns of the Ming Dynasty and *The Record of the Ming Scholars*, a general history of Chinese philosophy. He condemned unrestrained autocratic rule and his writings were associated with the idea that there should be constitutional law and that officials should have the freedom to criticize the emperor.

Huang's most sensitive political writings were not published in his lifetime because he feared persecution. Some of his writings, especially those that were most "likely to provoke Manchu reprisals" were entrusted to his followers and only recovered more recently (Huang, 1994, 5).

[96] See Wiens (1969), Huang (1974), and Schmidt (2003) and Gu (2003).

G The Role of Academies, Intellectuals, and the Nascent Public Sphere in Late Ming China

There was no strict equivalent concept to that of free speech in premodern China. Nevertheless, there was recognition of the importance of intellectual autonomy. Wakeman observes that what intellectuals did claim was "a continuous right of independent judgement within a strictly defined perimeter of values shared with authority" (Wakeman, 1972, 37). This came to the fore in the late Ming period which saw the rise to prominence of public intellectuals who sought to influence political discourse.

These intellectuals were influenced by the liberal wing of Wang Yangming neo-Confuncianism. This played a crucial role in shaping the discourse of the literati who gathered in the private academies that proliferated, particularly in southern China. Hung (2011), for instance, writes of late-Ming literati who, "armed" with a "liberal, populist, and anti-authoritarian ideology," formed "quasi-political associations".

However, this right to independent judgement came under threat during the High Qing period. The Shunzhi emperor (r. 1643-1661) purged the officials and prohibited the establishment of independent academies as they were suspected of encouraging factionalism as as well as fostering discontent. Wakeman notes that as a result of the literary inquisitions and "heightened imperial autocracy ... and growing intellectual conformity", intellectuals "were awed into submissive clienthood before their grand dynastic patron" (Wakeman, 1998, 175). Wakeman writes: "The public activities of the literati heroes of the Donglin and Fushe movements were looked upon with alarm by the new Qing rulers, who pointed out that the Ming empire had fallen so easily to them because of political factionalism at court and literati bickering in the cities of the South" (Wakeman, 1998, 172). They viewed the prominent private academies of the late Ming period as a source of political disorder and weakness. They did not wish to allow local elites to form political or intellectual associations. Rather, they sought to attach them to and make them dependent on imperial authority.

H Neo-Confucianism

The dominant Qing-era intellectual ideology was neo-Confucianism. Originating during the Song dynasty, a variant of neo-Confucianism was championed by the Qing emperors. In this subsection, we provide more information on the significance of Neo-Confucianism.

Neo-Confuncianism was a philosophical movement that reformulated Confucian ideals in reaction to the ideas of Buddhism and Taoism. As there were many different strands within neo-Confucian thought, neo-Confucianism had two conflicting implications for how scholars thought of imperial authority.

In some respects, neo-Confucianism provided a powerful source of legitimacy for the emperor. In particular, neo-Confucianism stressed the traditional Confucian emphasis on obedience to imperial authority as a natural extension of obedience to the head of the family. This was an important element of the neo-Confucian political teachings associated with the work of Zhu Xi (1130-1200), the most influential neo-Confucian scholar. Filial piety was thus used to mobilize loyalty to the state.

At the same time, however, neo-Confucianism also emphasized that the burden of ruling was the joint responsibility of the emperor and the gentry (Bary, 1983). In this respect, neo-Confucianism set limits to imperial authority. Alan Woods writes: "the ruler's authority was integrated into a rational view of the universal order that clearly transcended the position of the ruler and to which in fact the ruler himself was made subordinate" (Woods, 1995, 15). Neo-Confucian scholars established an external standard for judging rulers: "whether their actions

were guided by the moral conscience (*tian li*), 'heavenly principle' or 'universal coherence'" (Bol, 2008, 129).

The Qing encouraged the more authoritarian interpretations of neo-Confucianism based on the writings of Zhu Xi (Hung, 2011, 81). They sponsored literati who favored orthodox interpretations of neo-Confucianism. The examination system was one way in which they promoted this orthodoxy (Liu, 1990). At least two literary inquisition cases were related to either inappropriate questions or answers or the language used in the exams. Scholars have termed this interpretation of neo-Confucianism "imperial Confucianism". Qing-era neo-Confucianism advocated blind loyalty to the emperor drawing a direct analogy between it and the pure filial piety a son owed his father.

The Qing rulers used this imperial Confucianism in their propaganda. Government officials and literate members of the public were expected to read the pronouncements of the emperor. Magistrates were required to give lectures based on the *Sacred Edict* authored by the Kangxi emperor in 1670, which emphasized the importance of obedience and filial loyalty. At the village level, local gentry were also required to repeat these lectures to the ordinary population (Hung, 2011). This practice continued into the 20th century. All in all, these policies thus complemented the literary inquisitions that we have studied in this paper.

I Intellectuals and Gentry in Chinese Society

The majority of victims of the literary inquisitions were intellectuals. The intellectuals, or the gentry, refers to the class of individuals who passed imperial exams at some point in their life. The most successful examination candidates became officials and played a crucial role in governing the empire (Elman, 2000). But many others, who did not pass the highest level exams, or were not able to obtain official positions, played an important role in local society. If the gentry are defined as those individuals who passed the shengyuan-level of exams, Chang (1955) estimates that during the pre-1850 period, there were approximately 740,000 members of the gentry.

The gentry might superficially resemble the aristocracy of medieval and early modern Europe. But their status differed in important ways. First, in contrast to early modern Europe, there was no hereditary nobility or order of ranks in China (e.g. Doyle, 1992). Unlike Europe, landlords and members of the local elite did not control the local legal system, nor direct local armed forces. For their children to retain their status, they have to pass the imperial exams. This made them were particularly vulnerable to predation from the state.

Second, due to the absence of a hereditary nobility and the importance of the examination system for selection into the bureaucracy, this elite was fluid. Levels of social mobility were high for preindustrial standards (Jiang and Kung, 2015; Bai and Jia, 2016; Shiue, 2018). As a consequence, there was no sharp distinction between elites and masses. Many members of the masses would have aspired to become members of gentry and many of them indeed became so. The gentry were less a different social class, than a category that all could aspire to belong to.

Third, though there were certain minor privileges for degree-holders, members of the local elite had the same legal status as commoners: both were subject to the Qing penal code.[97]

A final defining characteristic of the gentry was that they were educated in the Confucian classics. As such, they were aware of the tensions and ambiguities in the Confucian tradition that we have discussed in Appendix 1.H.

On the one hand, Confucian scholars recognized the importance of upholding the political and social order. They taught obedience to established political authority. On the other hand,

[97]For instance, members of gentry were not allowed to possess books or material prohibited to the masses. This is in contrast to western Europe, where possession of forbidden books by elites was sometimes tolerated.

there were elements of Confucian thought that had the potential to undermine the authority of the Qing emperors because they denigrated non-Chinese as barbarians and praised the role of the emperor in subduing them. These classics emphasized that the fact that the authority of previous dynasties had partially rested on protecting the Chinese from nomadic invasion by "barbarians" like the Manchus. Earlier emperors claimed the "mandate of heaven" on the basis of their ability to secure internal peace and guard the borders against incursions from nomadic, non-Chinese people (Ma, 2011). However, now it was a non-Han people, the Manchu who ruled the Chinese.[98] Philip Kuhn writes:

> "However, cunningly the conquerors might frame the rhetoric of succession (a virtuous regime replacing a corrupt one was the conventional rhetoric of the Mandate of Heaven), there was always the danger that the symbolism of legitimate rule might be challenged by the ugly ethnic feelings: the claim that these rulers were usurpers precisely because they were outsiders" (Kuhn, 1990, 53).

It was this tension and sensitivity that drove the Qing emperors to both promote the orthodox interpretations of the classics and to persecute any deviations from ideological orthodoxy.

J Local Charities in Qing China

Our main dependent variable in the historical panel is the number of local charities at the prefecture level. Local charities provided charitable relief which included famine relief, help for the indigent, support of orphans, as well as helping widows, burying unclaimed dead, establishing soup kitchens, extending zero-interest credit, organizing fire protection, and providing refuge for the poor during winter (Tsu, 1912; Smith, 1987).

Traditionally, these services were provided within the clan, and to an extent by the state, especially during the Song dynasty. However, by the Ming and Qing periods these private local charities were no longer clan-based organizations and had expanded to provide relief to those outside of the kinship group. Confucianism did not go as far as Christianity and Islam in making charitable donations a requirement but it did elevate charitable giving as a virtue (see Tsu, 1912). William Rowe writes:

> "One of the most distinctive Qing-era expressions of the passion for organization-building was in the area of philanthropy. Turning away from Buddhist and toward orthodox Confucian ideologies to underpin this activity, Qing society clearly articulated the concept of a 'public' or 'communal' sphere, as opposed to a 'state' or 'private' sphere, as both the agent and the beneficiary of philanthropic activism" (Rowe, 2009, 119).

These developments resulted in the emergence of local elites who were "committed to a Confucian agenda of activities" and who were responsible for creating "granaries, schools, charitable estates, and village compacts" (Wong, 2000, 250).

A variety of terms are used to refer to these local charities including benevolent societies and charity halls, which reflects the fact that they were often housed in fairly simple buildings. Charities combined elements of formal and informal institutions. They drew on the voluntary contributions of local individuals. Charities did not possess complex, formalized, organizational forms. Nonetheless, they played a vital role in Chinese society. In the words of one historian, they were "locally sponsored, voluntary, and enduring" (Smith, 1987, 310). One of the main

[98] See Brook (1988, 177–178). This animosity long precedes the Qing dynasty. It was firmly established from the Song dynasty onwards (see Rossabi, 1983; Ebrey, 1991; Ge, 2004).

Figure A.3: An Orphanage in Suzhou. Wet nurses are gathered in front of the orphanage. The orphanage is located near a temple. Sources: Fuma (1986).

responsibilities of these charities was to fund and organize orphanages as illustrated in Figure A.3.

The desire to form a charitable organization or benevolent society reflected, as Rankin observes, a mixture of motives including "the wealthy elite's preoccupation with gaining merit through charity (shan) and the tendency of scholars to seek "statecraft" solutions to social problems within their home districts outside of the government" (Rankin, 1990, 30). Local elites aspired to be seen to be public-spirited, charitable, and community-minded as opposed to selfish or avaricious. The establishment of a local charity was often commemorated in a stele. Thus though the "attribution of high moral character to local elites engaged in the public sphere does not have to be taken literally", she notes that "it does reflect the reality that managers were frequently drawn from respectable, even prominent, social networks or from the ranks of upwardly mobile men seeking to solidify their local social positions by demonstrating their (sometimes new-found) capacity for public responsibility" (Rankin, 1990, 39).

Smith (1987) provide an example of how the desire to stand out led to the building of charitable societies. After the establishment of a charitable organization or benevolent society by Yang Tung-ming:

> "In the following year, 1591, thirty-one residents-virtually 'all the rich and powerful of the city' (Yang 1624, 1:9b)—so admired Yang's benevolent society that they formed a second one, which successfully sponsored medical care for the poor. Having thus 'rivaled the Society for Sharing Goodness in charitableness' this society proudly assumed the name 'Society for Spreading Humaneness' (kuang-jen hui; Yang 1624, 1:9b–10a). In summarizing the accomplishments of the two societies that graced his 'small town,' Yang observed, 'By treating one person with exceptional generosity, one can transform [the customs of] ten thousand people' (Yang 1624, 1: 12a). The distribution of wealth even in very limited amounts had, according to Yang, the power to achieve the moral integration of his community" (quoted in Smith, 1987, 312).

Among historians there is debate about the role played by the state in supporting local charities

(see Wong, 2000). Local charities were the responsibility of the local gentry, who were typically not officials. Smith notes that "The Ming-Qing institutions were based on the voluntary support of local elites, which included merchants and farmers as well as scholars and members of the gentry." (Smith, 1987, 310). Partly for this reason, scholars such as Rankin (1990) and Rowe (2009) argue that these organizations formed part of the nascent public sphere that emerged in early modern China and were separate and distinct from the state. According to Rankin (1990, 20), it was part of

> "a broader manifestation of societal public activity [that] involved all the practices of local elites in establishing, financing, and managing institutions and services considered necessary to local communities. This activity took place outside of bureaucratic frameworks and was oriented to the community as a whole rather than to any particular segment."

After 1840 local charities went through a phase of growth across China. This was in part due to local regions gaining more autonomy, and to the influence of the West. An interesting question here is: how civil society would have developed in the China in the absence of literary inquisitions. At the national level, this counterfactual is impossible to assess. But our findings suggest that local charities in affected prefectures would have followed a very different path and that the number of local charities would have been much higher for those prefectures after 1840. Given that those prefectures were quite advanced regions that had high literary and were economically developed,[99] the consequences of political repression—a stunted civil society and discouraged intellectuals—led to a much smaller role for them in national politics, despite their superior economic position.[100]

K Ethnic Identity in Qing China

Economists have documented that ethnic fractionalization is an important source of political tensions and economic underperformance in developing countries today (Easterly and Levine, 1997). Recent research further suggests that a lack of history of shared and centralized governance between groups can also be responsible for the adverse outcomes associated with the coexistence of different ethnic groups (Michalopoulos and Papaioannou, 2013; Dippel, 2014; Hao and Xue, 2017).

The Qing Empire was a conquest regime comprised of a tiny number of Manchus who were able to rule the most populous nation in the world. Han Chinese accounted for over 90% of the population across Qing China, and over 95% of the population in China proper. The Manchus spoke their own language and retained their own culture and traditions. In this subsection, we provide more detail about the role played by ethnicity in the Qing regime.

The topic of ethnicity in Qing China is subject of considerable controversy (Crossley, 1990a, 1990b, 1999; Crossley, Siu, and Sutton, 2006; Elliott, 2001; Elliott, 2006). The scholarship of the last three decades has stressed the extent to which ethnic identities are social and political constructs. Thus identities like Manchu or Han Chinese were fluid and do not correspond to racial differences. The label Manchu itself was coined to refer to the new Manchu state. The term referred to those individuals who served as bannermen for the Manchu rulers; it did not

[99] As revealed by their pretreatment characteristics before our matching exercise.

[100] But we cannot fully assess the impact of the Qing persecutions on the economically and political most advanced part of China, the Yangtze Delta region, as this is the hardest region to build a counterfactual for, due to the absence of a suitable comparison group. The region was unrivaled by any other region with regards to its economic prosperity and population density.

include all Jurchens and could include Mongols and northerners of Chinese descent who joined the Manchus early on (Elliott, 2001; Crossley, 1999).

