Internal Conflict, Elite Action, and State Failure

Evidence from China, 1000-1911*

Mark Dincecco† Yuhua Wang‡

July 6, 2018

Abstract

This paper analyzes the long-run dynamics of internal conflict, elite action over privately- versus publicly-provided security, and state development outcomes in China. We construct new county-level data that span nearly one millennium. We find that, traditionally, elites turned away from clans and toward the imperial government for safety in times of internal conflict. After the new globalizing Western influence took hold in the mid-1800s, however, threatening the imperial government's viability, we find that elites turned back toward clans for protection, particularly during the Taiping Rebellion. Finally, we find a positive link between renewed clan activity and the eventual failure of the imperial Qing state. Our analysis provides a new perspective on the political origins of the Great Divergence, by which Europe took off economically, but China fell behind.

Keywords: Violent Conflict, State-Making, Elite Action, Great Divergence, China

*We thank Alexander Lee, Anil Menon, and Jack Paine for valuable feedback, and Yuqian Chen, Yusi Du, Maggie Huang, Jialu Li, Shiqi Ma, Jia Sun, Patricia Sun, Yihua Xia, and Siyao Zheng for excellent research assistance.

†Department of Political Science, University of Michigan, Ann Arbor, MI 48109; dincecco@umich.edu

‡Department of Government, Harvard University, Cambridge, MA 02138; yuhuawang@fas.harvard.edu

1 Introduction

By the start of the twentieth century, modern nation-states were prevalent across Western Europe (Dincecco 2017, 37-58). In contrast, the imperial Qing state in China, which had ruled for nearly 300 years, failed (Rosenthal and Wong 2011, 222). While the literature on the *economic divergence* between these two world regions has a long pedigree (e.g., Pomeranz 2000), the literature on their *political divergence* is relatively recent (e.g., Stasavage 2016). Furthermore, much of the extant literature on long-run political development centers on Europe (e.g., Tilly 1975; Stasavage 2011; Cox 2016).

To improve our understanding of the rise and decline of China's imperial state, this paper systematically analyzes the dynamics of internal conflict, elite action over privately- versus publicly-provided security, and state development outcomes in China over the long run. To the best of our knowledge, it is the first such study of this kind. We argue that internal conflict may promote state formation or state failure, depending on the basic viability of the central government, which we characterize in terms of its ability in the eyes of elites to provide military defense against external attack threats. In the context in which the central government is minimally viable, then elites will likely prefer to turn away from the private provision of security and toward the central government for safety in times of internal conflict as their default choice. Alternatively, in the context in which the central government is no longer minimally viable in the eyes of elites, however, then they may prefer to turn away from the central government and back toward privately-provided security. If enough elites turn away from the central government, moreover, then renewed emphasis on privately-provided security can eventually promote state failure.

Our analysis makes use of new county-level panel data for China that span nearly 1,000 years, from 1000 to 1911. This database brings together information on internal conflict and clan activity for more than 2,300 counties. To measure the local extent of internal conflict, we geocode the locations of all recorded mass rebellion battles over this time period. These data include nearly 1,200 such battles. We conceptualize local elite action in terms of clans, the traditional form of social organization in China (Weber 1951 [1915], 86-8; Greif and Tabellini 2017, 4). To proxy for clan activity, we record the number of genealogy books written down in each county across time. This approach is not only feasible, given historical data limitations, but is also systematic.

Our conceptual framework suggests that, in the pre-1850 context in which Western influence was virtually null and the basic viability of the imperial government was generally intact (Rosenthal and Wong 2011, 221), then internal conflict would likely prompt elites to turn away from privately-provided security through traditional clans and toward publicly-provided security through the imperial government. We provide two types of evidence consistent with this prediction.

First, we perform a panel regression analysis of mass rebellion and clan activity from 1000 to 1849. To help control for unobservable features that may bias our results, our analysis includes county and period fixed effects and province-specific time trends. We find a negative and highly significant relationship between mass rebellion and clan activity, which suggests that elites turned away from traditional clans in times of internal conflict. To address the possibility of reverse causation, we perform placebo tests, which provide further evidence that the main direction of causation ran from mass rebellion to clan activity, and not vice versa.

Second, we provide evidence that internal conflict increased elite demand for publicly-provided security. We geocode the location of each new military garrison established during the first century of Ming rule (1368-1467), the heyday of imperial garrison construction. We find a positive and highly significant relationship between mass rebellion and new garrisons, even after controlling for prefectural fixed effects and county-level demographic, economic, and geographical features. This result is consistent with our framework's prediction that elites turned toward the imperial government for safety in times of internal conflict.

After 1850, the geopolitical context in China changed due to the new globalizing Western influence, and the imperial government's basic viability began to suffer in the eyes of elites due to this "critical juncture" (Skocpol 1979, 73; Rosenthal and Wong 2011, 221). According to our conceptual framework, internal conflict in this new context would likely prompt elites to turn away from the imperial government and publicly-provided security in favor of traditional clans and their private militias. We put forth three types of evidence in this regard.

First, we extend the panel regression analysis described above to include the 1850-1900 period. Now, the relationship of mass rebellion and clan activity turns positive (it remains highly significant). This result suggests that, if elites no longer viewed the imperial govern-

ment as minimally viable, then they would turn back toward the privately-provided security of traditional clans for safety in times of internal conflict.

Second, we perform an in-depth analysis of elite action in response to the mid-nineteenth century Taiping Rebellion, an internal conflict of unprecedented historical magnitude. Comparing clan activity before and after the Taiping Rebellion, we show that counties that experienced more rebellion battles saw a highly significant increase in post-Taiping clan activity. The results of this analysis provide additional support for our argument that elites turned toward traditional clans for protection if the imperial government was not minimally viable.

Third, we show evidence that the renewed emphasis on privately-provided security may have eventually promoted state failure. Here, we analyze the extent to which local decisions to declare independence from the imperial Qing government in 1911 were a function of greater clan activity during the post-Taiping period. We find a positive and highly significant relationship between post-Taiping clan activity and independence declarations, even after controlling for prefectural fixed effects, local observables, and other potential confounders including the Taiping Rebellion itself and the abolition of the imperial civil service exam (Bai and Jia 2016).

This paper proceeds as follows. Section 2 relates our paper to the extant literature. Section 3 develops our conceptual framework. Section 4 provides qualitative evidence in terms of this framework. Section 5 describes the quantitative data construction. Section 6 presents the empirical strategy, main results, and robustness checks for the pre-1850 context, and Section 7 for the post-1850 context. Section 8 analyzes the relationship between post-1850 clan activity and Qing state failure. Section 9 concludes.

2 Literature

Our paper speaks to two key social science debates.

2.1 Great Divergence

The first such debate concerns the historical determinants of the "Great Divergence", by which Western Europe took off economically in the nineteenth century but China fell behind (e.g., Pomeranz 2000; Allen 2009; Rosenthal and Wong 2011). As described in Section 1, the literature on the economic divergence between these two world regions has a long

pedigree, while that on their political divergence is relatively recent.[1] Given that the state may play an important role in economic development (e.g., North 1990; Acemoglu, Johnson and Robinson 2005; Besley and Persson 2011; Dincecco 2017), however, this political divergence deserves greater analysis. Stasavage (2016) asks why the emergence of parliamentary government was unique to Western Europe. He argues that endemic political fragmentation placed European rulers in weak bargaining positions vis-à-vis elites, and that the small geographical scale of European states further reduced the "transaction costs" of representative government. Cox (2017) emphasizes the interactive effects of political fragmentation and political innovations, including urban autonomy and national-level parliaments. Dincecco and Wang (2018) explicitly link political geography (i.e., political fragmentation versus centralization) with Europe-China differences in violent conflict and political development, while Ko, Koyama and Sng (2018) explain political geography differences between the two regions in terms of multidirectional versus unidirectional attack threats. Blaydes and Paik (2016) focus on the role of the Crusades in European political development, while Voigtländer and Voth (2013) highlight the unique relationships between the Black Death, urbanization, and warfare. Finally, Hoffman (2015) analyzes the political conditions that enabled Western Europe to develop superior military technology relative to China.

Our paper contributes to the literature on the political divergence between Western Europe and China on several fronts. Unlike most of the above works, we focus explicitly on long-run patterns of elite decision-making within China itself, thereby bringing a new perspective to this debate. To perform this task, we draw on a novel historical database, along with rigorous statistical methods. Furthermore, we develop a new conceptual framework, which argues that whether violent conflict promotes state formation or state failure is contingent upon the central government's basic underlying viability in the eyes of elites.

As described in Section 1, the results of our analysis suggest that, during the period in which Western Europe took off economically, the imperial government in China faced a new globalizing Western influence, which inverted a long-standing trend in which elites had turned away from traditional clans and toward the imperial government for safety in times of internal conflict. Rather, in post-1850 China, elites turned toward traditional clans for protection – right when much of Western Europe was industrializing. Our results suggest,

[1] Brandt, Ma and Rawski (2013) provides an overview of this large economics literature.

moreover, that renewed clan activity in the aftermath of the Taiping Rebellion was linked with the eventual failure of the imperial Qing state. Neither renewed clan strength nor state failure is likely to be conducive to modern economic development (e.g., Greif 2006, 310-11; Besley and Persson 2011, 27-31). Thus, by highlighting the relationships between internal conflict, local elite action, and state development outcomes, our analysis also provides a new rationale for the economic divergence between Western Europe and China.

In this respect, our paper builds on the important work of Greif and Tabellini (2017), who analyze historical East-West differences in social cooperation. They argue that, by the year 1000, "kin-oriented morality" was dominant in China, while "impersonal-oriented morality" was so in Western Europe. Given the kin orientation of morality, the natural way to enforce cooperation in China was through the clan, in which clan elders played a key role in dispute resolution. Over time, the importance of the clan as the main means of social cooperation grew. In Europe, by contrast, the corporation – a voluntary organization between unrelated individuals – was the natural way to enforce cooperation, given the impersonal orientation of morality.

Unlike Greif and Tabellini, who focus on religion and morality to explain clan development in China, we highlight the importance of internal conflict and security. Furthermore, while Greif and Tabellini argue that the traditional clan expanded in importance as the locus of cooperation in China, our analysis suggests that the clan's role actually weakened over time, at least in response to internal conflict before the mid-1800s. Additionally, we show that the clan eventually re-gained strength, but only when the imperial government began to lose its basic viability. Thus, our paper offers new insights into clan dynamics, and the clan's role vis-à-vis the imperial government in providing social order, over the long run.