The Qing Empire was a self-consciously multi-ethnic empire. The Qing emperor was both a Chinese emperor, and a ruler in the steppe tradition of the first Manchu leader Nurhaci, and of Genghis Khan. Philip Kuhn observed that:

> "The rhetoric employed by the Manchu rulers displayed both the cosmopolitanism of the universal empire and the narrow defensiveness of the ethnic minority. As a minority people ruling a great empire, the Manchu minority had to have it both ways: they had to express their superiority in both a cosmopolitan mode and an ethnic mode. Both were needed to solve the regime's basic problem: how to rule the universal empire as a legitimate dynastic house, and still preserve the coherence and élan of the conquest elite" (Kuhn, 1990, 60).

These tensions were particularly acute during the Manchu take-over of China. Large numbers of Chinese "turncoat" or "collaborators" joined the Qing during the 1620s through to the 1640s; they are described as "special wards to be 'nourished' by the state" (Wakeman, 1985a, 70). Many Chinese joined Manchu banner troops or served them as slaves or servants. Individuals in Liaodong for example—a Chinese-speaking area north of the Great Wall served in both the Ming and the Qing armies in the 17th century. They were able to smoothly transition from an allegiance to the Ming state to the Qing precisely because of their shared history and geographic and cultural proximity to the Jurchen people. Nevertheless, tensions between Manchu and Chinese identities remained potent. These tensions moved into the background once Qing rule was stabilized in the 1650s, but never receded completely.

L Comparison with the Spanish Inquisition

Vidal-Robert (2014) studies the long-run impact of the Spanish Inquisition in premodern Spain. He finds that the Spanish Inquisition reduced population growth in early modern Spain. The Spanish Inquisition, however, was very different to the Qing literary inquisitions despite the superficial similarity evoked by the common word "inquisition". The main target of the Spanish Inquisition, in its initial, and most intense phase, were converted Jews (and their descendants) (Kamen, 1985; Netanyahu, 1995; Rawlings, 2006). Subsequently, the Inquisition targeted homosexuals, bigamists, and social outsiders. As such, we would not necessarily expect it to have the same impact as the Qing-era persecutions.

In contrast, aspects of the literary inquisitions do have a parallel in persecutions conducted by the Roman inquisition of the writers, scientists, doctors, and intellectuals in the 16th and 17th century. Like the Qing literary inquisitions, these involved relatively small numbers of individuals, but they did have a major impact on intellectuals and writers in Catholic Europe (Anderson, 2015).

2 A Signaling Model of Political Persecutions

To build intuition for our analysis, we sketch a simple signaling model of political persecutions in Qing China. This model abstracts from many features of the real world in order to deliver simple results that accord with the historical facts detailed above.

A Setup

Consider a simple signaling model of persecutions. There are two types of players: a ruler and a representative member of the population. Since our focus is on the role of persecutions in

influencing the beliefs of the population rather than on the ability of citizens to coordinate among themselves, we model the population as a single entity represented by one agent. A more general model could draw on the literature on global games to incorporate the coordination problem facing individuals in deciding whether to rebel against the emperor.[101] This is not the focus of our analysis here.

The ruler is endowed with strength $\theta_i \in \{S, W\}$, that is, he can be strong (S) or weak (W). This strength refers to the ruler's ability to maintain social control and capacity to enforce political order, hence $1 > S > W > 0$. Δ measures the perceived legitimacy of the regime. A regime that is perceived as more legitimate can more easily survive challenges. For the purpose of studying premodern China, one can think of legitimacy as a trait that pertains to dynasties as much as a particular emperor. Δ is common knowledge.[102] Therefore, when the ruler faces a rebellion by the citizen, he will survive with probability $S + \Delta$ if his strength is S, and survive with probability $W + \Delta$ if his strength is W. We call the type S ruler a strong ruler and the type W ruler a weak ruler. The ruler's strength is private information. We label a ruler who is both illegitimate and strong as despotic.

The citizen has a prior belief that the ruler's type, θ, is S with probability π and W with probability $1 - \pi$. If the ruler stays in power, he obtains 1. To make the analysis as simple as possible, assume that the cost of suppressing a rebellion reflects the resources and capability of the regime and has therefore been incorporated into the probability of surviving the rebellion.

We focus on the role political persecutions can play in signaling strength. The ruler can choose how many individuals to persecute. The cost of persecuting for a type θ ruler is $c(p, \theta)$, where both the total and marginal cost of persecutions are increasing, and both total and marginal costs are lower for the strong type, S. The twice differentiable cost function satisfies $c_p(0, \theta) = 0$, $c_p(p, \theta) > 0$, $c_{pp}(p, \theta) > 0$, and $c_p(p, W) > c_p(p, S)$. It is easier for a strong ruler to both persecute a given number of individuals and to persecute more individuals. This is the canonical single crossing condition.

This assumption can be interpreted in terms of the administrative capacity of a regime. A regime that has higher state capacity can more easily carry out persecutions than can a weak ruler. Alternatively, another interpretation of the single crossing condition is that though costly, persecutions make a strong regime more stable while for a weak regime they make it less stable.

The individual citizen can choose action $a \in \{0, 1\}$, where $a = 0$ refers to not rebelling and and $a = 1$ to rebelling against the emperor. If the citizen rebels, they pay a cost of r regardless of the outcome of the rebellion. If the rebellion is successful, the citizen obtains a benefit of b. We normalize the utility of living under the current regime to 0. We could include the direct cost of persecutions (i.e. the risk of being persecuted oneself), but this complicates our notation without substantively affecting analysis.

The utility of the ruler is denoted by $U_R(\theta)$ while the utility of the citizen is denoted by $U_c(\theta)$

[101] Recently global games have been used to study revolutions (see Edmond, 2013).

[102] Δ is also unaffected by a ruler's actions. Therefore, in our model it is not possible for "too many" persecutions to "delegitimatize" the ruler. This extension could be easily added at the cost of additional notation by modifying the cost function.

as follows:

$$U_R(\theta) = \begin{cases} 1 - c(p, \theta), & \text{if } a = 0; \\ \theta - c(p, \theta) & \text{if } a = 1. \end{cases} \tag{3}$$

$$U_c(\theta) = \begin{cases} 0, & \text{if } a = 0; \\ b(1 - \theta - \Delta) - r & \text{if } a = 1. \end{cases} \tag{4}$$

The timing of the game is as follows:

1. Nature determines the ruler's type θ and the value of Δ and r.
2. The ruler decides how many individuals to persecute.
3. After observing the number of persecutions, the citizen will decide to rebel based on his beliefs about the strength of the ruler.
4. Payoffs are realized.

B EQUILIBRIUM

As this is a game of asymmetric information, the solution concept is a Perfect Bayesian Nash Equilibrium (PBE). There are several cases to consider.

Case 1 Suppose Δ is greater than $1 - W - \frac{r}{b}$ (case 1). In this case, the regime is perceived as legitimate and both weak and stronger rulers are safe from rebellion. There is no incentive for either ruler type to engage in political persecutions. There is a trivial pooling equilibrium.

Case 2 Consider the case where Δ is uniformly distributed on $[1 - S - \frac{r}{b}, 1 - W - \frac{r}{b},]$. Hence there will be a rebellion against a ruler who is known to be weak. If the citizen is unable to tell whether a ruler is strong or weak, the citizen will rebel if r is lower than $\pi b(1 - S - \Delta) + (1 - \pi)b(1 - W - \Delta)$ and not rebel otherwise. This means that the probability of rebellion is $1 - \pi$.

Case 3 If Δ or r are such that $1 - S - \frac{r}{b}$, then both strong and weak regimes types face a rebellion and neither have an incentive to engage in political persecutions. There is a trivial pooling equilibrium.

We focus on Case 2 as this is the most relevant scenario for our historical setting. Consider the following candidate equilibrium: The citizen rebels if he observes the ruler's type is W, and does not rebel if he observes the ruler's type is S. Since in this equilibrium the weak ruler's type is revealed, there is no point in persecuting, and hence it will choose $p = 0$. Let the equilibrium number of persecutions conducted by the strong ruler be p^*. It has to be the case that the weak ruler prefers to face the risk of rebellion associated with being perceived as weak and obtain $(W - \Delta)$ than to pass as strong and persecute p^* individuals. To ensure that there are no deviations from these strategies, the following conditions need to both hold:

$$\begin{aligned} U_R^*(S) &= 1 - c(p^*, S) \geq S - \Delta \, ; \\ U_R^*(W) &= W - \Delta \geq 1 - c(p^*, W) \, . \end{aligned} \tag{5}$$

To ensure that there is indeed no incentive to deviate from this candidate equilibrium, define $\underline{p}$ implicitly as satisfying: $1 - c(\underline{p}, W) = W$ as the number of persecutions at which a weak ruler is

indifferent between persecuting and attempting to pass as a strong ruler and not persecuting and being known to be weak. Define $\overline{p}$ as satisfying $1 - c(\overline{p}, S) = S$. $\overline{p}$ is the maximum number of persecutions a strong government is willing to engage in and be known as strong. At $\overline{p}$, a strong ruler is indifferent between engaging in no persecutions and being perceived to be weak. The equilibrium level of persecutions in the separating equilibrium p^* can correspond to any level of persecutions between $\underline{p}$ and $\overline{p}$ if it is supported by the following beliefs:

$$\mu(\theta_S) = \begin{cases} 0 & \text{if } p < p^* \ ; \\ 1 & \text{otherwise} \ . \end{cases}$$

Together these form a PBE. Observe that though any value of p^* between $\underline{p}$ and $\overline{p}$ can support a separating equilibrium, the only value of p^* consistent with the intuitive criterion is $p^* = \underline{p}$. Hence we can establish the following.

Proposition 1. *For values of $\Delta \in [(1 - S - \frac{r}{b}), (1 - W - \frac{r}{b})]$, there is a unique separating PBE that satisfies the Intuitive Criterion, in which the strong ruler chooses a level of persecutions that solves $1 - c(p^*, W) = W$ and the weak ruler chooses no persecutions ($p = 0$). The citizen will not rebel if the observed level of persecution is p^* or higher, and rebel otherwise.*

No pooling equilibrium can satisfy minimal restrictions on out-of-equilibrium beliefs. In a pooling equilibrium, the citizen cannot tell whether the ruler is strong or weak from the number of individuals it persecutes, and so treats the ruler as being weak with probability $1 - \pi$. Suppose the two types of ruler pool at p^*, their payoffs are then respectively

$$U_g^*(S) = \pi + (1 - \pi)(S - \Delta) - c(p^*, S) \ ; \tag{6}$$

$$U_R^*(W) = \pi + (1 - \pi)(W - \Delta) - c(p^*, W) \ . \tag{7}$$

Let $\tilde{p}$ be the highest number of persecutions a weak ruler will carry out in a pooling equilibrium: $\pi + (1 - \pi)(W - \Delta) - c(\tilde{p}, W) = (W - \Delta)$. The following beliefs support persecutions in a pooling equilibrium for any $p^* \in [0, \tilde{p}]$;

$$\mu(\theta_S) = \begin{cases} \pi & \text{if } p = p^* \\ 0 & \text{otherwise} \ . \end{cases}$$

This can be part of a PBE but it requires unappealing out of equilibrium beliefs. More formally, it can be shown that no pooling equilibrium survives the Intuitive Criterion. Define p' which is greater than p^* by:

$$\pi + (1 - \pi)(W - \Delta) - c(p^*, W) = 1 - c(p', W) \ ,$$

where p' is the highest number of persecutions that a weak ruler is willing to engage in if it is mistaken for a strong ruler. But if this is the case, then a ruler who is strong will benefit from deviating to p'. Thus this pooling equilibrium fails the intuitive criterion because it requires the citizen believing that only weak and not strong rulers would deviate to p'.[103]

[103] To see this, note that the pooling equilibrium requires a citizen to believe that any ruler to deviates from p^* to $p^{'} > p^*$ is weak. However, strong rulers have a greater incentive to deviate to p' if

$$\pi + (1 - \pi)(S - \Delta) - c(p^*, S) < 1 - c(p', S) \ .$$

which is equivalent to:

$$c(p^*, W) - c(p^*, S) < c(p', W) - c(p', S) \ .$$

and hence always holds as $p' > p^*$ and $c(p, S) < c(p, W)$.

Proposition 1 gives rise to the following corollaries:

Corollary 1. *Persecutions are more likely when the legitimacy of the dynasty is questionable (Δ is low).*

In our model persecutions are not responses to either realized threats or to other shocks. They are a way to signal the strength of the ruler. This observation is consistent with the history of Qing dynasty. The Qing dynasty was strong in the 18th century. It faced no significant external threats or major rebellions during the 18th century (certainly not until the White Lotus Rebellion (1794–1805) which took place at the end of the century, after the period of literary inquisitions). The emperors in this period used literary inquisitions to deter the smallest hint of opposition.

Corollary 2. *Despotic rulers are mostly likely to use persecutions. This follows from Corollary 1 and from the fact that in equilibrium weak rulers did not use persecutions.*

This accords with the historical evidence. Literary inquisition took place during the High Qing period. The Kangxi emperor, the Yongzheng emperor, and the Qianlong emperor were amongst the most powerful and successful rulers in Chinese history. The emperors who followed them, the Jiaqing emperor (r. 1796-1820), the Daoguang emperor (r. 1820-1850), and the Xianfeng emperor (r. 1850-1861) were notably weaker and less successful rulers and they did not engage in persecutions.

Corollary 3. *In the absence of open opposition, political persecutions are necessarily indiscriminate.*

In our model there is only a single actor so it follows by definition that persecutions are indiscriminate. The important observation is that in equilibrium there is no open opposition. Hence the emperor is not able to selectively target enemies for persecution and instead relied on inquisitions to signal his ability to seek out and crush any potential opposition.

This is consistent with the historical evidence. As we note in the main text, in the absence of open opposition their targets invariably appear indiscriminate.

Finally, note that our model is intended to rationalize political repression in a premodern state. Even a *relatively* high capacity premodern state like 18th century Qing China was not comparable to a modern state in terms of its ability to monitor individual behavior or conduct wholesale purges.

3 Empirical Appendix

In this appendix we first present our summary statistics (Section A) before explaining in detail our matching and sample construction procedures (Section B). We go on to describe a host of robustness checks for our historical panel (Section C) and then for our long-run analysis (Section D). In Section E we provide further details on the main dependent variables used in our analysis. In Section F we provide information on our main control variables.

A Summary Statistics

We provide summary statistics for our historical panel in Table A.2. Summary statistics for our 20th century analysis are presented in Table A.3.