Our paper, moreover, offers a novel counterpart to Dincecco and Onorato (2017). They argue that warfare was a historical driver of urban development in Western Europe, since urban fortifications provided "safe harbors" from the highly destructive rural effects of conflict. The relative historical importance of the clan was far greater in China than in Western Europe (Greif and Tabellini 2017, 4, 6-7). Thus, we may think that individuals in China had two options to seek security in the face of violent conflict – the clan *or* the city (and the military garrisons located therein). We will discuss these options at greater length in Subsection 4.2. In Europe, by contrast, the city was the dominant such option. Given the clan's tra-

ditional importance in China, it may have been more cost-effective to turn toward the clan (versus the city) in times of very severe conflict threats. Since the traditional clan was likely less to have been conducive to market-oriented economic development than the city (e.g., Greif 2006, 310-11; Dincecco and Onorato 2017, 43-9; Greif and Tabellini 2017, 13-14), its role as a safe refuge may have reduced China's long-run prospects for economic growth.

Finally, our paper contributes to the growing literature on historical state development in China. Hui (2005) analyzes the relationship between external warfare and state development in Ancient China. Sng and Moriguchi (2014) and Ma and Rubin (2017) study fiscal development under the imperial Qing state. Both works stress the fiscal challenges created by China's vast geographical scale. Ang (2016) analyzes the co-evolution between the institutional workings of China's central government and economic markets from the mid-1970s onward. We view our paper as complementary to these important works. Still, we go beyond this current literature in several ways. First, we offer a new logic to explain how internal conflict promoted state formation or state failure in imperial China. This logic emphasizes elite perceptions of the central government's basic viability. Second, the time span of our analysis is significantly longer than most previous works, as we analyze the rise and decline of China's imperial state over nearly one millennium. Third, we take advantage of new micro-level data and rigorous statistical methods to establish our argument. To the best of our knowledge, our paper is the first to systematically study the dynamics of conflict, elite security choices, and state development outcomes over the long run in China. Nonetheless, our empirical analysis will account for the various factors that the above literature highlights, including external warfare, geography, and time trends.

2.2 Internal Conflict and State Strength

A second key debate concerns the implications of internal conflict for state development. While external warfare is a common explanation for long-run state development (e.g., Tilly 1975), there is relatively less scholarly consensus about the role of internal conflict. On one hand, internal conflict may promote *state formation* (e.g., Slater 2010), particularly if mass threats pose enough of a challenge to incumbent elites to induce them to coalesce around a stronger central government. On the other hand, internal conflict may promote *state failure* (e.g., Bates 2008), by inducing elites to forsake publicly-provided security in favor of private militias. In Section 3, we will discuss both viewpoints at length.

Our paper contributes to this literature by showing new evidence that the relationship between internal conflict and state strength is contingent. Depending on the macro-political context of basic state viability, our analysis suggests that internal conflict can either promote state formation (in terms of elite movement away from traditional clans and toward the imperial government) or state failure (in terms of elite movement back toward clans). To support these results, we construct a new historical database for China, enabling us to study the role of institutional change over the long run, and perform a rigorous, multi-part regression analysis. In turn, our paper offers a new perspective on the different ways in which internal conflict can influence state development outcomes.

3 Conceptual Framework

External warfare is a traditional explanation for long-run state development (e.g., Tilly 1975; Brewer 1989; Herbst 2000; Hui 2005). Besley and Persson (2011, 58-9) characterize this relationship as follows. Military defense is a basic common-interest public good that the state can provide. If an external attack (or threat) is severe enough, then there may be widespread demand by citizens to increase investment in the central government's capacity for military defense. Once the central government has become stronger, then the marginal cost of sustaining it should be relatively low. Thus, a stronger state can remain in place even after the external attack environment cools down. If external attack threats recur over time, then state development can continue in a ratchet-like process (Rasler and Thompson 2005, 491-3).[2]

Internal conflict may also promote state development.[3] Slater (2010, 5-7) argues that, in some contexts, "violent internal contention can 'make the state' as surely as international warfare". Specifically, internal conflict threats from below must pose a severe enough challenge to the private property and social status of elites. In this context, mass threats in favor of "radical redistribution" can induce elites to set aside narrow interests and form a collective "protection pact": namely, a broad-based elite coalition that supports greater state strength as an institutional safeguard against popular revolt.[4]

[2]This traditional explanation is subject to numerous caveats. Centeno (2002, 101-66), for example, argues that intra-elite divisions, among other factors, severely dampens the relationship between external warfare and state-making. Similarly, Gennaioli and Voth (2015, 1425-8) argue that, for external warfare to promote state development, a large revenue imperative must first be crucial to military victory.

[3]Here, we define internal conflict according to Kalyvas (2006, 17) as "armed combat within the boundaries of a recognized sovereign entity".

[4]Similarly, Rodríguez-Franco (2016, 192-5) argues that internal conflict will promote state-making so long as

Other scholars also claim that the relationship between internal conflict and state strength may be positive. Blattman and Miguel (2010, 43) note that internal conflict may a) prompt the central government to exert greater control over a nation's peripheral zones, and b) boost central government control over local affairs. Similarly, Weinstein (2005, 14-26) argues that internal conflict may produce "functional, representative, and self-sustaining" post-conflict central governments under some circumstances. Namely, the victorious government actors must have faced high survival threats during the internal conflict, coupled with a sizable revenue imperative and few external resources available to reduce conflict costs.

On the other hand, internal conflict may promote state failure. Unlike external warfare, which may induce citizens to invest in military defense as a common-interest public good, internal conflict by its very nature reflects divergent interests (Besley and Persson 2008, 523). Bates (2008, 2) argues that, during internal conflict, elites may form private local militias for security against mass threats. The emergence of private militias in times of internal conflict, moreover, may be linked with subsequent state weakness. Central governments may have political incentives to partner with private militias, thereby reducing the central government's capacity to establish a monopoly over violence (Acemoglu, Robinson and Santos 2013, 7; Staniland 2015, 771; Carey, Colaresi and Mitchell 2015, 851). Similarly, Klare (2004, 117) argues that private militias may attempt to supplant any and all signs of the central government's authority in their zones of operation. Furthermore, private militias may compete with each other over land, people, and resources, creating even more widespread disorder (Klare 2004, 116).

Each of the two viewpoints described above makes important points about the potential implications of internal conflict for state strength. What both viewpoints share is their emphasis on elite action as a key mediator between internal conflict and state development outcomes. With respect to the former viewpoint, internal conflict may promote a "centripetal effect" that induces elites to make greater investments in the central government as an institutional bulwark against mass revolt. With respect to the latter viewpoint, by contrast, internal conflict may promote a "centrifugal effect" that prompts elites to turn away from the central government and toward private militias for protection.

The extant literature related to both viewpoints, however, tends to focus on the effects

enough elites come to believe that greater state strength is the most effective way to protect their incumbent social status. Thus, elites will be willing to partner with the state and hand over greater tax funds.

of internal conflict on state development outcomes within a given macro-political context. Here, we argue that the basic underlying viability of the central government is a key contextual feature that both viewpoints tend to overlook, where "viability" reflects the central government's ability to provide some minimum amount of military defense against external threats, at least in the eyes of elites. We argue that, in the context in which the central government is minimally viable, then it is more likely that the "centripetal effect" will dominate the "centrifugal effect". Here, elites will likely prefer to turn away from private militias and toward the central government for security as their default choice. In the context in which the central government cannot provide some minimum amount of military defense in the eyes of elites, however, then the opposite outcome becomes more likely. Namely, elites may prefer to turn away from the central government and toward private local militias as an alternative source of protection.

The central government's basic viability is unlikely to be exogenous to external attack threats. Indeed, Skocpol (1979, 19-24) argues that the government's ability to provide domestic security is a function of its relative international standing, writing that "developments within the international states system as such – especially defeats in wars or threats of invasion and struggles over colonial controls…have helped to undermine existing political authorities and state controls, thus opening the way for basic conflicts and structural transformations" (Skocpol 1979, 23). Even if the central government's basic viability may change in response to different levels of external attack threats, however, the *precise timing* of this change can be somewhat unpredictable and subject to chance. Hoffman (2015, 19-66) links the historical development of superior military technology in Europe vis-à-vis China to an idiosyncratic process in which four factors – frequent warfare, high military spending, heavy use of gunpowder technology, and ease of adoption – co-evolved over hundreds of years. A priori, it was not obvious at which point in time this indigenous process would "bear fruit" and enable Western powers to truly threaten China's sovereignty. In our empirical analysis, we will exploit this plausibly exogenous timing of the new globalizing Western influence in China over the mid-1800s as a critical juncture that will allow us to analyze the relationships between internal conflict, elite security actions, and state development under two different macro-political contexts (i.e., whether or not the imperial government was minimally viable in the eyes of elites). We will discuss this critical juncture at greater length in Subsection 4.3.

Summarizing, our simple argument produces two main empirical predictions and one ancillary prediction.

1. If the central government is minimally viable (as defined above), then it is more likely that mass rebellion will prompt elites to turn away from private local militias and toward the central government for security.

2. If the central government is not minimally viable, however, then it becomes more likely that internal conflict will prompt elites to turn away from the central government and back toward private local militias for security as an alternative source of security.

A. If enough elites turn away from the central government, then private local militia activity can eventually promote state failure.

We will rely on these three predictions to guide our empirical analysis ahead.

4 Qualitative Evidence

We now provide a brief historical overview of violent conflict, elite security actions, and state development outcomes in China in terms of our conceptual framework.

4.1 Importance of Mass Rebellion

Perry (2002, ix) writes: "No country boasts a more enduring or more colorful history of rebellion and revolution than China." While the majority of historical military conflicts fought in Western Europe were between rival states, more than 65 percent of those fought in China were internal (Dincecco and Wang 2018, 343).

One recurrent source of tension was economic inequality between land-owning elites and landless peasants (Skocpol 1979, 13). The peasantry in China faced a plethora of risks that threatened ruin (Tawney 1966, 77). Such risks included natural disasters, bad harvests, heavy taxation, local corruption, and landlord exploitation, any of which could prompt revolt by the peasantry (Scott 1976, 114-56; Kung and Ma 2014, 134). Moore (1966, 201-27) argues that China was historically prone to mass rebellion, because the peasantry did not fully trust the central government to handle their basic concerns. In this context, mass violence was a key part of the peasantry's survival strategy (Perry 1980, 11).

Indeed, mass rebellions were prevalent throughout much of China's history, from the

Huang Chao Rebellion of 874-84 (Tackett 2014, 191-206) to the Taiping Rebellion of 1850-69 (Spence 1996, 141). Radical redistributive demands were a prominent feature of peasant uprisings, as a song popular among the Taiping rebels attests (Spence 1996, 160):

> Those with millions owe us their money,
> Those who are half poor-half rich can till their fields.
> Those with ambitions but no cash should go with us:
> Broke or hungry, Heaven will keep you well.

4.2 Elite Action in Mass Rebellion

Mass rebellion posed a serious threat to both the property and lives of land-owning elites, known collectively as the gentry.[5] When nearby peasants took up arms, the gentry had two basic options. The first was to seek state protection. Skocpol (1979, 49) writes that, traditionally, the gentry "could not defend against peasant rebellions entirely on a local basis; they had all come to depend, albeit in varying degrees, upon the centralized monarchical states to back up their class positions and prerogatives". Rowe (2007, 28-9) argues that the imperial government had an "urban bias" when it came to military defense, whereby the "governing regime defended its walled cities and ceded the countryside to its foes…" From the Song Dynasty (960-1279) onward, most imperial governments placed their military garrisons at or near major urban centers. Originally, such garrisons were intended to defend border regions, but eventually were established "throughout the heartland of the empire and served less for external defense than for internal repression" (Kuhn 1970, 21). The Ming state (1368-1644) constructed hundreds of military garrisons across their territory. In times of peasant revolt, the gentry could flock to these "walled safe havens" for temporary refuge (although poorer kin members were often left behind). Fleeing to a walled city during the revolt itself, and then returning to the countryside once the imperial state had eventually put it down, was the gentry's most common response to mass rebellions before 1850 (Rowe

[5]The gentry were an educated status group comprising the majority of elites in imperial China. Chang (1955, 3) defines the gentry as all holders of academic degrees under the imperial civil service exam system. Although such a degree made an individual qualified for office, most degree holders were not office-holders, and dwelled in their home districts. There were more than a million members of the gentry during the first half of 1800s (Chang 1955, 139). Including all kin members, this total amounted to approximately 5.5 million, or just more than 1 percent of China's entire population at the time.

2007, 29).[6]

The second option in the face of mass rebellion was to organize self-defense among all kin members, either by constructing fortress protections in the mountains or directly taking on the rebels with private militias. If the imperial government was no longer minimally viable in the eyes of the gentry, then they may have been better off protecting themselves than relying on the state. Clan militarization became a common response by the gentry after 1850 (Rowe 2007, 199-203).

The clan was the primary means through which the gentry organized private collective defense (Rowe 2007, 65-6). Freedman (1958, 3-4) defines a clan as a lineage organization that includes all male descendants within five generations of a common male ancestor, along with any unmarried female agnates and wives of the aforementioned males. During mass rebellion, the gentry could "conscript" their clan and establish a private militia, if the central government was unable to provide sufficient protection. Indeed, many fortresses were lineage-specific, such as the Yu clan's Cloud Dragon Fortress and the Xia clan's Stonewall Fortress (Rowe 2007, 205).

The formalization of lineage organizations was therefore an important potential action that the gentry could take to secure personal safety and reduce material risks. In addition to the construction of ancestral halls, the compilation of genealogical records was the main way to delineate clan membership.[7] These books followed a standard template, starting with an account of the clan's origin and history, the growth of its membership over time, and clan settlement and migration patterns (Hsiao 1960, 334). A main theme of these books was the maintenance of internal group order. As Rowe (2007, 71) writes:

> "Harmony among kinsmen was repeatedly stressed, especially among those of greater and lesser degrees of wealth. Emphasis was put on the need to maintain and, in the wake of social crisis, reconstruct accurate genealogical records".

[6] Only two such rebellions ultimately succeeded between 1000-1900: the Zhu Yuanzhang Rebellion of the mid-1300s, which led to the overthrew of the Yuan Dynasty, and the Li Zicheng Rebellion of 1644, which overthrew the Ming Dynasty.

[7] Given that the maintenance of such books called for both "the scholar's pen and landowner's purse", they were most commonly kept by powerful clans; those clans of relatively modest means could not necessarily afford to produce them (Hsiao 1960, 333-4).

4.3 Western Influence and the Taiping Rebellion

Skocpol (1979, 48-9) characterizes state-society relations in China prior to the mid-1800s in terms of an "Ancien Régime" equilibrium in which the imperial government and gentry partnered toward the exploitation of the peasantry. The vast majority of external threats during this period came from the nomads of the Asian land frontiers (Bai and Kung 2011, 975; Hoffman 2015, 70-2). Nonetheless, the imperial government was generally able to maintain its basic viability in the face of this recurrent threat. Skocpol (1979, 67) writes: "Alien groups might seize the command posts of dynastic rule, but the Chinese imperial system continued to operate". In the two cases where the Mongols or Manchus actually conquered China, both groups were "Sinicized" and kept the imperial system intact (Wakeman 1975, 85; Skocpol 1979, 67). In 1651, just seven years after the Manchu conquest, for example, the Qing government successfully repressed a peasant rebellion, and land-owning elites were "decisively convinced" that "they could and should work as partners with the alien dynasty" (Rowe 2007, 157).

Britain's victory over China in the First Opium War (1839-42), along with the resulting Treaty of Nanking (1842), served as a critical juncture that fundamentally changed long-standing Chinese state-society relations (Rosenthal and Wong 2011, 221). As part of this treaty, the Qing government was forced to pay 21 million silver dollars to Britain and concede control of five ports (Wakeman 1975, 137). This large reparation payment put great strain on Qing public finances, prompting an "unprecedented financial crisis" (Shi and Xu 2008, 55).

More importantly, military defeat by the West greatly undermined the imperial government's viability in the eyes of the gentry, to the extent that "China's sheer existence as a sovereign country was profoundly threatened" (Skocpol 1979, 73). Elite leaders including Wei Yuan and Feng Guifen began to call out the imperial government's political, economic, and military weaknesses and advocate for a "self-strengthening" movement (Wakeman 1975, 181-2). Indeed, a similar critical juncture took place in Japan after the arrival of the US Navy in the early 1850s, which helped prompt the fall of the Tokugawa Shogunate and the Meiji Restoration (Hall 1970, 151).

Skocpol (1979, 75) argues that the new globalizing Western influence also sparked mass disturbance in China, the largest of which was the Taiping Rebellion. Led by Hong Xiuquan,

a schoolteacher who had failed the imperial civil service exam, the Taiping rebels banded together in 1850. In 1853, they captured the city of Nanjing in Jiangsu Province, declaring it the capital of the Taiping Heavenly Kingdom. At the height of its power, the Taiping controlled nearly 200 counties across five provinces along the lower Yangtze River. With help from the scholar-official Zeng Guofan and his Hunan Army, the Qing state finally put down the Taiping Rebellion in 1864.[8] Historians have called the Taiping Rebellion "the largest popular revolt anywhere in the world throughout the nineteenth century" (Anderson 1974, 537), "the bloodiest civil war of all time" (Platt 2012, xxiii), and even the "greatest civil war in world history" (Ho 1959, 238).

The property and lives of the gentry were severely threatened by the Taiping rebels, many of whom were peasants that had lost their land due to subsistence risks (Platt 2012, 18). When the Taiping captured the city of Yongan in Guangxi Province in 1851, for example, they "sent out sizable groups of troops to raid the fugitives' homes and seize their grain stores, livestock, salt and cooking oil, and even their clothing" (Spence 1996, 141). During one raid, approximately 2,000 rebels expropriated two wealthy families, taking "five days and nights to list and carry away the families' accumulated stores" (Spence 1996, 141). Upon the establishment of the Taiping Heavenly Kingdom in 1853, its leadership attempted to implement radical land redistribution (Luo 2009, 753-4). Although this land reform was unsuccessful (due in large part to recurrent warfare), peasants within Taiping-controlled zones refused to pay rents to their landlords, burned their tenancy contracts, and sometimes beat their landlords to death (Luo 2009, 787-810). Outside of Taiping-controlled territory, there was widespread fear of rebel attack (e.g., Spence 1996, 193).

4.4 Private Militias and Qing State Failure

Platt (2012, 150) argues that the Qing state was "fiscally broken" by the mid-nineteenth century due to a combination of external and internal turmoil. The Qing military forces were not typically paid on time, and were in poor fighting shape (Kuhn 1970, 10; Shi and Xu 2008, 58-60; Platt 2012, 118). Furthermore, corruption was rampant (Platt 2012, 119).

In despair, the Xianfeng Emperor (1850-61) reluctantly agreed to allow the gentry to raise private local militias for protection. Traditional clans played a key role in organizing such

[8]Meanwhile, several other mass rebellions broke out across Qing territory, including the Nian and Small Swords Society Rebellions. Most such rebellions were put down in 1869. For this reason, we code the Taiping Rebellion period as 1850-69.

militias, both in terms of finance and leadership. Kuhn (1970, 89-92) offers a detailed study of the militia force within a Hunan county, finding that gentry contributions made up nearly 90 percent of militia expenditures. The gentry also managed the militia's finances without Qing oversight. Militia leaders were, moreover, almost always clan leaders (Yang 2012, 335). To mobilize clan members to join a militia, the clan leader would rely on his lineage ties, and militias were often named after the leading clan (Yang 2012, 335).

The combined military forces of the Qing state and local militias retook the city of Nanjing from the Taiping rebels in 1864, and were able to put down other mass rebellions by 1869. On one hand, this victory brought a period of stability and reform to the Qing government (Wright 1962). Indeed, victory over the Taiping rebels enabled the Qing state to survive another four decades. On the other hand, by granting the gentry an official governmental role, the Qing's endorsement of private militias during the Taiping Rebellion may have eventually tipped the balance of power (Kuhn 1970, 211-25). The gentry were now formally involved in military defense and public administration. Thus, local political power moved from the hands of state officials into those of local elites, which according to Kuhn (1970, 211) led to the "breakdown of the traditional state".