Table A.2: Summary Statistics for the Historical Panel

Variable	Mean	Std. Dev.	Min.	Max.	N
Literary Inquisition	0.077	0.267	0	1	1417
# Local Charities	2.679	4.218	0	30	1417
# Reputable Individuals Aged 15 to 30	2.476	4.819	0	51	1417
# Reputable Individuals Aged 31 to 45	2.2	4.283	0	46	1417
# Reputable Individuals Aged 46 to 60	2.13	4.11	0	42	1417
# Government-Sponsored Academies	6.809	5.647	0	29	1417
	Time-Invariant Controls				
Log Population Density in 1600	3.498	0.922	1.364	5.37	109
Agricultural Suitability	4.009	1.63	2	8	109
Ruggedness	4.532	3.102	0.103	15.552	109
Longitude	113.729	4.243	102.71	121.099	109
Latitude	31.088	5.317	20.008	40.966	109
# Ming Jinshi	75.761	83.965	1	533	109
# Ming Academies	4.156	3.885	0	17	109
# Local Charities in 1700	0.459	1.093	0	7	109
# Buddhist Temples in 1700	9.477	7.544	0	60	109
# Funding Agencies in 1700	0.275	1.193	0	11	109
Linguistic Fragmentation Index	0.104	0.177	0	0.699	108
1st Principal Component of Initial Social Capital	0.241	1.119	-0.919	4.639	109
Urbanization (1393)	8.549	7.475	0	59.1	75
On Grand Canal/Yangtze	0.862	0.346	0	1	109
Distance to the Nearest Imperial Courier Route	39.934	73.875	0	402.712	109
# Conflicts 1644 to 1690	2.606	2.832	0	13	109
# Ming Loyalists	1.193	3.105	0	24	109
Distance to Beijing	1017.389	555.199	0	2255.115	109
Shengyuan Quota	115.269	56.739	37	422	108
	Time-Varying Controls				
Disaster Intensity	0.611	0.266	0	1.4	1339
# Conflicts	0.045	0.257	0	4	1308
Disaster Relief	4.123	9.738	0	104	1404
Tax Relief	9.092	16.855	0	162	1391
# Jinshi	3.715	6.183	0	70	1417

Table A.3: Summary Statistics for Analysis of Basic Education in the Early 20th Century

Variable	Mean	Std. Dev.	Min.	Max.	N
Literate	0.153	0.36	0	1	72659
Literary Inquisition	0.139	0.348	0	1	72
	Individual Controls				
Secondary Education	0.027	0.162	0	1	72659
Higher Education	0.003	0.05	0	1	72659
Female	0.603	0.489	0	1	72659
# Married Couples in Household	0.851	0.686	0	6	72659
Single	0.012	0.11	0	1	72659
Married	0.331	0.47	0	1	72659
Separated/Divorced	0.006	0.075	0	1	72659
Widowed	0.651	0.477	0	1	72659
Unknown/Missing	0	0.004	0	1	72659
	Contemporary Characteristics				
Population 1982	4227607	3584138	221621	22677512	72
% Manchu	14.681	78.822	0	667	72
% Over 65	4.977	0.769	2.767	6.4	72
	Historical and Geographical Characteristics				
Agricultural Suitability	4.056	1.618	2	7	72
Coastal	0.167	0.375	0	1	72
Ruggedness	4.349	3.153	0.11	13.071	72
Distance to Beijing	949.489	581.09	0	2255.114	72
Population Density 1820	762.612	586.222	13.378	3118.766	72
Per Capita Taxation in 1820	0.088	0.065	0.016	0.316	72
Shengyuan Quota (per 10,000)	0.929	0.651	0.285	3.979	72
Jinshi Density (1366-1905)	1.256	1.512	0.145	10.252	72
Distance to Nearest Imperial Courier Route	35.918	71.502	0	356.48	72
On Grand Canal/Yangtze	0.139	0.348	0	1	72
Treaty Port	0.083	0.278	0	1	72
Transportation Center (Chong)	0.75	0.436	0	1	72
Business Center (Fan)	0.694	0.464	0	1	72
Difficult to Tax (Pi)	0.222	0.419	0	1	72
High Crime (Nan)	0.667	0.475	0	1	72
Cultural Rev. Deaths p.c. (V1)	20.306	41.584	0	205.25	72
Cultural Rev. Deaths p.c. (V2)	85.758	96.715	0	593.75	72
Occupied by Taiping Troops	0.097	0.298	0	1	72
Months Occupied by Taping Troops	3.743	17.936	0	135.426	72

B Matching, Balancedness, and Data Construction

Our empirical strategy utilizes a matching approach. This approach is vital in our setting as a difference-in-differences approach requires the parallel trend assumption. This states that in the

Table A.4: Number of Cases by Province

	Number of Affected Prefectures	Number of Cases
Anhui	4	7
Fujian	4	4
Gansu	1	1
Guangdong	3	3
Guangxi	2	4
Henan	2	2
Hubei	5	7
Hunan	6	10
Jiangsu	5	12
Jiangxi	6	10
Shandong	3	4
Shanxi	5	5
Zhejiang	7	11
Zhili	4	4
Total	57	84

This table depicts the distribution of literary inquisition cases across provinces. There are a total of 86 cases, two of which cannot be assigned to a specific province.

absence of treatment, average outcomes for the treated and control groups would have followed parallel trends over time (Abadie, 2005). Matching creates a control pool which is similar to the treated group (Heckman, Ichimura, and Todd, 1997; Heckman, Ichimura, and Todd, 1998; Blundell and Monica, 2000; Dehejia and Wahba, 2002; Blundell and Dias, 2009).[104]

The heterogeneity in our units of observations is evident in Table A.6 which depicts the balance of economic, geographical, and human capital fundamentals across treated and untreated prefectures before and after matching. First, we exclude frontier regions that experienced rapid in-migration during the Qing period. Nevertheless, differences in observables remain, however (Table A.6.(b)). Next, we match our prefectures on a range of covariates using propensity score matching.

We generate a propensity score for each prefecture by estimating:

$$Prob(\text{Literary Inquisition}_i = 1) = F(X_i) \ , \tag{8}$$

where $Prob$ is the probability that a prefecture experienced a literary inquisition case and X_i is our vector of covariates.

We employ a parsimonious set of matching covariates. These include geographical variables such as ruggedness and agricultural suitability and economic variables such as Skinner's socioeconomic macroregions, the log of population in 1600 and the number of Ming jinshi, a measure of a prefecture's human capital stock (Table A.5). The number of Ming jinshi is a key predictor of literary inquisition cases. The variable alone accounts for a R^2 of 0.165.

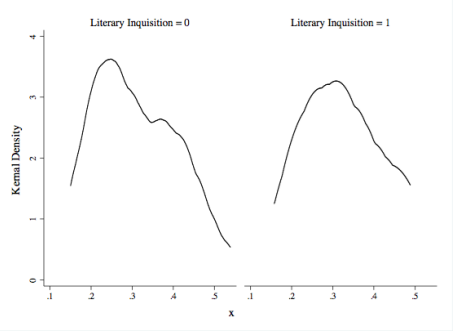
[104] A matching approach is appropriate in our context. A paper in economic history that employs this method is Dittmar (2011). Also see Voigtländer and Voth (2012) and Squicciarini and Voigtländer (2015) for other examples of this approach.

Table A.5: Coefficients of Matching Covariates

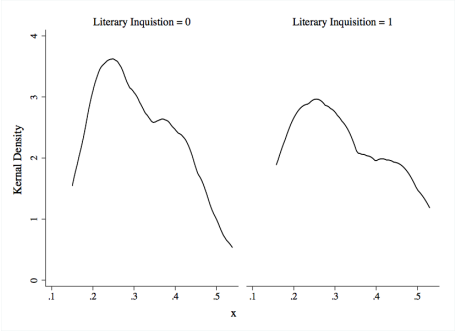
Covariate		Covariate	
# Ming Jinshi	0.0663**	North China	0.0129
Agricultural Suitability	-0.0185	Northwest China	0.263
Log Population Density in 1600	0.0450	Upper Yangtze	0.207*
# Imperial Courier Routes	0.0203	Middle Yangtze	0.256**
Ruggedness (2nd quartile)	0.116	Lower Yangtze	0.158
Ruggedness (3rd quartile)	0.0783	Southeast Coast	0.115
Ruggedness (4th quartile)	0.00522	Lingnan	0.0454

This table reports the coefficients of matching covariates. The omitted categories are the first quartile of ruggedness and Northeast China. There are 217 observations. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

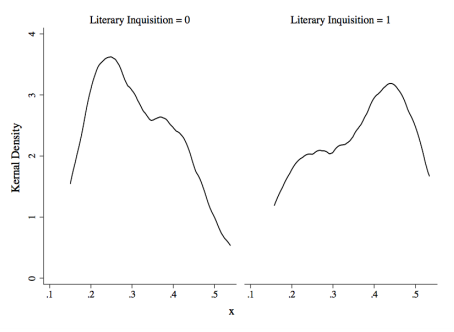
Figure A.4: Propensity Score Matching: Varying Caliper Width



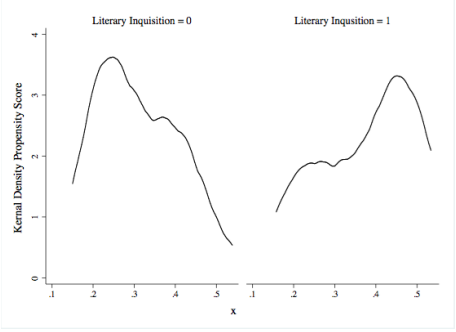
(a) Caliper of 0.001 width.



(b) Caliper of 0.002 width.

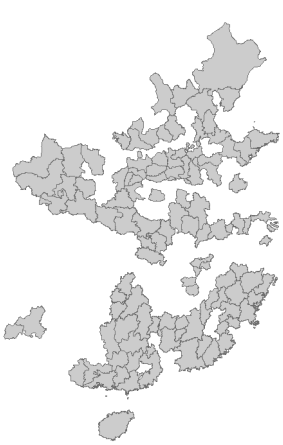


(c) Caliper of 0.005 width.

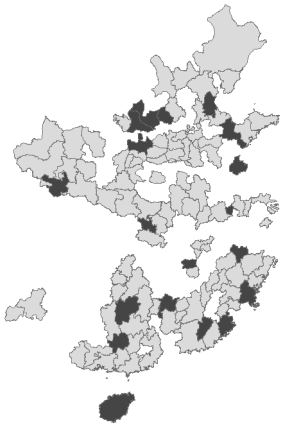


(d) Caliper of 0.01 width

Figure A.5: Prefectures in the Matched Sample



(a) The Matched Sample



(b) Treated Prefectures on the Matched Sample

We use a relatively tight caliper (=0.002). A tight caliper has been shown to reduce bias and produce closer matches (Lunt, 2014). The distribution of propensity scores for treated and untreated prefectures are similar (Figure A.4.a and Figure A.4.b). Increasing the caliper width would produce more biased estimates, according to Lunt (2014). In addition, as shown in Figure A.4.c and Figure A.4.d, the distribution of treated and untreated prefectures are no longer similar to each other.

After matching, as Table A.6.(c) indicates, we obtain a balanced sample.[105] The matched sample is also balanced in terms of other pre-treatment characteristics (Table A.7).

B.1 Coarsened Exact Matching (CEM)

In addition to propensity score matching, we employ Coarsened Exact Matching (CEM) (Iacus, King, and Porro, 2011) for robustness. CEM bounds the degree of imbalance between treated and control groups and automatically restricts the data to the area of common support. CEM does not specify any structure on the covariates. Hence, it minimizes the problem of model dependence. When we employ CEM, our sample becomes smaller (31 prefectures). Our estimates become slightly less precise, but coefficient estimates remain comparable in magnitude (Table A.8).

B.2 The Nature of Gazetteer Data

Our charity data (Liang, 2001) are largely based on local gazetteers. Gazetteers were complied by local gentry. They typically contain information about local affairs including local temples, information about what goods are produced in a region, famous individuals, and notable geographical features. Some prefectures have far more gazetteers from the Qing period than others. Also, gazetteers in some prefectures might have been be more likely to have survived than in others. Differences in gazetteer availability might cause some prefectures to have better data on charities than others prefectures. In a difference-in-differences setting, those prefectures without many gazetteers to record information on charities, might just not have much variation to exploit.

We show in Table A.9 that this is not an issue for our matched sample. There is no discernible difference in the number of county-level or prefecture-level gazetteers, between prefectures affected by literary inquisitions and those unaffected.

B.3 Linking the Past to the Present

To conduct our 20th century analysis, we match the administrative units of the Qing dynasty to modern day administrative boundaries. There have been numerous boundaries changes since the end of the Qing in 1911. As the Qing persecutions treatment is an indicator variable, it is not appropriate to assign it to a modern prefecture based on a proportional rule. Instead, we assign the treatment to a modern prefecture when it overlaps with a historical prefecture by at least 75%. Following this approach, the percentage of the prefectures that are treated is fairly close to the percentage of the treated in the historical sample.[106]

[105] Note that matching reduces the number of treated prefectures from 57 to 19. Of course some treated and untreated prefectures are fundamentally different in their stock of human capital. As a result, there is no natural control group for some of the most economically developed, prosperous, and highly educated prefectures in our sample.

[106] We have experimented with alternative rules, such as matching prefectures that overlap by any positive amount or by at least 50%. It results in vastly different sized treatment groups across our historical and our contemporary samples.

Table A.6: Balancedness of the Sample: Matching Covariates

	(a) Before Matching				
	No Literary Inquisition		Literary Inquisition		
Variables	Obs.	Mean	Obs.	Mean	Diff. in Means
# Ming Jinshi	208	2.652	57	4.544	-1.892***
Agricultural Suitability	208	3.760	57	4.368	-0.609**
Log Population Density in 1600	208	12.462	57	13.273	-0.811***
# Imperial Courier Routes	208	1.957	57	2.825	-0.868***
Ruggedness	208	5.915	57	4.176	1.739***
Northeast China	208	0.000	57	0.000	0.000
North China	208	0.125	57	0.140	-0.015
Northwest China	208	0.159	57	0.088	0.071
Upper Yangtze	208	0.096	57	0.018	0.079*
Middle Yangtze	208	0.130	57	0.211	-0.081
Lower Yangtze	208	0.101	57	0.246	-0.145***
Southeast Coast	208	0.058	57	0.140	-0.083**
Lingnan	208	0.115	57	0.158	-0.043
Other Regions	208	0.000	57	0.000	0.000
	(b) Before Matching, Exclu. Frontier				
	No Literary Inquisition		Literary Inquisition		
Variables	Obs.	Mean	Obs.	Mean	Diff. in Means
# Ming Jinshi	161	2.831	56	4.539	-1.707***
Agricultural Suitability	161	3.733	56	4.357	-0.624**
Log Population Density in 1600	161	12.444	56	13.281	-0.837***
# Imperial Courier Routes	161	2.037	56	2.857	-0.820***
Ruggedness	161	5.492	56	4.159	1.333**
Northeast China	161	0.000	56	0.000	0.000
North China	161	0.161	56	0.143	0.019
Northwest China	161	0.205	56	0.089	0.116*
Upper Yangtze	161	0.037	56	0.018	0.019
Middle Yangtze	161	0.137	56	0.214	-0.078
Lower Yangtze	161	0.093	56	0.232	-0.139***
Southeast Coast	161	0.075	56	0.143	-0.068
Lingnan	161	0.149	56	0.161	-0.012
Other Regions	161	0.000	56	0.000	0.000
	(c) After Matching				
	No Literary Inquisition		Literary Inquisition		
Variables	Obs.	Mean	Obs.	Mean	Diff.in Means
# Ming Jinshi	90	3.786	19	3.828	-0.042
Agricultural Suitability	90	-4.944	19	-5.211	0.266
Log Population Density in 1600	90	12.946	19	12.882	0.065
# Imperial Courier Routes	90	2.400	19	2.263	0.137
Ruggedness	90	4.452	19	4.909	-0.457
Northeast China	90	0.000	19	0.000	0.000
North China	90	0.189	19	0.105	0.084
Northwest China	90	0.144	19	0.211	-0.066
Upper Yangtze	90	0.022	19	0.053	-0.030
Middle Yangtze	90	0.167	19	0.105	0.061
Lower Yangtze	90	0.133	19	0.105	0.028
Southeast Coast	90	0.122	19	0.158	-0.036
Lingnan	90	0.189	19	0.263	-0.074
Other Regions	90	0.000	19	0.000	0.000

This table reports differences between prefectures which experienced inquisitions and those that did not regarding their pre-treatment covariates. “Other Regions” refers to prefectures outside of Skinner’s socioeconomic macroregions.

Table A.7: Balancedness of the Sample: Other Pre-Treatment Characteristics

	(a) Before Matching				
	No Literary Inquisition		Literary Inquisition		
Variables	Obs.	Mean	Obs.	Mean	Diff. in Means
# Local Charities by 1700	226	0.221	57	0.789	-0.568***
# Reputable individuals by 1700	226	13.186	57	52.421	-39.235***
Population Density in 1580	109	0.065	47	0.114	-0.049**
Urban Population in 1393	101	47.201	46	72.357	-25.156
# Buddhist Temples by 1700	226	6.960	57	12.491	-5.531***
# Funding Agencies by 1700	226	0.044	57	0.088	-0.043
#Conflicts 1644–1690	226	2.106	57	3.175	-1.069**
# Ming Academies	205	2.576	57	6.450	-3.875***
# Ming Loyalists	226	0.770	57	3.860	-3.090***
Linguistic Fragmentation Index	203	0.080	57	0.107	-0.027
	(b) Before Matching, Exclu. Frontier				
	No Literary Inquisition		Literary Inquisition		
Variables	Obs.	Mean	Obs.	Mean	Diff. in Means
# Local Charities by 1700	161	0.292	56	0.786	-0.494***
# Reputable individuals by 1700	161	17.348	56	52.661	-35.313***
Population Density in 1580	89	0.069	46	0.114*	-0.045**
Urban Population in 1391	82	53.434	45	73.484	-20.050
# Buddhist Temples by 1700	161	7.913	56	12.518	-4.605***
# Funding Agencies by 1700	161	0.062	56	0.089	-0.027
#Conflicts 1644–1690	161	2.404	56	3.161	-0.757
# Ming Academies	157	2.904	56	6.440	-3.536***
# Ming Loyalists	161	1.037	56	3.929	-2.891***
Linguistic Fragmentation Index	157	0.091	56	0.099	-0.008
	(c) After Matching				
	No Literary Inquisition		Literary Inquisition		
Variables	Obs.	Mean	Obs.	Mean	Diff.in Means
# Local Charities by 1700	90	0.46	19	0.474	-0.018
# Reputable individuals by 1700	90	19.93	19	19.579	0.354
Population Density in 1580	64	0.07	13	0.066	0.005
Urban Population in 1393	62	50.58	13	63.338	-12.763
# Buddhist Temples by 1700	90	9.778	19	8.05	1.725
# Funding Agencies by 1700	90	0.22	19	0.526	-0.304
#Conflicts 1644–1690	90	2.86	19	1.421	1.435**
# Ming Academies	90	5.94	19	5.316	0.629
# Ming Loyalists	90	1.13	19	1.474	-0.34
Linguistic Fragmentation Index	89	0.104	19	0.104	0

This table reports differences between prefectures which experienced inquisitions and those that did not regarding pre-treatment characteristics that are not used in the matching procedure. The initial levels of our dependent variables: the number of charities and the number of reputable individuals are included.

Table A.8: Historical Panel: Coarsened Exact Matching (CEM)

	# Local Charities		
	(1)	(2)	(3)
Literary Inquisition	-1.047^{+}	-1.047^{+}	-1.015*
	(0.625)	(0.699)	(0.534)
Bootstrapped SE	No	Yes	No
CEM Weights	No	No	Yes
Baseline Controls $\times$ FE	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes
N. of Periods	13	13	13
Observations	403	403	403
Adjusted R^2	0.778	0.272	0.381

This table reports difference-in-differences estimates of the effect of literary inquisitions on the number of local charities on a sample of prefectures produced by Coarsened Exact Matching. We are left with 31 prefectures after using this matching algorithm. Baseline controls include the number of Ming jinshi, log population density in 1600, latitude and longitude, and socioeconomic macroregion fixed effects. In all columns we use the same controls as in column 3 of Table 2. Column 2 reports bootstrapped standard errors. Column 3 reports DID estimates weighted by CEM weights. Robust standard errors are clustered at the prefecture level and are reported in parentheses. $^{+}$ $p < 0.15$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.9: Gazetteer Data

	No Literary Inquisition		Literary Inquisition		
Data Source	Obs.	Mean	Obs.	Mean	Diff. in Means
1. All Gazetteers (CBDB)	90	7.989	19	7.000	0.989
2. All Gazetteers (FZK)	90	8.067	19	8.421	-0.354
3. Prefecture-Level Gazetteers (FZK)	90	1.822	19	1.684	0.138
4. County-Level Gazetteers (FZK)	90	6.244	19	6.737	-0.492

This table shows that prefectures with or without literary inquisitions have a similar number of gazetteers from the Qing period. Measure 1 includes all gazetteers used by the Chinese Biographical Database (CBDB). Measure 2 includes all gazetteers included in zhongguo fangzhi ku (FZK). Measure 3 includes all prefecture-level gazetteers in FZK. Measure 4 includes all county-level gazetteers in FZK.

Table A.10: Historical Panel: The Impact of Literary Inquisitions on Reputable Individuals

	# Reputable Individuals		
	15–30 Years Old	31–45 Years Old	46–60 Years Old
	(1)	(2)	(3)
Mean of Dep. Var.	2.476	2.2	2.13
Literary Inquisition	-0.903*	-0.563	-0.508
	(0.468)	(0.493)	(0.483)
Jinshi	Yes	Yes	Yes
Initial Pop. Density × Decade FE	Yes	Yes	Yes
Ming Jinshi × Decade FE	Yes	Yes	Yes
Latitude/Longitude × Decade FE	Yes	Yes	Yes
Socioeconomic Macroregion × Decade FE	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes
N. of Periods	13	13	13
Observations	1417	1417	1417
Adjusted R^2	0.857	0.844	0.815

This table reports difference-in-differences estimates of the effect of literary inquisitions on the number of reputable individuals. From columns 1 to 3, the dependent variables are the number of reputable individuals who were aged between 15–30, 31–45 and 46–60. All columns includes jinshi by decade, log population density in 1600, the number of Ming-era jinshi, latitude and longitude interacted with decade fixed effects, as well as socioeconomic macroregion, prefecture and decade fixed effects. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

B.4 Reputable Individuals

First, we establish that persecutions had a short-run effect on the number of individuals becoming well-known in an affected prefecture. Depending on the specification, our outcome variable is the number of reputable individuals in a certain age group in a decade. From columns 1 to 3, our outcome variables are the number of individuals aged 15 to 30, the number of individuals aged 31 to 45, and the number of individuals aged 46 to 60, respectively. For consistency, we use an estimating equation as close to what is used in Section III.B as possible:

$$\text{\# Reputable Individuals}_{p,d} = \beta \text{Literary Inquisition}_{p,d} + \mathbf{X}_p' \mathbf{\Lambda}_d + \mathbf{\Omega}_p + \mathbf{\Lambda}_d + \epsilon_{p,d} \,, \tag{9}$$

where subscript p represents a prefecture and d, a decade. Literary Inquisition$_{p,d}$ is an indicator variable that becomes equal to one in the decade following the first literary inquisition case in prefecture p and decade d.[107] Prefecture fixed effects, $\mathbf{\Omega}_p$, absorb time-invariant prefecture-specific characteristics. Decade fixed effects, $\mathbf{\Lambda}_d$, flexibly capture common shocks. d is from 1700 to 1820. We include interactions between decade fixed effects and a range of time-invariant controls ($\mathbf{X}_p'$) to account for differential economic and political trends across prefectures.

To examine the effects of the first literary inquisition, we look at different age cohorts of reputable individuals. All specifications include decade and prefecture fixed effects and we interact

[107]For robustness, we also allow our treatment to turn on during the same decade as the occurrence of the first literary inquisition case. Results are similar in both sign and magnitude.

decade fixed effects with the log of the population of a prefecture in 1600, the number of Ming examination candidates (jinshi) during the Ming dynasty, Skinner's socioeconomic macroregion fixed effects, and latitude and longitude. We also control for the number of jinshi who obtained their degrees during that decade.

We expect to find a larger impact of literary inquisitions on those cohorts whose chance of becoming reputable was liable to be affected by the impact of an inquisition case ("more liable to be affected"). Consistent with this, we find a negative effect of literary inquisitions on individuals aged between 15–30 in the decade in which an inquisition took place (column 1). Exposure to literary inquisitions resulted in a 36% ($-0.36 = -0.903 \div 2.476$) decline in the number of reputable individuals in subsequent decades. When we turn on the treatment during the same decade as the first literary inquisition case, the coefficient estimate in column 1 is statistically significant and of a similar magnitude (-0.883).

Then we turn to older cohorts. Older individuals had probably produced their main work by the time of the shock and were already well-known. Compared to individuals aged between 15-30, they were "less liable to be affected". For older cohorts, the signs are negative, but the coefficient estimates are smaller and imprecisely estimated (columns 2 and 3). The coefficient estimate takes on the same sign and is of a similar magnitude for respective columns, when we turn on the treatment during the same decade as the first literary inquisition case.

As we do not observe the actual timing of an individual becoming reputable, we rely on their age as an approximation. Note that our aged-based categorization is necessarily imperfect: some individuals aged over 30 in the decade of a persecution may not yet have achieved whatever accomplishments made them reputable. To the extent that this is the case, we may be underestimating the effects of literary inquisitions on the number of reputable individuals.

Was there any overlap between the type of individuals featured in Jiang (2005), and those who fell victim to literary inquisitions? The answer is yes. Most of the reputable individuals, just like those persecuted individuals, were part of the local gentry. The pattern we see in our data is consistent with the historical narrative: fear of persecution caused members of the gentry to retreat into their private worlds (Liu, Wang, and Wang, 2005). Wu Wei-Yeh, for instance, wrote that "each time a case of literary persecution erupted in the southeastern part of the realm, I apprehensively awaited the arrival of prosecutors indicting me for works of poetry or history I have written" (quoted in Wang, 2002, 611). Out of their instinct for self-preservation, intellectuals often avoided entire fields of inquiry.[108] This affected their ability to produce important works. Accompanying these developments was an overall decline in the influence and importance of the intellectual class in the Qing period. After 1840, the role of intellectuals recovered somewhat, due to the weakness of the Qing state.

We do not find an effect of literary inquisitions on the number of individuals becoming reputable in the very long run (1900). One explanation is that over time, individuals switched to more private, less risky activities such as painting. A significant number of individuals became reputable for those reasons. Switching to "safe subjects" was common in Europe as Melzer (2014) shows; the same has been shown for Qing China (Wiens, 1969, 16). To reduce the risk of persecution intellectuals avoided activities that could interpreted and constituting opposition to Qing rule; instead they "immersed themselves in the non-subversive 'sound learning' and engaged in textual criticism, bibliography, epigraphy, and other innocuous purely scholarly pursuits". Unfortunately, due to data limitations, we cannot examine the breakdown of the type of activities for which they became reputable.

[108] Much of the scholarly interest during that period was devoted to philology—a type of scholarship that minimized political risk.

C Further Robustness Analysis: Historical Panel

C.1 A Broader Definition of Literary Inquisitions

First, in Table A.12, we report our results using a expansive list of persecution cases based on a much broader definition of a literary inquisition (Guo and Lin, 1990). This list has 180 cases, including a large number of cases which occurred during the Ming-Qing transition. Those cases are distinct from the rest, and often involved overt opposition. They do not fit the precise definition of literary inquisition. In columns 1 and 2, we restrict our attention to prefectures with at least one charity by 1830 and at least one examination graduate by 1600. In columns 3 and 4, we restrict the sample to prefectures affected by literary inquisitions only. The coefficient estimates we obtain are consistently negative, but not as precisely estimated.

In terms of the geographic distribution of cases, there is a similar concentration of cases in the Lower Yangtze Region: a total of 16 out of 83 prefectures (19%) can be found in that region.

C.2 Varying the Sample

To ensure that our results are not driven by outliers, we examine different samples in Table A.15. In our main analysis, we focus on the period 1700-1830. For robustness, columns 1-4 employ a variety of different sample periods—extending the analysis out to 1840 and back to 1680. The results remain similar across specifications and are not sensitive to our choice of start date or end date.

In columns 5-8, we drop outlier prefectures. First, we drop prefectures, with very few charities (columns 5-6). Then we drop prefectures with a very small number of gentry as these were unlikely to experience literary inquisitions (column 7). Finally, we drop prefectures which are reported as being the recipient of immigrants (column 8). The coefficient we obtain remains negative and statistically significant.

C.3 Spatial Effects

First we consider the possibility of spatial autocorrelation. One might suspect that fear of inquisitions spread from one prefecture to another then the number of charities may have fallen in neighboring prefectures even though they were not been exposed to literary inquisitions themselves. Such concerns are not supported by historical accounts.

Econometrically, in Table A.17 we employ Conley standard errors to correct for spatial autocorrelation in the error term. We vary the radius from 100 to 500 km, within which we allow our standard errors to be spatially correlated. The Conley standard errors we obtain are slightly smaller than those we obtain when we cluster at the prefecture level.