After defeat in the First Sino-Japanese War (1894-5), the Qing state established the New Army in the hope of producing a modern military force that was trained and equipped according to Western standards. Gradually, however, "New Army officers and weaponry were absorbed into the framework of the regionally based armies surviving from the time of the rebellions" (Skocpol 1979, 78), and the gentry leaders, many of whom had been elected to new provincial legislatures, became local strongmen with control over both taxation and military matters (Wakeman 1975, 228-32, 235-7).

The Wuchang Uprising, followed by declarations of independence by local military forces throughout China, prompted the fall of the Qing state in 1911. According to Wakeman (1975, 225), the "Revolution of 1911 can be seen as a series of provincial secessions from the empire, led in every major province but one by officers of the New Army units or by gentry leaders of the new provincial assemblies." With respect to the deeper roots of Qing state failure, Wakeman (1975, 228) highlights the longer-term shift in the power balance toward the local gentry and away from the central government that had began more than a half-century before, writing:

> "The fall of the old order was thus the culmination of processes which began during the 1850s in response to internal rebellion and external aggression: the development of regional armies, the rise of a rural managerial class, the political entrenchment of the gentry in provincial government, and so forth... the extinction of the dynastic state was really the handiwork of the new elites that had emerged during the last half-century of the Qing rule."

5 Quantitative Data

5.1 Historical Conflict

To construct the historical conflict data, we rely on the *Catalog of Historical Wars* produced by the Nanjing Military Academy (2003). This catalog contains detailed information including dates, locations of individual battles, and leaders for each internal and external conflict that took place in China from approximately 1000 BCE to the downfall of the Qing Dynasty in 1911. The *Catalog* derives this information from China's official historical books, known as the "twenty-four histories". Traditionally, each dynasty in China compiled a standardized history of its predecessor, typically based on official court records. The official historical books produced as a result of this process are among the most important sources of systematic data on Chinese history. Scholars generally treat the official historical books as plausible historical accounts (Wilkinson 2000, 501). Nonetheless, our regression analysis ahead will account for potential differences in data quality across time periods (and place) in several ways.

For the purposes of this paper, we focus on two sorts of historical conflicts found in the *Catalog*: mass rebellion and external warfare.

Mass rebellion concerns violent conflict that took place between an imperial government force and a peasant rebel group. Here, we identify a rebel group as a mass organization (versus an elite one) so long as its leadership did not hold any official government positions according to the *Catalog*.[9] The Li Zicheng Rebellion in the late Ming period and the Taiping

[9]We exclude rebellions led by local elites (e.g., the An Lushan Rebellion in the late Tang period), because such rebellions did not typically pose significant redistributive threats. Rather, the goal of elite rebels was generally to gain regional independence. Nonetheless, we control for elite rebellions as a robustness check in our regression analysis (Appendix Table A.8). Our main results remain unchanged, and there is no significant relationship between elite rebellion and clan activity. Appendix Table A.2 breaks down the distribution of conflict types in our sample.

Rebellion in the late Qing period (which we will analyze in depth in Subsection 7.2) are two examples of mass rebellion included in the *Catalog*. Our sample data consist of 1,184 individual battles linked to 601 recorded mass rebellions between 1000 and 1900. Figure 1 maps the mass rebellion battle locations, which took place all throughout China.

External warfare concerns violent conflict between a China-based dynasty and a non-Han state or state-like power (i.e., whether China-based or not, but *not* ethnically Han). Examples include the wars of the Song Dynasty versus the Khitans and later the Jurchens, and those of the Qing dynasty versus the British. There were 1,234 individual battles linked to 544 recorded external wars during our sample period. Appendix Figure A.1 provides a map of these external battles. Consistent with the evidence cited in Subsection 4.3, the geographical pattern suggests that the majority of external conflicts were fought against nomads from the Eurasian Steppe.

5.2 Historical Genealogy

Wang (2008) has cataloged roughly 51,200 genealogy books from 1005 to 2007 in a print registry. This effort represents the most comprehensive registry of known Chinese clan genealogies to date (Greif and Tabellini 2017, 2). Each entry in this registry reports a record of a clan's genealogy book, including the year in which it was compiled. A clan may have had multiple registry entries. For example, the Li clan based in the city of Taiyuan compiled its first genealogy book in 1701 (entry 1), which it then updated in 1754 (entry 2) and 1802 (entry 3), for a total of three genealogy books. Each entry also includes information on the clan's surname and current (at the time) location.

We digitized this entire print registry, and geocoded each genealogy book based on its reported location. To the best of our knowledge, this geocoding is the first such effort of its kind. We first used optical character recognition software to read the entire registry into a Microsoft Excel file. Next, with the help of research assistants, we manually checked each entry in order to ensure accuracy. Finally, we relied on the *China Historical Geographic Information System* (2018) for latitudes and longitudes for the purposes of geocoding. Figure 2 maps the number of recorded genealogy books written down for our sample period. Consistent with previous qualitative evidence (e.g., Freedman 1958, 129), the geographical pattern suggests that historical clan activity was more prevalent in the South than in the North.

Genealogy books provide a unique measure of local elite action in China across time

that is not only feasible, given historical data limitations, but is also systematic. Nonetheless, data concerns may remain. Measurement error is one such concern. Elites may have found it difficult to compile genealogy books during internal conflicts, and these books may have been less likely to survive and be cataloged. If true, then we should observe fewer genealogy books in counties that experienced "too many" rebellions. To address this concern, we include a quadratic term for mass rebellion as a robustness check (Appendix Table A.5). Another concern is that the compilation of genealogy books may have been sensitive to changing economic conditions, cultural trends towards conservatism, and migration patterns. To account for such potential confounders, our regression analysis ahead will include county and period fixed effects and province-specific time trends.

5.3 Panel Database

To maximize informational content, we combined the geocoded historical conflict and genealogy data into a panel database at the county level. We first divided the 1000-1900 period into 18 50-year periods (e.g., 1000-49, 1050-99, etc.). This periodization makes sense because, as a rule of thumb, genealogy books were generally revised roughly every 50 years.[10] We then conjoined the geocoded conflict and genealogy data (points) with the county shapefile (polygons) from the *China Historical Geographic Information System* (2018).[11] In total, the panel database consists of $N = 2,372$ (counties) and $T = 18$ (50-year periods).

6 Mass Rebellion and Clan Activity Before 1850

To systematically analyze the relationship between mass rebellion and clan activity in China between 1000 and 1849, we now undertake a regression analysis.

6.1 Panel Analysis, 1000-1849

We estimate the following benchmark OLS specification:

$$ClanActivity_{i,t} = \alpha + \beta Rebellion_{i,t} + \mu_i + \lambda_t + \epsilon_{i,t}. \quad (1)$$

[10] Traditionally, there was the general expectation that a clan should update its genealogy book every three generations as a matter of filial piety (Feng 2006, 67). Given that males typically married and had their first child in their late teens (Chaffee 1989, 345), three generations translates into $3 \times 18 = 54$ years, or roughly one half-century.

[11] This shapefile is based on the 1990 census. Average country size is 3,987 square kilometers. To help account for the potential arbitrariness of county borders, our regression analysis ahead will also make use of conflict and genealogy totals for neighboring counties.

The dependent variable $ClanActivity_{i,t}$ reflects clan activity in county i over 50-year period t as proxied by the number of genealogy books written down there. The variable of interest $Rebellion_{i,t}$ measures the number of mass rebellions in each county per 50-year period. μ_i and λ_t are county and period fixed effects, respectively. $\epsilon_{i,t}$ is a random error term. All standard errors are robust, clustered at the county level to account for any within-county serial correlation in the error term. Appendix Table A.1 displays the summary statistics for all of the regression variables used in our analysis.

The genealogy data increase in mean and variance across time, particularly before and after 1850. To account for this issue, we take the natural logarithm of the dependent variable, adding a small number such that $ClanActivity_{i,t} \equiv \ln(0.01 + GenealogyBooks_{i,t})$. This log transformation reduces the range of the mean and variance of $ClanActivity_{i,t}$, and allows us to make use of all observations.[12] Beyond this log transformation, we exclude the post-1850 period for our current analysis (we will include it in Section 7). Period fixed effects μ_i also help account for the rightward skew of $ClanActivity_{i,t}$. Finally, given that the mean and variance of $Rebellion_{i,t}$ does not display any obvious increase over time, we keep this variable in its original linear form.

To help account for unobservable features that may have affected both clan activity and mass rebellions alike, our analysis always include county and period fixed effects. County fixed effects help control for local initial conditions (e.g., demographic, economic) and local features that are time-invariant including local geography (e.g., soil quality, terrain ruggedness), while period fixed effects help control for widespread shocks (e.g., cultural, economic) specific to each 50-year interval.

Nonetheless, unobserved time-varying features may still affect the results of our analysis. To address this possibility, we add province-specific linear time trends to our benchmark specification, which help account for unobservable regional features that may have changed over time, including regional cultural, demographic, economic, political, military, religious, and urbanization patterns. To further account for the role of heterogeneity across place and time, we exclude provinces and periods one by one (Appendix Figures A.2 and A.3).

Reverse causation is another potential threat to inference. Namely, clan activity levels in period t may influence the chance of rebellion in period $t + 1$. Province-specific trends help

[12]The main results remain robust if we a) take $\ln(1 + GenealogyBooks_{i,t})$ rather than $\ln(0.01 + GenealogyBooks_{i,t})$, or b) keep the dependent variable in its original linear form (Appendix Table A.3).

control for regional trends in clan activity over time. To explicitly account for the level of clan activity in the previous period, moreover, we include the lagged dependent variable $ClanActivity_{i,t-1}$ as an independent regressor (Appendix Table A.6). Finally, we perform placebo tests equivalent to the first lead of our variable of interest (Appendix Table A.7).

Table 1 shows the main estimation results for the relationship between mass rebellion and clan activity in China from 1000 to 1849. The benchmark specification in column 1 controls for time-invariant local features and widespread time-specific shocks through fixed effects. The coefficient estimate for $Rebellion_{i,t}$ is negative in sign (-0.093) and highly significant. This result is consistent with our prediction from Section 3 that mass rebellion reduced clan activity prior to 1850.

To help control for unobserved changes over time in regional features (e.g., demographic and economic patterns), column 2 adds province-specific trends to the benchmark fixed effects specification. The coefficient estimate for $Rebellion_{i,t}$ remains highly significant, with value -0.070. This result suggests that unobserved time-varying regional features do not drive our main result.