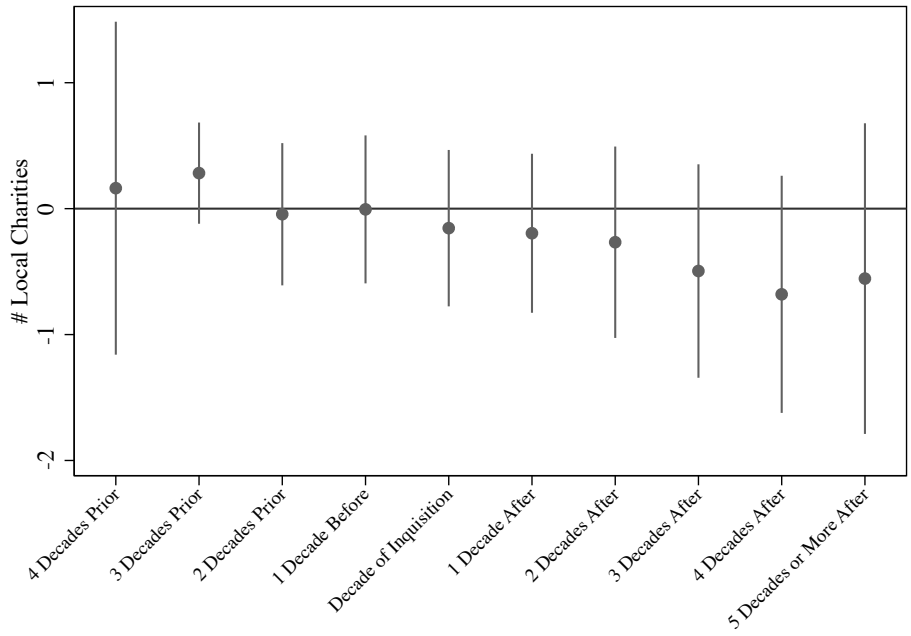
Column 9 explicitly allows for spillover effects across prefectures. We construct a spatially weighted measure of all charities formed in all other prefectures. Our coefficient of interest remains similar to our baseline estimate. The coefficient estimate of the spatially lagged variable is not statistically significant.

C.4 Per Capita Charities

In Table A.18 we normalize our measure of local charities. We divide the number of local charities by the population, using population estimates for the year 1776, which is the only prefecture-level population data available for the period of the literary inquisitions.[109] Table A.18 replicates Table 2, with the number of local charities per capita as the dependent variable. The coefficient estimates are comparable to those in our baseline analysis.

[109]Natural disasters in premodern China frequently led to abnormal deaths. Our natural disaster controls should partially account for the resulting population fluctuations (Table A.16).

Figure A.6: The Dynamic Impact of Literary Inquisitions on Local Charities



This figure reports the dynamic effects of literary inquisitions on the number of local charities. The coefficient is normalized to zero for one decade prior to an inquisition. Error bands represent 95% CI.

C.5 Dynamic Effects

We estimate the dynamic effects of persecutions on the number of local charities over time:

$$\#\text{Local Charities}_{p,d} = \sum_{\tau \in \{-4,\ldots,5+\}} \beta_\tau \text{Literary Inquisition}_{p,d} + \Omega_p + \mathbf{\Lambda}_d + \sum_{d=1700}^{d=1830} \mathbf{\Lambda}_d \mathbf{X}'_p + \epsilon_{p,d} \,. \quad (10)$$

Literary Inquisition$_{p,\tau}$ is a set of indicator variables that equal 1 if it has been τ decades since the first literary inquisition case, where $\tau \in \{-4, -3, -2, -1, 0, 1, 2, 3, 4, 5+\}$.[110] Using this fully flexible model, we obtain results that coincide in sign and significance level with the baseline estimates. Plotting the coefficients from this regression, Figure A.6 confirms that literary inquisitions had a long-lasting impact on local charities. The gap in the number of local charities opened up after the first literary inquisition case, kept widening for the four subsequent decades, before it stabilized. This increases our confidence in our baseline results, as it reduces the likelihood of trend confounders and improves our understanding of the evolution of social capital following literary inquisitions.

C.6 Heterogeneous Effects?

Table A.19 explores the question whether the impact of literary inquisitions depended on the size of local gentry. This could be the case due to the influence of the gentry. The gentry might also be more likely to be informed about literary inquisition cases. Our first measure of the size of local gentry is the total number of jinshi who received their degree during the Ming period. In column 1, we compare prefectures with an above-the-median number of Ming jinshi and those

[110] $5+$ refers to 5 periods or more.

below the median, and find no differential impact of literary inquisitions. In column 2, we divide the total number of Ming jinshi, as well as that of local charities, by population in 1776, and compare prefectures with an above-the-median number of Ming jinshi per capita and those below the median. Again, we do not find a differential impact of literary inquisitions on local charities.

Columns 3-4 use a second measure of the size of local gentry—the quota for lower level examination candidates (shengyuan). An elaborate quota system controlled the number of examination candidates who could pass at a particular level of imperial exams. For the lowest level exam, both county-level quota and prefecture-level quota applied. These two types of quota can be aggregated to the prefecture level. Bai and Jia (2016) were the first to use this data in economic research. This quota system was very stable for the majority of the Qing period before it was adjusted for the Taiping Rebellion. Having a larger number of shengyuan quota is associated with a larger effect of literary inquisitions on local charities, but the coefficient estimate is not precisely estimated.

Overall, we do not see the size of local gentry being too important in determining the impact of literary inquisitions on local charities. These results should, however, be interpreted with caution as we lack the statistical power to detect a three-way interaction effect.

C.7 50-Year Time Periods

In Table A.21 we collapse our decade-level data into five 50-year time periods. Using fewer time periods allows us to reduce serial autocorrelation, often an issue in panels with a large number of time periods, which also allows us to extend our analysis to the end of the 19th century. We show results consistent with our baseline estimates, both using the number of local charities and the change in the number of local charities as dependent variables.

C.8 Alternative Outcome Variables

We also consider the impact of literary inquisitions on government-sponsored academies. The Qing used government-sponsored academies to prepare examination candidates. When we use these government-sponsored academies as an alternative outcome variable, we find no effect. This is consistent with the historiography which emphasizes that Qing-era academies were not centers of intellectual discussion (Wakeman, 1998). Table A.22 reports the effect of literary inquisitions on the number of Qing academies, the majority of which were government-sponsored, using the same specifications we have for local charities (Table 2). The number of government-sponsored academies should not be affected by literary inquisitions, since they did not depend on private initiatives. Government academies were seen to be "indispensable to provide classical education for a burgeoning pool of aspiring officials" (Elman, 2002, 400).[111] Consistent with this, we find no relationship between literary inquisitions and government-sponsored academies.

Note that these government-sponsored academies were distinct from the private academies that flourished in the Ming period (see Appendix 1.G).

D Further Robustness Analysis: Basic Education

D.1 Additional Controls for Initial Conditions

In Table A.23, we include various controls for factors that might be correlated with literary inquisitions. Column 1 reports the baseline estimate from Table 5, column 4. In column 2, we control for the number of Ming jinshi. Column 3 controls for the number of Ming-era academies. Column 4 controls for the number of Ming loyalists. These are the same controls in Table A.13. Our results remain robust after the inclusion of additional controls for initial conditions.

[111] By the Qing period, even private academies had to take into consideration the attitude of the emperor as the previous independence of private academies had been curtailed (Wakeman, 1998).

D.2 Middle and High School Education

Table A.24 shows that the Qing persecutions are associated with worse literacy outcomes for the cohorts born in the early 20th century, but not with middle (columns 1-2) or high school (columns 3-4) education outcomes. This is true no matter whether we look at the full sample of individuals, or restrict attention to those who are literate and hence liable to go on to higher levels of education.

Basic education was the responsibility of the local gentry during the period we examine and basic education that we expected to be affected by lower levels of social capital. Middle and high schools were centrally funded and not dependent on local levels of social capital.

D.3 The Taiping Rebellion

The Taping Rebellion took place between 1850-1864 and was perhaps the bloodiest pre-modern conflict with a reported 20 million deaths. Such a devastating event may have affected social capital.

Data on whether and for how long a prefecture was occupied by Taiping troops during the Taiping Rebellion (1850-1864) is from Hua (1991). In Table A.27 we first include a dummy variable that takes the value of one if a prefecture was occupied by Taiping troops between 1850 and 1864 (column 1). Column 2 controls for the number of months Taiping troops occupied a prefecture. Finally, column 3, includes the log of months occupied. There is some evidence that the Taiping Rebellion had a negative impact on long-run literacy outcomes, but this effect is independent of that of the literary inquisitions. Regardless of the specifications, controlling for the Taiping Rebellion does not affect our coefficient of interest.

D.4 The Exodus to Taiwan

Next we deal with the exodus to Taiwan just prior to the establishment of the Communist government, and its effect on literacy. In the wake of the fall of the Nationalist government in 1949, many wealthy, educated and high-status individuals fled mainland China. One of the main destinations for migrants was Taiwan. We provide a crude estimate of the share of the population who migrated to Taiwan using data from the Taiwan Family Genealogy Catalogue Database (TFGCD). The data is available at

http://rarebook.ncl.edu.tw/rbook.cgi/frameset5.htm.

This database aggregates information from a range of sources, the most important of which is the Taiwan special collection maintained by the Genealogical Society of Utah (GSU). The GSU was founded in 1894 by members of the Church of Jesus Christ of Latter-Day Saints to preserve historical records for genealogical research and it collects sources from across the world. Since 1976, the GSU has collaborated with academic institutions in Taiwan to locate microfilm and other privately owned genealogical sources.

The measure we obtain from this database is the number of lineages (proxied by number of family trees) by prefecture who migrated to Taiwan in the late 1940s. We normalize our out-migration measure by prefecture-level population in 1953 census. We use the 1953 census as this data is the closest available to the time at which the majority of migration took place. We distinguish between the records originally obtained from the GSU from those records collected from other libraries that are also available in the TFGCD. This provides us with two measures of out-migration to Taiwan.

We remove duplicates (i.e. where the same family is recorded by more than one library) and only include records for families for whom we have information on the their known residence in

mainland China. Guangdong and Fujian had large-scale migration to Taiwan well before 1949 that can contaminate our measure. We drop those two provinces.

Table A.28 shows that our results are similar no matter which measure of out-migration we use. The negative relationship between the Qing persecutions and literacy of 70 years olds or older (as surveyed in 1982) continues to hold, when we correct for exodus to Taiwan around 1949.[112]

D.5 The Cultural Revolution

In Table A.29 we employ data from Walder (2014) to account for the impact of the Cultural Revolution.

Walder's estimates for the number of deaths and victims in the Cultural Revolution are based on comparing officially published numbers for entire provinces against tabulations from all of that province's local gazetteers. Walder (2014) estimates that there were 273,000 reported deaths and 13.4 million victims. The data was made available through National Science Foundation Grant SBS-1021134, "Political Movements in an Authoritarian Hierarchy," (Andrew G. Walder, Principal investigator). This data is based on 2,213 county or prefecture gazetteers and records information on the imprisonment, persecution, victimization, and execution of individuals during the Cultural Revolution between 1966 and 1971.

Walder (2014) contain a variety of prefecture and county-level data. To aggregate these estimates to the prefecture level we employ two methods. Method 1 prioritizes prefecture-level sources, only aggregating county-level sources when prefecture-level sources are unavailable. We also employ a second method, Method 2, which discards all prefecture-level sources and instead, aggregates information from county-level sources to generate prefecture-level measures.

D.6 Individualism vs. Collectivism

Table A.33 shows that our results cannot be explained by the divide between individualism and collectivism. Collectivism and individualism are widely used syndromes that psychologists have used to conceptualizes difference in cultural values (see Triandis, Bontempo, Villareal, Asai, and Lucca, 1988; Rhee, Uleman, and Lee, 1996). In individualist societies, people are supposed to look after themselves and their immediate family only. In collectivist societies, people belong to large in-groups that take care of them in exchange for loyalty. This raises the concern that differences in individualism/collectivism might affect levels of communal engagement.

Columns 1-2 show that there is no relationship between literary inquisitions and whether "in the past year your friends, colleagues and neighbors have been willing to listen to your personal problems". Columns 3-4 show that there is no relationship between literary inquisitions and whether "in the past year your friends, colleagues and neighbors have provided financial support". In columns 5-6 we find that there is no relationship between literary inquisitions and whether "in the past year your friends, colleagues and neighbors have done chores for you".

[112] A possible concern is that the size of each family that migrated is unknown. But this is unlikely to be a source of bias, as there is no reason to think that there would be systematic differences in the size of families that migrated across prefectures. Moreover, differences in family sizes are likely absorbed by province and sociomacroeconomic region fixed effects and various controls.

Table A.11: Historical Panel: Alternative Treatment Timing

	# Local Charities			
	(1)	(2)	(3)	(4)
Literary Inquisition	-0.793*	-1.039**	-1.096**	-1.096**
	(0.432)	(0.406)	(0.474)	(0.454)
Initial Pop. Density × FE	Yes	Yes	Yes	Yes
Ming Jinshi × FE	No	Yes	Yes	Yes
Latitude/Longitude × FE	No	No	Yes	Yes
Socioeconomic Macroregion × FE	No	No	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
Clusters	Prefecture	Prefecture	Prefecture	Prefecture-Decade
N. of Periods	13	13	13	13
Observations	1417	1417	1417	1417
Adjusted R^2	0.779	0.793	0.828	0.828

This table reports difference-in-differences estimates of the effect of literary inquisitions on the number of local charities. The unit of observation is the prefecture-decade. The treatment turns on during the decade of literary inquisitions. All specifications otherwise are identical to those in Table A.11. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.12: Historical Panel: With a Less Precise Measure of Inquisitions

	# Local Charities			
	(1)	(2)	(3)	(4)
Literary Inquisition	-1.017	-1.374^{+}	-1.724^{+}	-1.155^{+}
	(0.917)	(0.943)	(1.073)	(1.031)
Initial Pop. Density × FE	Yes	Yes	Yes	Yes
Ming Jinshi × FE	No	Yes	No	Yes
Latitude/Longitude × FE	No	Yes	No	Yes
Socioeconomic Macroregion × FE	No	Yes	No	Yes
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
N. of Periods	13	13	13	13
Observations	1664	1664	448	448
Adjusted R^2	0.351	0.458	0.279	0.370

This table reports difference-in-differences estimates of the effect of literary inquisitions on the number of local charities, using inquisition cases defined with imprecision. Columns 1-2 use a sample of all prefectures that had a positive number of jinshi by 1600, and at least one charity by 1830. Columns 3-4 use a sample of prefectures with a positive number of literary inquisition cases. Robust standard errors are clustered at the prefecture level and are reported in parentheses. $^{+}$ $p < 0.15$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.13: Historical Panel: Political Motives for Literary Inquisition Cases

	# Local Charities		
	(1)	(2)	(3)
Literary Inquisition	-0.893*	-1.004**	-0.897*
	(0.533)	(0.503)	(0.534)
Conflicts 1644-1690 × FE	Yes	No	No
Ming Loyalists × FE	No	Yes	No
Ming-Era Academies × FE	No	No	Yes
Baseline Controls × FE	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes
N. of Periods	13	13	13
Observations	1417	1417	1417
Adjusted R^2	0.829	0.828	0.828