Beyond mass rebellion within a given county, rebellion battles in neighboring counties may have also influenced clan activity there. To evaluate this possibility, column 3 adds the variable $RebellionNeighbor_{i,t}$ to the previous specification. This variable includes mass rebellion data for all counties that border county i. Once more, the coefficient estimate for $Rebellion_{i,t}$ is negative (-0.064) and highly significant. Consistent with the logic outlined just above, the coefficient for $RebellionNeighbor_{i,t}$ is also negative and significant. The size of this coefficient is relatively small (-0.014), however, suggesting that mass rebellion within a given county was of greater importance to local clan activity than that in neighboring counties.

As also described in Section 3, external warfare may have created greater demand for the provision of military defense by the central government as a common-interest public good (e.g., Tilly 1975). If true, then we should observe a negative relationship between external warfare and clan activity, as elites turned away from the private provision of military defense through the traditional clan. Column 4 adds the variable $ExternalWar_{i,t}$. This variable includes data for each individual external warfare battle in county i between 1000 and 1849. The coefficient estimate for $Rebellion_{i,t}$ is again negative (-0.069) and highly significant. Consistent with the above logic, the coefficient estimate for $ExternalWar_{i,t}$ is also negative

and significant. This result is consistent with the logic whereby external warfare helped "make" the imperial Chinese government. The magnitude of the coefficient estimate for $ExternalWar_{i,t}$ is roughly half the size of that for $Rebellion_{i,t}$, however, suggesting that mass rebellion was of greater importance than external warfare in reducing clan activity.

Overall, the Table 1 results support the first prediction of our conceptual framework that mass rebellion will reduce clan activity when there is a minimally viable imperial government. The coefficient estimates suggest that each additional mass rebellion battle was associated with a 7 to 10 percent *decrease* in clan activity (as proxied by the number of genealogy books written down) between 1000 and 1849. These magnitudes are sizable. Mean clan activity in terms of the number of genealogy books was 0.136 over this period. Thus, our most conservative coefficient estimate suggests that the reduction in clan activity associated with greater mass rebellion can account for approximately half of total clan activity.

We further test the robustness of the above results in a wide variety of ways, including alternative specifications of the dependent variable, the lagged variable of interest, the quadratic variable of interest, alternative samples, the lagged dependent variable, placebo tests, and controlling for elite rebellions. The main results remain robust across all such checks. To save space, we relegate the discussion of these robustness checks to the Online Appendix.

6.2 Ming Garrison Construction

Thus far, we have shown evidence for a negative and highly significant relationship between mass rebellion and clan activity between 1000 and 1849. This evidence is consistent with the argument that elites *turned away* from the traditional clan in times of internal conflict. Here, the implicit implication is that elites *turned toward* the imperial government vis-à-vis the clan for safety. Due to a lack of available historical data on the local viability of the imperial government, however, it is difficult to explicitly test such an implication. To proxy for the ability of elites to turn toward the imperial state for protection, we use geocoded data on the location of each new military garrison established during the first century of Ming rule (1368-1467) according to the *China Historical Geographic Information System* (2018). Upon taking power, the Ming embarked on an ambitious garrison construction plan, the main function of which was to help suppress mass revolt (Downing 1992, 50). Nearly 95 percent of Ming-era garrisons (i.e., 375 in total) were built during the first 100 years of Ming rule.

Given that military garrisons provided a safe refuge for elites in times of mass rebellion (as described in Subsection 4.2), this variable makes conceptual sense as a measure of the imperial government's local strength relative to the clan. Furthermore, this approach is feasible, given the paucity of local historical data on the imperial government's reach.

We use this information to create two different dependent variables. For reasons similar to those described in Subsection 6.1, the first takes the natural logarithm of the number of garrisons built in county i between 1368-1467 and adds a small number: $\ln(0.01 + Garrisons_{i,1368-1467})$.[13] The second computes the inverse distance (in kilometers) from the centroid of each county to the nearest Ming-era garrison. This variable is increasing in the number of garrisons located closer to a county. Here, our variable of interest is the number of mass rebellions in county i over the 1368-1467 period, of which there were 121 in total.

Given that this test uses cross-sectional data, we can no longer include county fixed effects as in our previous analysis. We address the possibility of omitted variable bias in this context in two ways. First, to help control for institutional features specific to each region, we include prefectural fixed effects. The prefectural level is the administrative unit just above the county level. Second, to help account for local observable (i.e., agricultural, economic, and geographical) features, we include several county-level control variables: latitude and longitude, distance to coast (log), distance to major rivers (log), distance to provincial capital (log), mean elevation, mean slope, mean agricultural suitability for rain-red rice, and mean agricultural suitability for irrigated rice.[14]

Table 2 displays the results of this analysis. Column 1 shows the raw bivariate correlation between mass rebellion and the establishment of Ming-era garrisons as proxied by $\ln(0.01 + Garrisons_{i,1368-1467})$, while column 2 adds prefectural fixed effects, and column 3 adds the county-level control variables as described above. The coefficient estimate for $Rebellion_{i,1368-1467}$ is positive in sign and highly significant across all three specifications, with values between 0.691 and 0.720. The magnitudes of these estimates suggest that each additional mass rebellion battle during the first century of Ming rule was associated with

[13]The main results remain robust, however, if we keep this dependent variable in its original linear form (Appendix Table A.9).

[14]The latitude and longitude variables, and all of the distance-related controls, are measured at (or from) the centroid of each county. The unit for the distance-related controls is kilometers. The geographical data are from the *China Historical Geographic Information System* (2018). The agricultural suitability data are computed based on the *Food and Agriculture Organization of the United Nations* (2018).

the establishment of a new military garrison.

In columns 4 to 6, we repeat the above regressions for the alternative dependent variable, $1/DistanceNearestGarrison$. The coefficient estimates for $Rebellion_{i,1368-1467}$ are positive in sign and highly significant across all three specifications.

Overall, these results are consistent with the implication of our argument that elites actively turned toward the imperial government for safety in times of mass rebellion.

7 Mass Rebellion and Clan Activity After 1850

The results in the previous section supports the first prediction of our argument that mass rebellion reduced clan activity and promoted state formation in the macro-political context in China when elites viewed the imperial government as viable. We now turn to examine our second prediction that when the central government is not minimally viable in the eyes of elites, then it is more likely that internal conflict will prompt them to turn toward private local militias for security.

7.1 Panel Analysis, 1000-1900

In Table 3, we repeat the main analysis based on Equation 1 after *including* the 1850-1900 period. The coefficient estimates for $Rebellion_{i,t}$ now switch signs: the relationship between mass rebellion and clan activity is significantly *positive* across all four specifications. These results support the second prediction of our conceptual framework. Namely, if the imperial government was no longer minimally viable, then elites would turn back to the traditional clan as an alternative source of protection. Here, the coefficient estimates suggest that, once we take the new globalizing Western influence into account as a critical juncture in imperial China's history, then each additional mass rebellion battle was associated with a 7 to 10 percent *increase* in clan activity (as proxied by the number of genealogy books written down).

7.2 Taiping Rebellion

The regression analysis so far is consistent with the argument that the relationship between mass rebellion and clan activity in imperial China was contingent. If the imperial government was minimally viable (i.e., pre-1850), then mass rebellion would reduce clan activity, as elites sought protection from the state. If the imperial government was not minimally viable (i.e., post-1850 China), however, then elites would turn back to the traditional clan for

safety.

To further improve our understanding of the context in which a change in the state's viability alters local elite action, we now turn to an in-depth analysis of the Taiping Rebellion. The Taiping Rebellion provides an ideal case study for at least two reasons. First, the Taiping Rebellion is without historical parallel in terms of scale (as described in Subsection 4.3). Second, as we will show, this event may be linked with the eventual failure of the imperial Qing state in 1911.

Figure 3 (top panel) indicates that mass rebellions over the nineteenth century peaked during 1850-69. There were 230 mass rebellion battles over this period, of which nearly 60 percent involved the Taiping (the remainder involved other rebel groups such as the Nian). There was also a sizable increase in clan activity in the aftermath of the Taiping Rebellion (Figure 3, bottom panel). The number of genealogy books rose from less than 100 per year before 1850 to nearly 200 by 1870. This descriptive evidence is consistent with the second prediction of our conceptual framework that elites turned back to the traditional clan for protection in the absence of a viable imperial government.

Similarly, Appendix Figure A.5 plots average clan activity trends for counties that experienced at least one mass rebellion battle during the Taiping Rebellion versus those that did not. While both groups of counties followed relatively similar trend lines prior to the start of the Taiping Rebellion, there was a notable increase in the slope of the trend line for the former group (but much less so for the latter group) during the Taiping Rebellion itself.

To systematically analyze pre- and post-Taiping clan activity, we estimate the following OLS specification:

$$\begin{aligned} ClanActivity_{i,t} = \alpha + \beta Period_i \times Rebellion_{i,1850-69} \\ + \mu_i + \lambda_t + \epsilon_{i,t}. \end{aligned} \tag{2}$$

$ClanActivity_{i,t}$ is defined as in Section 6, although it now reflects clan activity in county i over each 20-year period t (versus each 50-year period as before) between 1810 and 1889 (i.e., 1810-29, 1830-49, 1850-69, 1870-89). As we will describe ahead, our results are robust to different ways to divide these time periods. The treatment variable is $Rebellion_{i,1850-69}$, which measures the number of mass rebellions in county i during the Taiping Rebellion. $Period_i$ is a binary indicator variable for the different 20-year periods during 1810-89. The

quantity of interest is $Period_i \times Rebellion_{i,1850-69}$. According to the second prediction of our conceptual framework, we expect the coefficient value β on this estimator to be positive in sign and statistically significant. In other words, we expect clan activity to increase from 1830-49 to 1870-89 in counties that experienced more rebellions during 1850-69. μ_i and λ_t are county and period fixed effects, respectively.[15] $\epsilon_{i,t}$ is a random error term. All standard errors are robust, clustered at the county level.

In column 1 of Table 4, we first test the common trends assumption using the two 20-year pre-treatment periods (1810-29+1830-49). The coefficient estimate is relatively small in magnitude and statistically insignificant. These results suggest that counties followed a common trend in clan activity prior to the Taiping Rebellion.

Column 2 of this table shows our main coefficient estimate. Counties that underwent more mass rebellion battles during 1850-69 experienced a positive and highly significant change in clan activity (as proxied by the number of genealogy books written down) between 1830-49 and 1870-89. These results are also robust to dividing up the time periods into 15-year or 25-year periods (Appendix Tables A.10 and A.11).

Overall, the results in Table 4 provide support for the second prediction of our conceptual framework that elites turned back to the traditional clan for protection in the absence of a minimally viable state. The coefficient estimate suggests that each additional Taiping Rebellion battle was associated with a more than 50 percent increase in post-rebellion clan activity.

8 Clan Activity and Qing State Failure

A final implication of our conceptual framework is that renewed clan activity could eventually promote state failure. As described in Subsection 4.4, the large increase in clan activity and their private militias in the aftermath of the Taiping Rebellion changed the long-standing balance of power between the Qing state and the local gentry. These elites began to mobilize greater local resources and increase local autonomy.

To proxy for local resistance to Qing rule, we geocode the location of each elite group that declared independence from the Qing state in 1911 according to Guo (2015). Appendix Figure A.6 shows the locations of these revolutionary elite groups. We then use this infor-

[15] In this specification, the county fixed effect absorbs the constitutive term for $Rebellion_{i,1850-69}$.

mation to create a binary indicator variable $Independence_{i,1911}$ that equals one if there was at least one independence declaration by a local elite group within the borders of county i. Here, our variable of interest is post-Taiping clan activity (as proxied by the number of genealogy books written down) between 1890-1909. Given that this test uses cross-sectional data (and thus we can no longer include county fixed effects), we address the possibility of omitted variable bias in the same two ways as in Subsection 6.2: prefectural fixed effects and county-level control variables for local (i.e., agricultural, economic, and geographical) observables.[16] Table 5 displays the results of this analysis. Column 1 shows the raw bivariate correlation, column 2 adds prefectural fixed effects, and column 3 adds the county-level control variables. The coefficient estimate for $ClanActivity_{i,1890-1909}$ is positive in sign and highly significant across all three specifications, with values ranging from 0.011 to 0.013. The magnitudes of these estimates suggest that a 50 percent increase in post-Taiping clan activity (as proxied by the number of genealogy books written down) was associated with a 0.19 to 0.23 percent increase in the likelihood of a local independence declaration in 1911.

The Taiping Rebellion itself is one potential confounder here. It may be that conflict exposure during the Taiping Rebellion, rather than the large increase in subsequent clan activity, prompted local resistance to the Qing state. To evaluate this possibility, column 4 adds $Rebellion_{i,1850-69}$, which measures the number of mass rebellions in county i during the Taiping Rebellion, as a control variable. The coefficient estimate for $ClanActivity_{i,1890-1909}$ remains stable in magnitude and significance. The coefficient estimate for $Rebellion_{i,1850-69}$ is also positive in sign and highly significant. This result is consistent with the logic that greater clan activity was not the only channel through which the Taiping Rebellion promoted Qing state failure.

Bai and Jia (2016) argue that counties that had higher quotas for the imperial civil service exam were more likely to experience revolutionary uprisings once this system was abolished in 1905. To account for this alternative explanation for Qing state failure, we control for such quotas ($ExamQuota_i$) in column 5.[17] The coefficient estimate for $ClanActivity_{i,1890-1909}$ falls slightly in magnitude to 0.009, but remains highly significant. Consistent with Bai and

[16] To the previous list of county-level control variables, we add "initial" population density in 1820 (the only year in which such historical data are systematically available at the local level) in persons/km^2 according to Cao (2001).

[17] We rely on the same source as Bai and Jia (2016) for the Qing exam quota data: the *Imperially Established Institutes and Laws of the Great Qing Dynasty* of Kun (1899, vols. 371-80).

Jia's (2016) argument, the coefficient estimate for $ExamQuota_i$ is also positive and highly significant.

Finally, in column 6, we include all of the above covariates. The results are very similar as before.

Overall, these results are consistent with the implication of our conceptual framework that a large increase in clan activity can eventually lead to state failure.

9 Conclusion

In this paper, we have analyzed the long-run dynamics of internal conflict, elite action over privately- versus publicly-provided security, and state development outcomes in China. We have argued that whether internal conflict promotes state formation or state failure depended on the imperial government's basic viability in the eyes of elites, particularly in terms of its capacity to provide adequate military defense against external attack threats. If the imperial government was minimally viable, then it likely made the most sense for elites to turn away from traditional clans and toward the imperial government for safety in times of internal conflict. If, however, the imperial government was no longer minimally viable, then elites may have preferred to turn back toward traditional clans and their private militias as an alternative source of security. Renewed clan activity, moreover, could eventually promote state failure, if enough elites turned away from the imperial government.

To evaluate the predictions of our argument, we have exploited new county-level panel data for China that span nearly 1,000 years, from 1000 to 1911. We have shown evidence that, prior to 1850, elites turned away from traditional clans and toward the imperial government for safety in times of mass rebellion. This relationship fundamentally changed, however, after the new globalizing Western influence took hold in China over the mid-1800s, threatening the imperial government's basic viability in the eyes of elites. In turn, we have found that elites turned back toward clans for protection, particularly during the Taiping Rebellion. Finally, we have shown evidence for a positive relationship between renewed clan activity in the post-Taiping period and the eventual failure of the imperial Qing state in 1911.

To the best of our knowledge, our analysis is among the first to provide systematic evidence that internal conflict first promoted state formation (i.e., pre-1850) in China, but later

promoted the revival of the traditional clan and state failure (i.e., post-1850). Neither renewed clan strength nor major state weakness is likely to be favorable to modern economic growth. Thus, our analysis provides a novel perspective on the political origins of the Great Divergence, by which Europe took off economically in the nineteenth century, but China fell behind.

References

Acemoglu, Daron, James Robinson and Rafael Santos. 2013. "The Monopoly of Violence: Evidence from Colombia." *Journal of the European Economic Association* 11(S1):5–44.

Acemoglu, Daron, Simon Johnson and James Robinson. 2005. "The Rise of Europe: Atlantic Trade, Institutional Change, and Economic Growth." *American Economic Review* 94(3):546–579.

Allen, Robert. 2009. *The British Industrial Revolution in Global Perspective*. Cambridge University Press.

Anderson, Perry. 1974. *Lineages of the Absolutist State*. Verso.

Ang, Yuen Yuen. 2016. *How China Escaped the Poverty Trap*. Cornell University Press.

Bai, Ying and James Kai-sing Kung. 2011. "Climate Shocks and Sino-Nomadic Conflict." *Review of Economics and Statistics* 93(3):970–981.

Bai, Ying and Ruixue Jia. 2016. "Elite Recruitment and Political Stability: The Impact of the Abolition of China's Civil Service Exam." *Econometrica* 84(2):677–733.

Bates, Robert. 2008. "State Failure." *Annual Review of Political Science* 11:1–12.

Besley, Timothy and Torsten Persson. 2008. "Wars and State Capacity." *Journal of the European Economic Association* 6(2-3):522–530.

Besley, Timothy and Torsten Persson. 2011. *Pillars of Prosperity: The Political Economics of Development Clusters*. Princeton University Press.

Blattman, Christopher and Edward Miguel. 2010. "Civil War." *Journal of Economic Literature* 48(1):3–57.

Blaydes, Lisa and Christopher Paik. 2016. "The Impact of Holy Land Crusades on State Formation: War Mobilization, Trade Integration, and Political Development in Medieval Europe." *International Organization* 70(3):551–586.

Brandt, Loren, Debin Ma and Thomas Rawski. 2013. "From Divergence to Convergence: Reevaluating the History behind China's Economic Boom." *Journal of Economic Literature* 52(1):45–123.

Brewer, John. 1989. *The Sinews of Power: War, Money, and the English State, 1688-1783*. Harvard University Press.

Cao, Shuji. 2001. *History of Chinese Population, Qing Period (*Zhongguo renkou shi Qing shiqi*)*. Fudan University Press (*Fudan daxue chubanshe*).

Carey, Sabine, Michael Colaresi and Neil Mitchell. 2015. "Governments, Informal Links to Militias, and Accountability." *Journal of Conflict Resolution* 59(5):850–876.

Centeno, Miguel. 2002. *Blood and Debt: War and the Nation-State in Latin America*. Pennsylvania State University Press.

Chaffee, John. 1989. Status, Family and Locale: An Analysis of Examination Lists from Sung China. In *A Collection of Essays on Song History Studies to Celebrate the Birthday of Dr. James Liu (Liu Zijian boshi jinian songshou songshi yanjiu lunji)*, ed. Kinugawa Tsuyoshi. Dohosha chapter E1, pp. 341–356.

Chang, Chung-li. 1955. *The Chinese Gentry*. University of Washington Press.

China Historical Geographic Information System. 2018.
URL: *http://sites.fas.harvard.edu/%7Echgis/*

Cox, Gary. 2016. *Marketing Sovereign Promises: Monopoly Brokerage and the Growth of the English State*. Cambridge University Press.

Cox, Gary. 2017. "Political Institutions, Economic Liberty, and the Great Divergence." *Journal of Economic History* 77(3):724–755.

Dincecco, Mark. 2017. *State Capacity and Economic Development: Present and Past*. Cambridge University Press.

Dincecco, Mark and Massimiliano Onorato. 2017. *From Warfare to Wealth: The Military Origins of Urban Prosperity in Europe*. Cambridge University Press.

Dincecco, Mark and Yuhua Wang. 2018. "Violent Conflict and Political Development over the Long Run: China versus Europe." *Annual Review of Political Science* 21:341–358.

Downing, Brian. 1992. *The Military Revolution and Political Change: Origins of Democracy and Autocracy in Early Modern Europe*. Princeton University Press.

Feng, Erkang. 2006. "On the "Self-Governance" Nature of Clans in the Qing Dynasty (Jianlun qingdai zongzu de zizhi xing)." *Journal of Huazhong Normal University (Huazhong shifan daxue xuebao)* 45(1):65–70.

Food and Agriculture Organization of the United Nations. 2018.
URL: *http://www.fao.org/faostat*

Freedman, Maurice. 1958. *Lineage Organization in Southeastern China*. University Athlone Press.

Gennaioli, Nicola and Hans-Joachim Voth. 2015. "State Capacity and Military Conflict." *Review of Economic Studies* 82(4):1409–1448.

Greif, Avner. 2006. "Family Structure, Institutions, and Growth: The Origins and Implications of Western Corporations." *American Economic Review* 96(2):308–312.

Greif, Avner and Guido Tabellini. 2017. "The Clan and the Corporation: Sustaining Cooperation in China and Europe." *Journal of Comparative Economics* 45(1):1–35.