This table reports difference-in-differences estimates of the effect of literary inquisitions of the number of local charities, controlling for political motives for literary inquisition cases interacted with decade fixed effects. Baseline controls include Ming-era jinshi, log population density in 1600, latitude and longitude, and socioeconomic macroregion fixed effects. All columns use the same controls as in column 3 of Table 2. Column 1 interacts the number of conflicts between 1644–1690, which took place as the Qing established control over China, with decade fixed effects. Column 2 includes an interaction term between the number of Ming loyalists and decade fixed effects. Column 3 adds an interaction term with the number of Ming-era academies and decade fixed effects. Robust standard errors are clustered at the prefecture level, and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.14: Historical Panel: Conflict, Disasters and Literary Inquisitions

Panel A: Conflicts and Disasters Do Not Predict Literary Inquisitions				
	Decade of a Literary Inquisition			
	(1)	(2)	(3)	(4)
Conflicts	0.0106	0.0114		
	(0.0140)	(0.0150)		
Lag Conflicts		0.00188		
		(0.00560)		
Disaster Intensity			0.00690	0.00782
			(0.0198)	(0.0199)
Lag Disaster Intensity				-0.0319
				(0.0199)
Baseline Controls × FE	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
N. of Periods	13	13	13	13
Observations	1308	1199	1339	1339
Adjusted R^2	0.0230	0.0205	0.0204	0.0211
Panel B: Literary Inquisitions Do Not Predict Conflicts				
	# Conflicts			
	(1)	(2)	(3)	(4)
Literary Inquisition	0.0104	0.00606	0.00866	0.00866
	(0.0312)	(0.0348)	(0.0290)	(0.0197)
Initial Pop. Density × FE	Yes	Yes	Yes	Yes
Ming Jinshi × FE	No	Yes	Yes	Yes
Latitude/Longitude × FE	No	No	Yes	Yes
Socioeconomic Macroregion × FE	No	No	Yes	Yes
Clusters	Prefecture	Prefecture	Prefecture	Prefecture-Decade
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
N. of Periods	13	13	13	13
Observations	1308	1308	1308	1308
Adjusted R^2	0.0448	0.0415	0.0955	0.0955

Panel A shows that conflicts and natural disasters did not have an effect on the timing of literary inquisitions. Conflicts refer to revolts, rebellions, and violent protests. Baseline controls include Ming-era jinshi, log population density in 1600, latitude and longitude, and socioeconomic macroregion fixed effects. All columns use the same controls as in column 3 of Table 2. Column 1 examines the relationship between literary inquisitions and the number of conflicts in the current period. Column 2 includes lagged conflicts. Column 3 considers the relationship between disaster intensity and the timing of a literary inquisition case. Column 4 includes disaster intensity in the previous decade. Panel B shows that literary inquisitions had no effect on the number of conflicts. For comparability, we replicate the structure of Table 2. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A.15: Historical Panel: Varying the Sample

Panel A: Varying the Sample by Period	# Local Charities			
	1690-1830	1710-1830	1700-1820	1700-1840
	(1)	(2)	(3)	(4)
Literary Inquisition	-1.020*	-1.039**	-0.824*	-1.222**
	(0.526)	(0.483)	(0.449)	(0.567)
Baseline Controls× FE	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
N. of Periods	13	13	13	13
Observations	1526	1308	1308	1526
Adjusted R^2	0.805	0.856	0.823	0.829

Panel B: Excluding Outlier Prefectures	# Local Charities			
	At Least One Charity by 1750	At Least One Charity by 1830	Bottom 10% Ming Jinshi	Incoming Migration
	(5)	(6)	(7)	(8)
Literary Inquisition	-1.440*	-1.456**	-1.213*	-0.879*
	(0.784)	(0.704)	(0.624)	(0.526)
Baseline Controls× FE	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
N. of Periods	13	13	13	13
Observations	910	1040	1261	1365
Adjusted R^2	0.816	0.821	0.823	0.830

This table reports difference-in-differences estimates of the effect of literary inquisitions on the number of local charities. Baseline controls include Ming-era jinshi, log population density in 1600, latitude and longitude, and socioeconomic macroregion fixed effects. All columns use the same controls as in column 3 of Table 2. Columns 1 to 4 vary the sample to ensure our results are not sensitive to the choice of period. Column 5 includes only prefectures which had at least one charity by 1750. Column 6 includes only prefectures that had at least one charity by 1830, the end of our sample period. Columns 7-8 drop prefectures that were in the bottom 10% in terms of Ming jinshi, and those labeled as a recipient of any significant amount of incoming migrants, respectively. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.16: Historical Panel: Disaster, Conflicts and Newly-Minted Jinshi

	# Local Charities			
	(1)	(2)	(3)	(4)
Literary Inquisition	-0.892*	-1.065**	-1.003**	-0.932*
	(0.475)	(0.517)	(0.498)	(0.489)
Disaster Intensity	Yes	No	No	Yes
Conflicts	No	Yes	No	Yes
Jinshi	No	No	Yes	Yes
Baseline Controls $\times$ FE	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
N. of Periods	13	13	13	13
Observations	1339	1308	1417	1236
Adjusted R^2	0.834	0.819	0.828	0.824

This table reports the effect of literary inquisitions on the number of local charities controlling for disaster, conflicts and newly-minted jinshi. Baseline controls include Ming-era jinshi, log population density in 1600, latitude and longitude, and socioeconomic macroregion fixed effects. All columns use the same controls as in column 3 of Table 2. Column 1 controls for disaster intensity. Column 2 controls for the number of conflicts. Column 3 controls for the number of newly-minted jinshi. Column 4 includes all controls at once. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.17: Historical Panel: Correcting for Spatial Autocorrelation

Panel A: Varying the Conley S.E Radius	# Local Charities			
	(1)	(2)	(3)	(4)
Literary Inquisition	-0.979***	-0.979***	-0.979***	-0.979***
	(0.191)	(0.214)	(0.230)	(0.291)
Radius	50km	100km	200km	500km
# Lags	5	5	5	5
Panel B: Varying the Number of Lags				
	(5)	(6)	(7)	(8)
Literary Inquisition	-0.979***	-0.979***	-0.979***	-0.979***
	(0.214)	(0.214)	(0.214)	(0.214)
Radius	100km	100km	100km	100km
# Lags	1	2	3	4
Panel C: Spatial Lags				
	(9)			
Literary Inquisition	-0.925*			
	(0.546)			
Spatially Lagged Literary Inquisition	0.343			
	(0.248)			
Baseline Controls $\times$ FE	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
N. of Periods	13	13	13	13
Observations	1417	1417	1417	1417

Panels A and B report difference-in-differences estimates of the effect of literary inquisitions on the number of local charities using Conley standard errors to adjust for spatial autocorrelations in the error term. We vary the radius within which we allow our standard errors to be spatial correlated from 50 to 500 km, using a lag structure of 5 periods (columns 1-4). Columns 5-8 vary the lag structure from 1 to 4 keeping the radius constant at 100 km. In Panel C, we control for spatial lags of charities in other prefectures using a spatial weighting index. Baseline controls include Ming-era jinshi, log population density in 1600, latitude and longitude, and socioeconomic macroregion fixed effects. All columns use the same controls as in column 3 of Table 2. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.18: Historical Panel: The Impact of Literary Inquisitions on Local Charities Per Capita

	# Local Charities			
	(1)	(2)	(3)	(4)
Literary Inquisition	-0.00533	-0.00663	-0.00729**	-0.00729**
	(0.00415)	(0.00449)	(0.00306)	(0.00295)
Initial Pop. Density × FE	Yes	Yes	Yes	Yes
Ming Jinshi × FE	No	Yes	Yes	Yes
Latitude/Longitude × FE	No	No	Yes	Yes
Socioeconomic Macroregion × FE	No	No	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
Clusters	Prefecture	Prefecture	Prefecture	Prefecture-Decade
N. of Periods	13	13	13	13
Observations	1404	1404	1404	1404
Adjusted R^2	0.0882	0.133	0.829	0.829

This table presents the effect of literary inquisitions on the number of local charities per capita. For comparability, we replicate the structure of Table 2. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A.19: Historical Panel: Size of Gentry

	# Local Charities			
	Method 1		Method 2	
	(1)	(2)	(3)	(4)
Literary Inquisition	-1.151*	-0.00639*	-1.359*	-0.00913*
	(0.691)	(0.00358)	(0.735)	(0.00494)
Literary Inquisition × Ming Jinshi (> Median)	0.246	-0.00165		
	(1.012)	(0.00600)		
Literary Inquisition × Shengyuan Quota (> Median)			0.623	0.00357
			(0.979)	(0.00468)
Baseline Controls × FE	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
N. of Periods	13	13	13	13
Observations	1417	1404	1352	1339
Adjusted R^2	0.827	0.828	0.828	0.829

This table shows that there is no differential impact of literary inquisitions varying by the size of local gentry. Baseline controls include Ming-era jinshi, log population density in 1600, latitude and longitude, and socioeconomic macroregion fixed effects. All columns use the same controls as in column 3 of Table 2. Column 1 uses the first measure of local gentry: the total number of jinshi from the Ming period, and divide the sample by below and above the median of Ming jinshi. Column 2 normalizes the number of jinshi and the number of local charities by population in 1776 (Method 1). Column 3 uses the second measure of the size of local gentry: quota for the lowest-level imperial exams (shengyuan) for the period prior to the Taiping Rebellion. Column 4 normalizes the number of shengyuan and number of local charities by population in 1776 (Method 2). Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.20: Historical Panel: Controlling for Disaster Relief and Tax Relief

	# Local Charities			
	(1)	(2)	(3)	(4)
Literary Inquisition	-0.886*	-1.038**	-0.913*	-1.071**
	(0.476)	(0.482)	(0.482)	(0.491)
Disaster Relief	0.00832	0.0112		
	(0.00853)	(0.00989)		
Literary Inquisition × Disaster Relief		0.0487		
		(0.0310)		
Tax Relief			-0.00238	-0.00170
			(0.00354)	(0.00380)
Literary Inquisition × Tax Relief				0.0226
				(0.0269)
Disaster Intensity	Yes	Yes	Yes	Yes
Baseline Controls × FE	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
N. of Periods	13	13	13	13
Observations	1326	1326	1313	1313
Adjusted R^2	0.834	0.834	0.833	0.833

This table explores how the effect of literary inquisitions on charities, controlling for disaster relief and tax relief (which were commonly granted in the event of a natural disaster). Both disaster relief and tax relief are time-varying controls. Baseline controls include Ming-era jinshi, log population density in 1600, latitude and longitude, and socioeconomic macroregion fixed effects. We also control for disaster intensity. All columns use the same controls as in column 3 of Table 2. Column 1 shows that the coefficient on inquisitions is largely unchanged after we control for disaster relief. Column 2 interacts literary inquisitions with disaster relief. Columns 3–4 include controls for tax relief at the prefecture level. Column 4 interacts tax relief with the inquisition variable. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.21: Historical Panel: 50-Year Time Periods

	# Local Charities		Δ Local Charities	
	(1)	(2)	(3)	(4)
Literary Inquisition	-3.998**	-4.029**	-2.156*	-2.134*
	(1.753)	(1.771)	(1.152)	(1.141)
Baseline Controls × Linear Trend	No	Yes	No	Yes
Baseline Controls × Decade FE	Yes	No	Yes	No
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
N. of Periods	5	5	5	5
Observations	545	545	545	545
Adjusted R^2	0.639	0.632	0.459	0.433

This table reports difference-in-differences estimates of the effect of literary inquisitions on the number of local charities using 50-year time periods. Baseline controls include Ming-era jinshi, log population density in 1600, latitude and longitude, and socioeconomic macroregion fixed effects measured at a 50-year interval. Columns 1 and 3 present estimates including the baseline controls interacted with decade fixed effects. Columns 2 and 4 interact baseline controls with a linear time trend. In columns 3-4, the dependent variables are new charities. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.22: Historical Panel: No Impact on Government-Sponsored Academies

	Government-Sponsored Academies			
	(1)	(2)	(3)	(4)
Literary Inquisition	0.0127	-0.117	0.0713	0.0713
	(0.407)	(0.321)	(0.329)	(0.284)
Initial Pop. Density × FE	Yes	Yes	Yes	Yes
Ming Jinishi × FE	No	Yes	Yes	Yes
Latitude/Longitude × FE	No	No	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes
Prefecture FE	Yes	Yes	Yes	Yes
Clusters	Prefecture	Prefecture	Prefecture	Prefecture-Decade
N. of Periods	13	13	13	13
Observations	14148	1417	1417	1417
Adjusted R^2	0.947	0.953	0.954	0.954

This table demonstrates that there was no impact of literary inquisitions on government-sponsored academies. For comparability, we replicate the structure of Table 2. Column 1 reports our baseline specification which includes log population density in 1600 and socioeconomic macroregion fixed effects interacted with decade fixed effects. In columns 2–3, we add in interactions between controls for the number of Ming-era jinshi and latitude and longitude and decade fixed effects. In column 4, we cluster our standard errors by both prefecture and decade. In all specifications robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.23: Basic Education in the Early 20th Century: Additional Controls For Initial Conditions

	Literate			
	(1)	(2)	(3)	(4)
Mean of Dep. Var.	0.153	0.153	0.153	0.153
Literary Inquisition	-0.0524**	-0.0523**	-0.0525**	-0.0493**
	(0.0220)	(0.0222)	(0.0229)	(0.0190)
Ming Jinshi		-0.0445***		
		(0.0164)		
Ming Academies			0.00390	
			(0.00524)	
Ming Loyalists				-0.00209
				(0.0172)
Log Jinshi Density	Yes	Yes	Yes	Yes
Individual Controls	Yes	Yes	Yes	Yes
Contemporary Controls	Yes	Yes	Yes	Yes
Historical and Geographical Controls	Yes	Yes	Yes	Yes
Adjusted R^2	0.233	0.233	0.233	0.233
Observations	72659	72659	72659	72659

This table reports OLS estimates of the relationship between literary inquisitions and literacy in the early 20th century. The dependent variable is whether an individual was literate at the time of the survey. All individuals were over 70 when surveyed in 1982. All specifications include province fixed effects and socioeconomic macroregion fixed effects. Contemporary, historical, geographical, and individual controls are all the same as in Table 5. Column 1 replicates our baseline estimate from column 4 of Table 5. Column 2 controls for the number of Ming Jinshi. Column 3 controls for the number of Ming academies. Column 4 controls for the number of Ming loyalists. Contemporary, historical and individual controls are the same as in Table 5. There are 72 clusters. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.24: Basic Education in the Early 20th Century: No Effect on Middle or High School Education

	Middle School		High School	
	(1)	(2)	(3)	(4)
Mean of Dep. Var.	0.0269	0.175	0.00255	0.0166
Literary Inquisition	-0.00178	0.0284	0.000294	0.00210
	(0.00577)	(0.0196)	(0.00144)	(0.00569)
Log Jinshi Density	Yes	Yes	Yes	Yes
Individual Controls	Yes	Yes	Yes	Yes
Contemporary Controls	Yes	Yes	Yes	Yes
Historical and Geographical Controls	Yes	Yes	Yes	Yes
Conditional on Literacy	No	Yes	No	Yes
Observations	72659	11137	72659	11137
Adjusted R^2	0.044	0.041	0.013	0.028

This table shows that literary inquisitions are not associated with middle school education and high school education in the early 20th century. All specifications include province fixed effects and socioeconomic macroregion fixed effects. All columns use the same controls as in column 4 of Table 5. Columns 1–2 focus on individuals attending middle school. Columns 3–4 examine the effect on individuals attending high school. There are 72 clusters. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.25: Basic Education During the 20th Century: Urban and Rural Samples

	Literate			
	Urban Sample		Rural Sample	
	(1)	(2)	(3)	(4)
Literary Inquisition	0.00429	-0.000876	-0.100***	-0.0976***
	(0.00947)	(0.00964)	(0.0357)	(0.0344)
Log Jinishi Density	Yes	Yes	Yes	Yes
Individual Controls	Yes	Yes	Yes	Yes
Contemporary Controls	Yes	Yes	Yes	Yes
Historical and Geographical Controls	Yes	Yes	Yes	Yes
Observations	353426	393532	1111213	1071107
Adjusted R^2	0.0464	0.0455	0.207	0.208

This table reports OLS estimates of the relationship between literary inquisitions and literacy, split into urban and rural samples. The dependent variable is whether an individual was literate at the time of the survey. All individuals were at least 15 years old when surveyed in 1982. All specifications include province fixed effects and socioeconomic macroregion fixed effects. It shows that the negative association between literary inquisitions and literacy is driven by the rural prefectures where the provision of basic education was informal and decentralized. Columns 1-2 estimate the relationship between literary inquisitions and literacy on the urban sample. In column 1, we categorize individuals as urban, based on their industry. In column 2, we categorize them based on their occupation. In columns 3-4, we estimate the relationship between literary inquisitions and literacy on the rural sample. In column 3, we categorize individuals as rural based on their industry. In column 4, we categorize them based on their occupation. There are 72 clusters. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.26: Basic Education During the 20th Century: From Decentralization to Centralization

	Literate		
	Baseline	Method 1	Method 2
	(1)	(2)	(3)
Literary Inquisition	-0.0585*	-0.0806**	-0.0823**
	(0.0340)	(0.0394)	(0.0334)
Literary Inquisition × Age < 23 in 1982		-0.0102	
		(0.0330)	
Literary Inquisition × Age 23–56 in 1982		0.0464**	0.0436***
		(0.0231)	(0.0132)
Age < 23 in 1982		0.573***	
		(0.0170)	
Age 23–56 in 1982		0.346***	0.123***
		(0.0102)	(0.0106)
Log Jinshi Density	Yes	Yes	Yes
Individual Controls	Yes	Yes	Yes
Contemporary Controls	Yes	Yes	Yes
Historical and Geographical Controls	Yes	Yes	Yes
Observations	1870154	1870144	1870144
Adjusted R^2	0.275	0.344	0.285

This table reports OLS estimates of the relationship between literary inquisitions and literacy. The dependent variable is whether an individual was literate at the time of the survey. All individuals in the sample were at least 15 years old when surveyed in 1982. All specifications include province fixed effects and socioeconomic macroregion fixed effects and the same controls as in column 4 of Table 5. We find that the negative association between literary inquisitions and literacy is the greatest for those cohorts who were educated under a decentralized schooling system. Column 1 reports our baseline estimates. In column 2, we create three categories for the degree of centralization: individuals educated under a decentralized schooling system (born before 1927), individuals educated under a centralized schooling system (born between 1927 and 1959, and aged between 23 and 56 in 1982), individuals educated under a decentralized schooling system during the Cultural Revolution (born after 1959, and aged 23 or less in 1982). The omitted category is individuals born before 1927. The positive sign of the interaction term for individuals aged between 23 and 56 indicates that the negative association between literary inquisitions and literacy is weakened for cohorts educated under centralized institutions. The weakly negative coefficient of the interaction term for individuals aged less than 23 suggests that the effect of inquisitions on this cohort is similar to the coefficient on individuals 56 or older and educated in the late Qing/early Republican period. In column 3, we simplify to two categories: individuals educated during periods of centralization (aged between 23 and 56) and those educated during either period of decentralization (before 1935 or after 1965). The omitted category here is individuals aged 56 or older and younger than 23. There are 72 clusters. Robust standard errors, clustered at the prefecture level, are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.27: Basic Education in the Early 20th Century: Controlling for Exposure to the Taiping Rebellion

	Literate			
				Exclu. Taiping
	(1)	(2)	(3)	(4)
Mean of Dep. Var.	0.153	0.153	0.153	0.161
Literary Inquisition	-0.0547**	-0.0523**	-0.0578**	-0.0612**
	(0.0226)	(0.0219)	(0.0238)	(0.0244)
Occupied by Taiping Troops	-0.0449			
	(0.0441)			
Months Occupied by Taiping Troops		0.000183		
		(0.000674)		
Log Months Occupied by Taiping Troops			-0.0470***	
			(0.0163)	
Log Jinshi Density	Yes	Yes	Yes	Yes
Individual Controls	Yes	Yes	Yes	Yes
Contemporary Controls	Yes	Yes	Yes	Yes
Historical and Geographical Controls	Yes	Yes	Yes	Yes
Observations	72659	72659	72659	63378
Adjusted R^2	0.233	0.233	0.234	0.240

This table reports OLS estimates of the relationship between literary inquisitions and literacy in the early 20th century, controlling for whether a prefecture was occupied by the Taiping troops between 1850-1864 and for how long. The dependent variable is whether an individual was literate at the time of the survey. All individuals were over 70 when surveyed in 1982. All specifications include province fixed effects and socioeconomic macroregion fixed effects and the same controls as in column 4 of Table 5. Column 1 employs a binary measure of whether a prefecture was occupied by Taiping troops. Column 2 controls for the number of months a prefecture was occupied by Taiping troops. Column 3 controls for the natural log of the number of months a prefecture was occupied by Taiping troops. Column 4 excludes prefectures occupied by the Taping. There are 72 clusters. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.28: Basic Education in the Early 20th Century: Controlling for the Exodus to Taiwan

	Literate					
	(1)	(2)	(3)	(4)	(5)	(6)
Mean of Dep. Var.	0.153	0.153	0.153	0.153	0.153	0.153
Literary Inquisition	-0.0616***	-0.0653***	-0.0389*	-0.0709***	-0.0669***	-0.0424**
	(0.0222)	(0.0227)	(0.0200)	(0.0229)	(0.0217)	(0.0167)
Log Jinshi Density	Yes	Yes	Yes	Yes	Yes	Yes
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
Contemporary Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Migration Records	Certain	Log Certain	Binary Certain	Possible	Log Possible	Binary Possible
Observations	49414	49414	49414	49414	49414	49414
Adjusted R^2	0.212	0.212	0.213	0.212	0.212	0.213

This table reports OLS estimates of the relationship between literary inquisitions and literacy in the early 20th century. We account for the impact of the exodus to Taiwan in 1949 on the composition of 70 year olds surveyed in 1982. The dependent variable is whether an individual was literate at the time of the survey. All individuals were over 70 when surveyed in 1982. All specifications include province fixed effects and socioeconomic macroregion fixed effects and the same controls as in column 4 of Table 5. As noted in Appendix Section D.4, we exclude individuals in Fujian and Guangzhou. There are 72 clusters. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.29: Basic Education in the Early 20th Century: Controlling for the Number of Deaths During the Cultural Revolution

	Literate					
	Method 1			Method 2		
	(1)	(2)	(3)	(4)	(5)	(6)
Literary Inquisition	-0.0485**	-0.0495**	-0.0641***	-0.0456**	-0.0476**	-0.0524**
	(0.0214)	(0.0214)	(0.0226)	(0.0208)	(0.0216)	(0.0223)
Cultural Revolution Deaths P.C	-0.0005***	-0.0005**		-0.0004**	-0.0005***	
	(0.0002)	(0.0002)		(0.0001)	(0.0002)	
Cultural Revolution Deaths Abs. N.			-0.0093***			0.0001
			(0.0025)			(0.0051)
Crude Death Rate		-0.0053			-0.0249**	
		(0.0113)			(0.0096)	
Log Jinshi Density	Yes	Yes	Yes	Yes	Yes	Yes
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
Contemporary Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical and Geographical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	72658	72658	72658	72658	72658	72658
Adjusted R^2	0.234	0.234	0.234	0.233	0.233	0.233

This table reports OLS estimates of the relationship between literary inquisitions and literacy in the early 20th century. We account for the impact of deaths during the Cultural Revolution on the composition of 70 year olds surveyed in 1982. The dependent variable is whether an individual was literate at the time of the survey. All individuals were over 70 when surveyed in 1982. All specifications include province fixed effects and socioeconomic macroregion fixed effects and the same controls as in column 4 of Table 5. Method 1 aggregates county-level sources to create a prefecture-level measure when prefecture-level sources are unavailable. Method 2 uses only prefecture-level data that are aggregated from county-level sources. Columns 1–2 shows that the impact of literary inquisitions survives controlling for per capita Cultural Revolution deaths based on Method 1. Column 3 controls for the absolute number of deaths using Method 1. Columns 4–5 uses per capita Cultural Revolution deaths using Method 2. Column 6 uses the absolute number of Cultural Revolution deaths using Method 2. There are 72 clusters. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.30: Basic Education in the Early 20th Century: Placebo IV

Panel A: Second Stage IV Estimates	Literate	
	(1)	(2)
Literary Inquisition	0.406	0.422
	(0.425)	(0.487)
Log Jinshi Density	Yes	Yes
Individual Controls	Yes	Yes
Contemporary Controls	No	Yes
Historical and Geographical Controls	Yes	Yes
Panel B: First Stage IV Estimates		
Distance to Nearest Imperial Courier Route	-0.0006	-0.0006
	(0.0006)	(0.0006)
Log Jinshi Density	Yes	Yes
Individual Controls	Yes	Yes
Contemporary Controls	No	Yes
Historical and Geographical Controls	Yes	Yes
Kleibergen-Paap Wald rk F Statistic	1.15	1.16
Observations	72659	72659

This table reports placebo IV estimates for the effects of literary inquisitions on literacy in the early 20th century. The dependent variable is whether an individual was literate at the time of the survey. All individuals were over 70 when surveyed in 1982. All specifications include province fixed effects and socioeconomic macroregion fixed effects. Contemporary, historical, geographical, and individual controls are all the same as in Table 5. Robust standard errors clustered at the prefecture level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A.31: Authoritarian Resilience? Political Participation: Attitudes and Behavior: Urban Sample

	Political Apathy				Volunteering on Local Committees		Making Suggestions to Local Committees	
	OLS				Logit			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mean of Dep. Var	3.473	3.478	2.631	2.630	0.0601	0.0578	0.111	0.110
Literary Inquisition	0.246***	0.185*	-0.135*	-0.126^{+}	-0.955*	-1.744**	-0.904***	-1.216***
	(0.0807)	(0.0931)	(0.0721)	(0.0748)	(0.565)	(0.821)	(0.240)	(0.264)
Contemporary Controls	No	Yes	No	Yes	No	Yes	No	Yes
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2/Pseudo R^2	0.0525	0.0574	0.0145	0.0143	0.0568	0.0994	0.0531	0.0664
Observations	2011	1916	2005	1909	1981	1886	1941	1845

This table reports estimates of the relationship between literary inquisitions and modern political participation for urban residents. Otherwise all specifications are the same as Table 7. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.32: Null Results on Alternative Explanations for Low Political Participation

	Policy-Making is Too Complex	No Ability To Participate	Qualified to Govern	Lack Confidence in Discussing Politics	The Party Recruits People like Me
	(1)	(2)	(3)	(4)	(5)
Literary Inquisition	-0.0255	0.00378	0.00459	0.00779	0.0705
	(0.0910)	(0.0745)	(0.0715)	(0.0608)	(0.0868)
Contemporary Controls	Yes	Yes	Yes	Yes	Yes
Individual Controls	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.0966	0.103	0.119	0.0379	0.105
Observations	3233	3227	3235	3200	3205

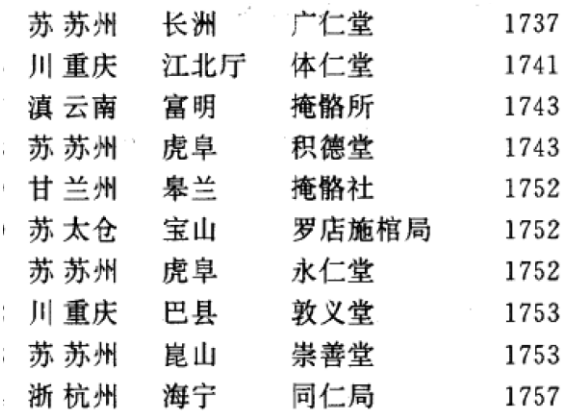
This table reports OLS estimates of the relationship between literary inquisitions and other reasons for political apathy. These results suggest that our findings on political participation are not driven by individuals' confidence about discussing politics or access to information. All specifications include socioeconomic macroregion fixed effects. Column 1 examines the relationship between literacy inquisitions and the answers to the statement: "Policy-making is so complex that people like me won't understand". Column 2 finds no relationship between literary inquisitions and responses to the statement: "I have the ability to participate in politics." Column 3 examines responses to the statement: "If I can be the head of the government, I can govern just as well." Column 4 examines responses to: "I have no confidence when I discuss politics with others." Column 5 find no relationship with responses to: "The Communist Party is willing to recruit people like me to be members." The answers to these questions are on a 1-5 scale, from completely disagree to completely agree. Individual controls include fixed effects for gender, age, and education. Contemporary controls are the same as in Table 4 and include log GDP per capita, log total population, years of schooling, share of urban population and share of agricultural workforce, all from 2010. Robust standard errors are clustered at the prefecture level and reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.33: Collectivism: Ties to Friends, Colleagues and Neighbors

	Personal Problems		Financial Support		Helping with Chores	
	(1)	(2)	(3)	(4)	(5)	(6)
Literary Inquisition	-0.0448	0.00452	0.126	0.0198	0.0539	-0.0507
	(0.113)	(0.149)	(0.135)	(0.167)	(0.173)	(0.209)
Contemporary Controls	No	Yes	No	Yes	No	Yes
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.0561	0.0580	0.0390	0.0442	0.0282	0.0515
Observations	1087	1053	1087	1053	1087	1053

This table reports OLS estimates of the relationship between literary inquisitions and collectivism. All specifications include socioeconomic macroregion fixed effects. We use the extent to which individuals rely on the support from friends and neighbors as a proxy for collectivism. Columns 1-2 show that there is no relationship between literary inquisitions and "whether in the past year your friends, colleagues and neighbors have been willing to listen to your personal problems". Columns 3-4 show that there is no relationship between literary inquisitions and "whether in the past year, your friends, colleagues and neighbors have provided financial support". Columns 5-6 show that there is no relationship between literary inquisitions and "whether in the past year your friends, colleagues and neighbors have done chores for you". Individual controls include sex, age and the level of education. Contemporary controls are the same as in Table 7, including log GDP per capita, log total population, years of schooling, share of urban population and share of agricultural workforce, all from 2010. Robust standard errors are clustered at the prefecture level and are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure A.7: A snapshot of our charity data from Liang (2001).