Guo, Limin. 2015. *Atlas of Chinese Modern History (Zhongguo jindaishi ditu ji)*. StarMap Press (Xingqiu ditu chubanshe).

Hall, John. 1970. *Japan: From Prehistory to Modern Times*. Delta.

Herbst, Jeffrey. 2000. *States and Power in Africa: Comparative Lessons in Authority and Control*. Princeton University Press.

Ho, Ping-ti. 1959. *Studies on the Population of China, 1368-1953*. Harvard University Press.

Hoffman, Philip. 2015. *Why Did Europe Conquer the World?* Princeton University Press.

Hsiao, Kung-Chuan. 1960. *Rural China: Imperial Control in the Nineteenth Century*. University of Washington Press.

Hui, Victoria Tin-bor. 2005. *War and State Formation in Ancient China and Early Modern Europe*. Cambridge University Press.

Kalyvas, Stathis. 2006. *The Logic of Violence in Civil War*. Cambridge University Press.

Klare, Michael. 2004. The Deadly Connection: Paramilitary Bands, Small Arms Diffusion, and State Failure. In *When States Fail: Causes and Consequences*, ed. Robert I. Rotberg. Princeton University Press chapter 5, pp. 116–134.

Ko, Chiu Yu, Mark Koyama and Tuan-Hwee Sng. 2018. "Unified China and Divided Europe." *International Economic Review* 59(1):285–327.

Kuhn, Philip. 1970. *Rebellion and Its Enemies in Late Imperial China: Militarization and Social Structure, 1796-1864*. Harvard University Press.

Kun, Gang. 1899. *Imperially Established Institutes and Laws of the Great Qing Dynasty (Qinding daqing huidian shili)*. Zhonghua Book Company (Zhonghua shuju).

Kung, James Kai-sing and Chicheng Ma. 2014. "Can Cultural Norms Reduce Conflicts? Confucianism and Peasant Rebellions in Qing China." *Journal of Development Economics* 111:132–149.

Luo, Ergang. 2009. *History of the Taiping Heavenly Kingdom (Taiping tianguo shi)*. Zhonghua Book Company (Zhonghua shuju).

Ma, Debin and Jared Rubin. 2017. "The Paradox of Power: Principal-Agent Problems and Fiscal Capacity in Absolutist Regimes." *Working Paper, London School of Economics* .

Moore, Barrington. 1966. *Social Origins of Dictatorship and Democracy: Lord and Peasant in the Making of the Modern World*. Beacon Press.

Nanjing Military Academy. 2003. *Catalog of Historical Wars (Lidai zhanzheng nianbiao)*. People's Liberation Army Press (Jiefangjun chubanshe).

Nickell, Stephen. 1981. "Biases in Dynamic Models with Fixed Effects." *Econometrica* 49(6):1417–1426.

North, Douglass. 1990. *Institutions, Institutional Change, and Economic Performance*. Cambridge University Press.

Perry, Elizabeth. 1980. *Rebels and Revolutionaries in North China, 1845-1945*. Stanford University Press.

Perry, Elizabeth. 2002. *Challenging the Mandate of Heaven: Social Protest and State Power in China*. M.E. Sharpe.

Platt, Stephen. 2012. *Autumn in the Heavenly Kingdom: China, the West, and the Epic Story of the Taiping Civil War*. Knopf.

Pomeranz, Kenneth. 2000. *The Great Divergence: China, Europe, and the Making of the Modern World Economy*. Princeton University Press.

Rasler, Karen and William Thompson. 2005. "War Making and State Making: Governmental Expenditures, Tax Revenues, and Global Wars." *American Political Science Review* 79(2):491–507.

Rodríguez-Franco, Diana. 2016. "Internal Wars, Taxation, and State Building." *American Sociological Review* 81(1):190–213.

Rosenthal, Jean-Laurent and R. Bin Wong. 2011. *Before and Beyond Divergence*. Harvard University Press.

Rowe, William. 2007. *Crimson Rain: Seven Centuries of Violence in a Chinese County*. Stanford University Press.

Scott, James. 1976. *The Moral Economy of the Peasant: Subsistence and Rebellion in Southeast Asia*. Yale University Press.

Shi, Zhihong and Yi Xu. 2008. *Finance in the Late Qing, 1851-1894 (Wanqing caizheng)*. Shanghai University of Finance and Economics Publishing House (Shanghai caijing daxue chubanshe).

Skocpol, Theda. 1979. *States and Social Revolutions*. Cambridge University Press.

Slater, Daniel. 2010. *Ordering Power: Contentious Politics and Authoritarian Leviathans in Southeast Asia*. Cambridge University Press.

Sng, Tuan-Hwee and Chiaki Moriguchi. 2014. "Asia's Little Divergence: State Capacity in China and Japan Before 1850." *Journal of Economic Growth* 19(4):439–470.

Spence, Jonathan. 1996. *God's Chinese Son: The Taiping Heavenly Kingdom of Hong Xiuquan*. Norton.

Staniland, Paul. 2015. "Militias, Ideology, and the State." *Journal of Conflict Resolution* 59(5):770–793.

Stasavage, David. 2011. *States of Credit: Size, Power, and the Development of European Polities*. Princeton University Press.

Stasavage, David. 2016. "Representation and Consent: Why They Arose in Europe and Not Elsewhere." *Annual Review of Political Science* 19:145–162.

Tackett, Nicolas. 2014. *The Destruction of the Medieval Chinese Aristocracy*. Harvard University Press.

Tawney, Richard. 1966. *Land and Labor in China*. Beacon Press.

Tilly, Charles. 1975. Reflections on the History of European State-Making. In *The Formation of States in Western Europe*, ed. Charles Tilly. Princeton University Press chapter 1, pp. 3–83.

Voigtländer, Nico and Hans-Joachim Voth. 2013. "The Three Horsemen of Riches: Plague, War, and Urbanization in Early Modern Europe." *Review of Economic Studies* 80(2):774–811.

Wakeman, Frederic. 1975. *The Fall of Imperial China*. Free Press.

Wang, Heming. 2008. *Comprehensive Catalogue of Chinese Genealogies (Zhongguo jiapu zongmu)*. Shanghai Ancient Works Publishing House (Shanghai guji chubanshe).

Weber, Max. 1951 [1915]. *The Religion of China: Confucianism and Taoism*. Free Press.

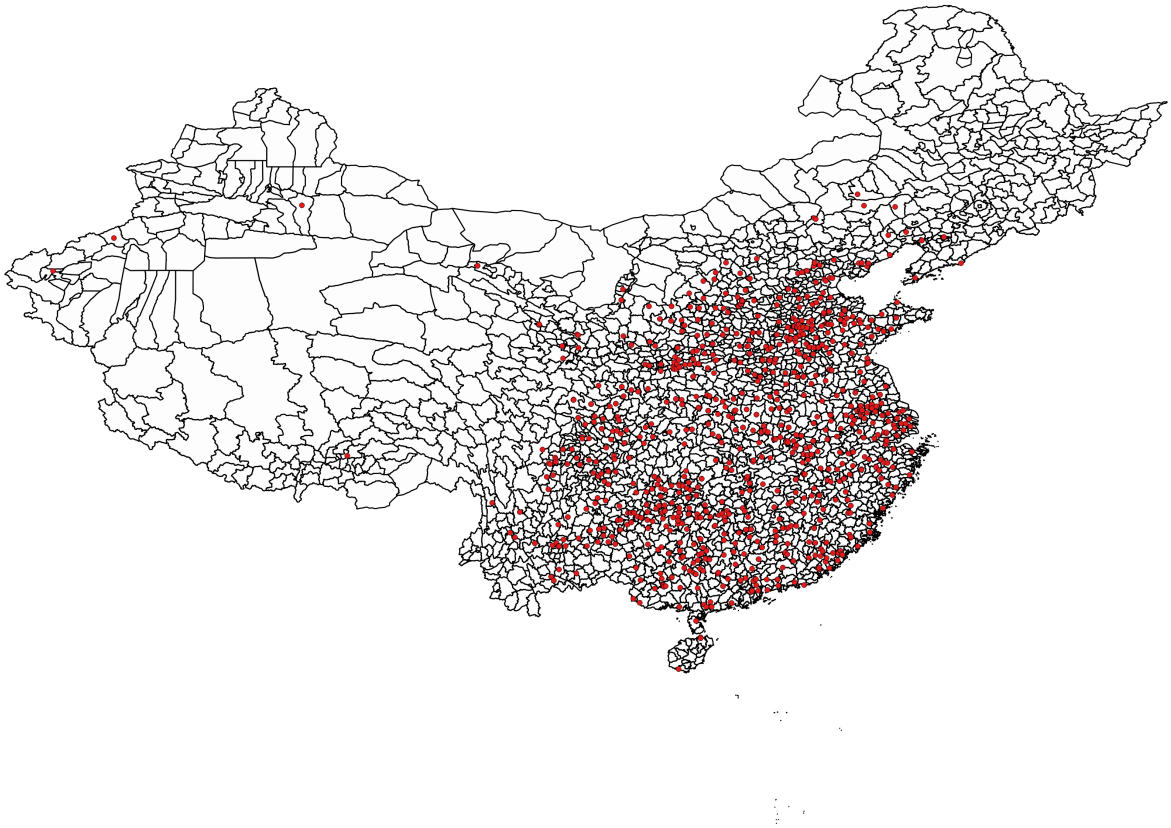
Weinstein, Jeremy. 2005. "Autonomous Recovery and International Intervention in Comparative Perspective." *Center for Global Development Working Paper 57* .

Wilkinson, Endymion. 2000. *Chinese History: A Manual*. Harvard University Asia Center.

Wright, Mary. 1962. *The Last Stand of Chinese Conservatism: The T'ung-Chih Restoration, 1862-1874*. Stanford University Press.