苏 苏州	长洲	广仁堂	1737
川 重庆	江北厅	体仁堂	1741
滇 云南	富明	掩骼所	1743
苏 苏州	虎阜	积德堂	1743
甘 兰州	皋兰	掩骼社	1752
苏 太仓	宝山	罗店施棺局	1752
苏 苏州	虎阜	永仁堂	1752
川 重庆	巴县	敦义堂	1753
苏 苏州	崑山	崇善堂	1753
浙 杭州	海宁	同仁局	1757

E Main Dependent Variables

E.1 Local Charities

Data for our main dependent variable, the number of local charities in the Qing period, comes from Liang (2001). This is regarded as the definitive compilation of charitable organizations in the Qing dynasty. It is based on her systematic and comprehensive survey of over 2,000 gazetteers. It draws on the work of other prominent scholars working on this topic such as Fuma (1986).

Liang (2001) provides information on local charities in each county between 1415 and 1985, though the data for the period after 1920 is highly fragmentary. This data is based on information on charities complied by local gazetteers.[113] Local gazetteers generally record information on when a charity was established and the name of the charity. But they do not provide more details on the day-to-day management of these organizations. There are 5,412 charities in the entire dataset. The date of foundation is known for 3,901 charities. An example of what this data looks like is provided in Figure A.7. In this study, we rely on Wang Daxue's digitization of this data source. Information on the identity of founder is not available in Wang's dataset.

E.2 Reputable Individuals

Jiang (2005) is our source for data on reputable individuals in the Qing period. Jiang (2005) has information on approximately 25,000 reputable individuals in Chinese history. This includes individuals who were well known for being public figures or for their scholarly achievement. Of these 25,000 individuals, our dataset has year of birth for 19,780 of them. In our main analysis, we focus on individuals born between 1640 and 1819 from prefectures in our matched sample. The resulting dataset comprises 3,509 individuals. The source also contains information on their ancestral home (*jí guàn*). Figure A.8 depicts this data.

E.3 Literacy Data

Our individual-level literacy data come from IPUMS. The IPUMS data provide a series of individual-level controls including gender, ethnicity, number of married couples in the household, and marital status.

E.4 Generalized Trust

To measure contemporary trust, we use two variables from the Chinese General Social Survey (CGSS). The CGSS was launched in 2003 and it is the earliest national representative continuous

[113] Table A.9 shows that our matched sample is balanced in terms of gazetteer availability.

Figure A.8: An example of our data on reputable individuals.

姓　名	生　　卒　　年	字　　号	籍　贯	出　　处
丁　桐	乾三一一道　三(1766 — 1823)	孝继　学阳　啙庭	福建侯官	丁芸《丁桐年谱》
丁　晏	乾五九一光　一(1794 — 1876)	俭卿　柘堂　柘唐	江苏山阳	《清史列传》69 本传①
丁　峻	道　九一　?　(1829 —　?)	潜生	江西南昌	《中国美术家人名辞典》
丁　甡	顺　五一　?　(1648 —　?)	息园　蓬累子	浙江山阴	丁甡《泊如轩文・寄赠方其旋七袭序》(南京图书馆藏稿本)②
丁　涣	道一〇一宣　一(1830 — 1909)	文伯　济卿	江苏泰县	《江苏艺文志・扬州卷》
丁　熹	乾二六一嘉二一(1761 — 1816)	曙天　双湖	浙江钱塘	张延济《桂馨堂集・感逝诗》
丁　培	嘉一二一光一三(1807 — 1887)	芸石　植卿	江苏无锡	《锡山历朝书目考》9
丁　清	乾三八一　?　(1773 —　?)	子澄　澹人	江苏常熟	丁清《续古章堂解愁吟》2《壬辰元日》

survey project run by academic institutions in China.

http://www.chinagss.org/index.php?r=index/index

For Table 4, we focus on generalized trust and trust within the family. For these two questions, answers are on a 1-5 scale, where 1. represents totally agree and 5., totally disagree.

E.5 Political Participation

To measure contemporary attitudes and behavior related to political participation, we use the Chinese General Social Survey (CGSS). In Table 7, our dependent variables are statements of the following form: whether individuals agree or disagree with the statement: "People like me won't have any influence on how the government makes its decisions" (columns 1-2); "My suggestions to the government will be adopted" (columns 3-4). Answers for those questions are on a 1-5 scale, where 1. represents totally agree and 5., totally disagree. The question in columns 5-6 is whether individuals have volunteered to work on local committees. Columns 7-8 ask whether individuals make suggestions to local committees. Both are binary measures of political behavior.

Table A.32 uses the following questions to rule out other reasons for low political participation in affected prefectures. "Policy-making is so complex that people like me won't understand" (column 1). "I have the ability to participate in politics" (column 2). "If I can be the head of the government, I can govern just as well" (column 3). "I have no confidence when I discuss politics with others" (column 4). "The Communist Party is willing to recruit people like me to be members" (column 5). Answers are on a 1-5 scale, where 1. represents totally agree and 5., totally disagree.

In Table A.33, we investigate the relationship between literary inquisitions and the extent to which individuals rely on others. We use the following questions/statements. "Whether in the past year, your friends, colleagues and neighbors have been willing to listen to your personal problems" (columns 1-2). "Whether in the past year, your friends, colleagues and neighbors have provided financial support" (columns 3-4). "Whether in the past year, your friends, colleagues and neighbors have done chores for you" (columns 5-6).

E.6 Attitudes Towards Democracy

The Chinese Political Compass (CPoC) is a version of the Political Compass, a widely used model that organizes political ideologies along a two-dimensional axis based on responses to survey questions. The survey for 2014 is the only year of data that is currently available. This source has been used by Pan and Xu (2017) who demonstrate that it is a representative sample. We locate respondents by their IP addresses, excluding those from outside of China.

We focus on three statements. Question 4: "Western-style multi-party systems are not suitable for China". Question 5: "Free speech is a Western concept and will only lead to chaos". Question 43: "Modern China needs to be guided by the wisdom of Confucius/Confucian thinking".

F Main Control Variables

In this section we provide further information on our main control variables.

F.1 Socioeconomic Macroregions

We use socioeconomic macroregion fixed effects in all regressions to capture the effect of observed and unobserved regional characteristics. The definition of a socioeconomic macroregion is from Skinner, Henderson, and Berman (2013). Skinner (1977) argued that China was neither a single national economic system, nor a set of separate provincial economies, but rather, consisted of a number of macroregions of trade, commerce, and population activity.

F.2 Urbanization and Population Data

Urbanization and population density are widely used proxies for economic development in the premodern period. We employ estimates of the urban population and urbanization rates for 1393 from Cao (2015). This is the only estimate for urban population prior to 1820 (Skinner, 1977). Urbanization data are available for 75 out of 109 prefectures. We also use estimates of population density for 1580 from Cao (2000).

F.3 Jinshi (Examination Graduates)

To measure the pre-existing stock of human capital, we use the number of jinshi from the previous Ming dynasty (1368-1644) from Zhu and Xie (1980), a directory that contains information on all jinshi. Jinshi were the graduates of the highest level of the examination system. We use the same data source to generate a time-varying control for human capital during the Qing period. It is the number of newly-minted jinshi per decade.

In our analysis of 20th century China, we employ the density of jinshi. This is obtained by dividing the number of jinshi by population in 1820.

F.4 Climatic Shocks

Climatically, the High Qing period was a relatively stable period in Chinese history. Nevertheless, we explicitly control for climatic shocks. Our data on extreme floods and droughts is from Central Meteorological Bureau of China (1981), and has been used by other papers in the literature (e.g. Jia, 2014b). Central Meteorological Bureau of China (1981) assigned every prefecture a score: 5 "extreme drought", 4 "drought", 3 "normal", 2 "flood", 1 "extreme flood". We transform this score into a three-point scale. A prefecture receives two points if it experiences a severe flood or drought, one point if it experiences a less severe flood or drought, and zero points if there is no flood or drought. We aggregate yearly data to a decadal level, to obtain a measure of disaster intensity for each prefecture-decade unit.

F.5 The Grand Canal

The Grand Canal and the Yangtze River formed the major trade network in premodern China. The Grand Canal was first built in the Sui Dynasty (581-618 CE). Due to congestion in the river bed and the impact of natural disaster, the course of the canal changed in small ways over the centuries. We observe whether a prefecture was on Grand Canal in the Yuan Dynasty based on CHGIS (2014).

F.6 Conflicts

Data on conflicts are from Chen (1939). It includes revolts, rebellions, and violent protests. We distinguish between conflicts in the period of 1644–1690 in early Qing and conflicts in the period of our analysis. The Qing faced considerable resistance in taking over China. There was substantial variation in this resistance. Some parts of China experienced a relatively peaceful transition of power; other parts launched determined moves to resist the Qing invaders, such as famous battles in Yangzhou ("ten-day massacre in Yangzhou") and in Jiading ("Three massacres in Jiading"). The last waves of military resistance only ended in the late 1680s. We create a measure for resistance to Qing based on the number of conflicts in the period of 1644-1690.

We also have a time-varying measure of conflicts during the High Qing period. Note that Qing China was largely peaceful during this period. The only external wars took place far from the China-proper, such as the Dzungar-Qing Wars, and did not affect society at large.

F.7 Buddhist Temples

Buddhist temples are used by Martinez-Bravo, Padró-i-Miquel, Qian, Xu, and Yao (2017) as a measure of social capital. Furthermore, Buddhism offered an alternative ideology to that of Confucianism. Information on the location of Buddhist temples are from:

http://www.fas.harvard.edu/ chgis/data/chgis/downloads/v4/.

We create a variable for the number of Buddhist temples before 1700, as one of proxies for initial social capital.

F.8 Examination Funding Agencies

During the Qing period, there began to be local organizations that funded exam candidates to travel to exam sites. Those organizations accepted donations. Steles were often erected to thank the donors. Data on funding agencies (*binxing*) for the imperial examination system are from Mao (2014).

F.9 Linguistic Fragmentation Index

We use the measure of linguistic fragmentation employed by Bai and Jia (2016). This is similar to the ethno-linguistic fragmentation (ELF) measure proposed by Alesina and La Ferrara (2005): $ELF = 1 - \sum_{i=1}^{N} s_i^2$ where s_i represents the share of dialect i over the total area in a prefecture. Bai and Jia (2016) use modern data to proxy for linguistic fragmentation in the Qing period.

F.10 Imperial Courier Routes

Imperial China had a system of courier routes and courier stops. Conveyors and messengers, who were typically state employees, used those routes to deliver urgent news (Yang, Huang, and Cheng, 2006). G.W. Skinner and Zumou Yue (2011) complied spatial information for imperial courier routes and courier stops in the Late Qing (1800-1893). Those data are available at the G.W. Skinner Data Archive:

http://www.gis.harvard.edu/services/products/gis-data-portals/g-w-skinner-data-archive.

As a measure of state capacity, we control for a prefecture's proximity to the nearest imperial courier route. Those courier routes formed a network that the imperial state used to govern the empire.

F.11 Government-Sponsored Academies and Private Academies

Data on Ming- and Qing-era academies are provided by Yu Hao and were coded from Ji (1996).

F.12 Ming Loyalists

Information on the number of Ming loyalists is provided by Sun (1985). We geo-coded this data, assigning the number of Ming loyalists to prefectures based on their place of origin.

F.13 Treaty Ports

Treaty ports were important for early industrialization and modernization. Treaty ports were established after 1840 in four waves. Jia (2014a) finds a long-lasting impact of treaty ports established in the 19th century on economic growth in contemporary China.

F.14 Eight Banner Army Bases

We collect new data on the location of the Eight Banners who comprised the Manchu core of the Qing army. We use distance to the nearest Eight Banners army base as an instrumental variable. Our source for data on the Eight Banners is Weng (1876 [2002]).

F.15 Controls for Analysis of Trust and Political Attitudes in Modern China

For our analysis of trust, political participation and attitudes towards democracy in modern China (based on CGSS and CPoC), we obtain contemporary controls from the 2010 census (population in 2010, years of schooling, share of urban population and share of agricultural workforce) and the city statistics yearbooks (GDP per capita). For census data, we aggregate the data from the county to the prefecture level.

Table A.34: Overview of Our Main Variables and Controls

Variable	Description/Sources
Literary Inquisition	Indicator variable. 1 for each decade after a prefecture was affected by a literary inquisition case. Source: Zhang and Du (1991).
Reputable Individuals	Source: Jiang (2005).
Local Charities	Source: Liang (2001).
	Time-Invariant Controls
Log Population Density in 1600	Source: Klein Goldewijk, Beusen, Drecht, and Vos (2011).
Latitude & Longitude	Source: CHGIS (2011).
Agricultural Suitability	Source: Fischer, Nelthuizen, Shah, and Nachtergaele (2002).
Grand Canal & Yangtze	Source: CHGIS (2014).
# Imperial Courier Routes	Source: Skinner and Yue (2011).
Urbanization in 1393	Source: Cao (2000, 2015)
Population Density in 1580	Source: Cao (2000, 2015)
Linguistic Fragmentation Index	Source: Bai and Jia (2016)
# Ming Jinshi	Sources: Zhu and Xie (1980)
# Buddhist Temples	Source: Berman (2011).
# Ming Academies	Source: Ji (1996).
# Ming Loyalists	Source: Sun (1985).
% Manchu	Source: IPUMS 1982 & 2000 Census.
Distance to Nearest Eight Banner Army Base	Source: Weng (1876 [2002]).
Socioeconomic Macroregion	Source: Skinner, Henderson, and Berman (2013).
	Time-Varying Controls
# Conflict	Source: Chen (1939)
Qing Jinshi	Sources: Zhu and Xie (1980)
Disaster Intensity	Our measure of natural disasters distinguishes between an extreme drought or extreme flood (2); a mild drought or mild flood (1) or normal (0). Source: Central Meteorological Bureau of China (1981)

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