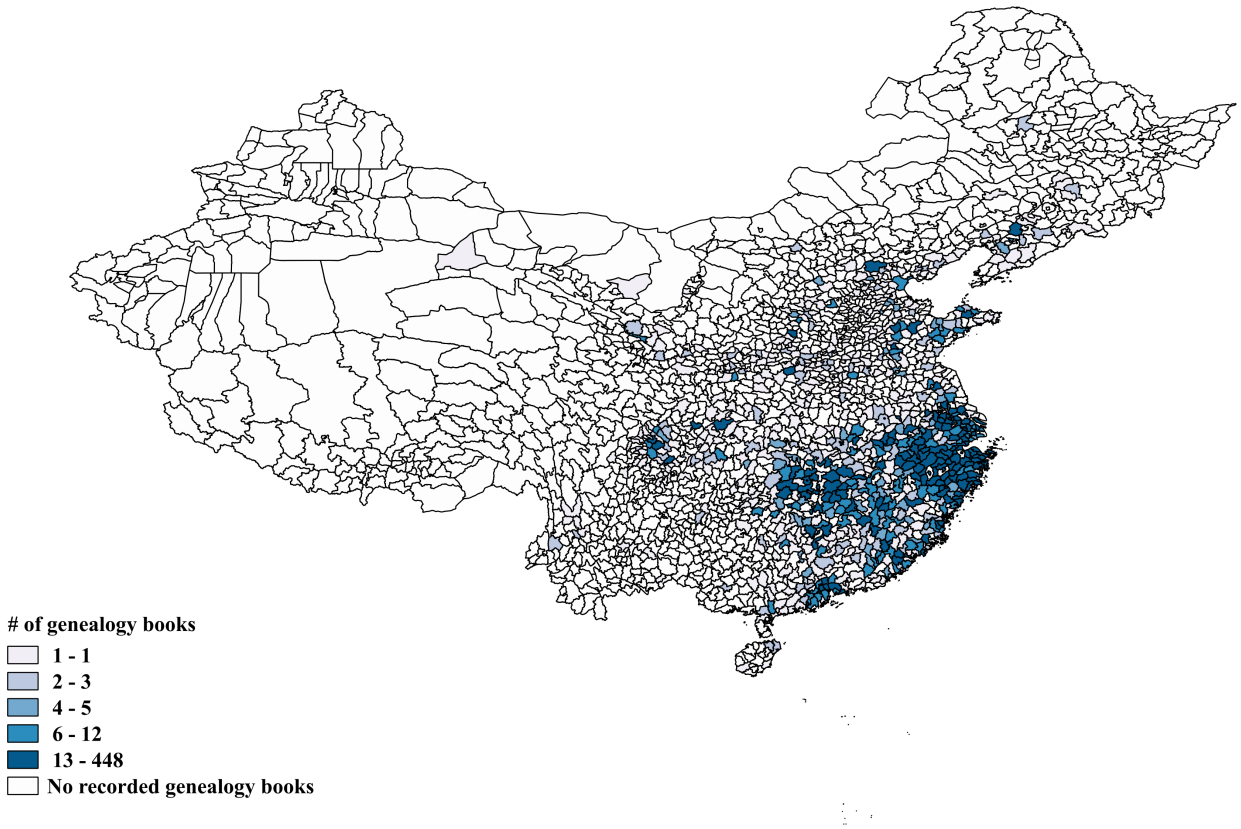
Yang, Guoan. 2012. *State Power and Social Order (Guojia quanli yu minjian zhixu)*. Wuhan University Press (Wuhan daxue chubanshe).

Figure 1: Mass Rebellion Locations, 1000-1900



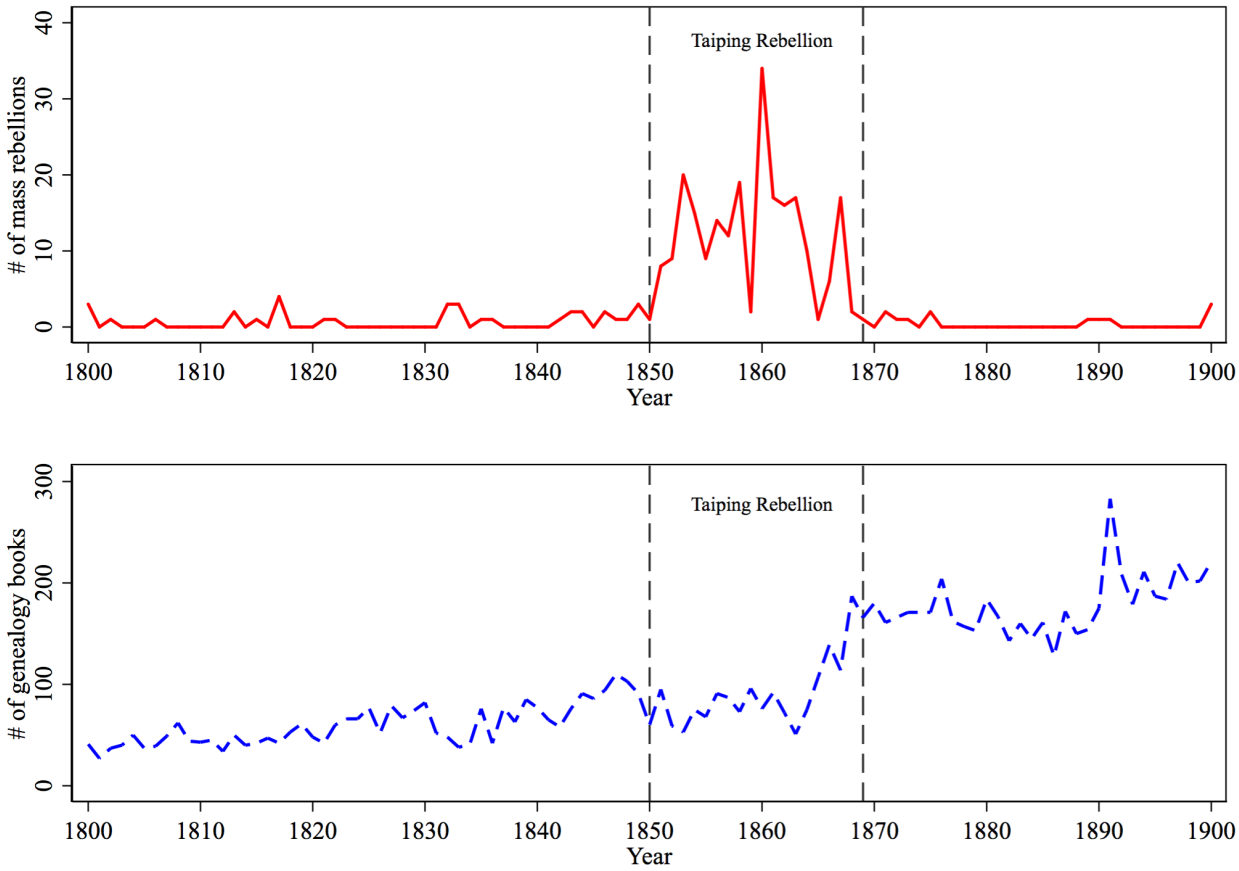
Notes. This figure shows the location of each recorded mass rebellion battle in China between 1000-1900. County lines are for 1990 borders.

Figure 2: Clan Activity, 1000-1900



Notes. This figure shows the number of recorded genealogy books written down between 1000-1900 by county. Counties are shaded by quintile, whereby those in the top quintile receive the darkest shade. County lines are for 1990 borders.

Figure 3: Mass Rebellion and Clan Activity, 1800-1900



Notes. This figure shows the annual number of mass rebellion battles (top panel) and genealogy books written down (bottom panel) between 1800 and 1900. The (red) solid line indicates the number of mass rebellions per year, and the (blue) dashed line indicates the number of genealogy books.

Table 1: Mass Rebellion and Clan Activity: Main Results

Dependent variable:	Ln(0.01+Genealogy Books)			
	(1)	(2)	(3)	(4)
Mass rebellion	-0.093***	-0.070***	-0.064***	-0.069***
	(0.024)	(0.024)	(0.024)	(0.023)
	[0.000]	[0.003]	[0.006]	[0.003]
Mass rebellion (neighbor)			-0.014*	
			(0.007)	
			[0.057]	
External war				-0.038**
				(0.015)
				[0.012]
County FE	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes
Province-specific trend	No	Yes	Yes	Yes
R^2	0.126	0.243	0.244	0.244
Observations	40324	40324	40324	40324

Notes. Estimation method is OLS. Unit of analysis is county-period. Sample period is 1000-1849. All regressions include county and period fixed effects. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Table 2: Mass Rebellion and Ming Military Garrisons

Dependent variable:	Ln(0.01+Garrisons)			1/Distance to Nearest Garrison		
	(1)	(2)	(3)	(4)	(5)	(6)
Mass rebellion	0.720***	0.714***	0.691***	0.021***	0.018***	0.017***
	(0.166)	(0.159)	(0.149)	(0.006)	(0.005)	(0.005)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Prefectural FE	No	Yes	Yes	No	Yes	Yes
County-level controls	No	No	Yes	No	No	Yes
R^2	0.034	0.233	0.267	0.005	0.783	0.792
Observations	2372	2372	2365	2372	2372	2365

Notes. Estimation method is OLS. Unit of analysis is county. Sample period is first century of Ming Dynasty (1368-1467). Dependent variable in columns 1-3 is early Ming military garrisons as proxied by $\ln(0.01 + Garrisons)$, and in columns 4-6 it is the inverse distance (in km) from the county centroid to the nearest such garrison. Variable of interest is number of mass rebellions over this sample period. County-level controls include latitude and longitude, distance to coast (log), distance to major rivers (log), distance to provincial capital (log), mean elevation, mean slope, mean agricultural suitability for rain-red rice, and mean agricultural suitability for irrigated rice. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Table 3: Mass Rebellion and Clan Activity: Include 1850-1900

Dependent variable:	Ln(0.01+Genealogy Books)			
	(1)	(2)	(3)	(4)
Mass rebellion	0.097**	0.085**	0.072*	0.086**
	(0.044)	(0.039)	(0.040)	(0.039)
	[0.029]	[0.031]	[0.067]	[0.028]
Mass rebellion (neighbor)			0.026**	
			(0.013)	
			[0.037]	
External war				-0.056***
				(0.018)
				[0.002]
County FE	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes
Province-specific trends	No	Yes	Yes	Yes
R^2	0.182	0.315	0.315	0.315
Observations	42696	42696	42696	42696

Notes. Estimation method is OLS. Unit of analysis is county-period. Sample period is 1000-1900. All regressions include county and period fixed effects. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Table 4: Clan Activity Before and After Taiping Rebellion

Dependent variable:	Ln(0.01+Genealogy Books)	
	[1810-29]+[1830-49]	[1830-49]+[1870-89]
	(1)	(2)
Period (1830-49)*Mass rebellion (1850-69)	0.124	
	(0.114)	
	[0.278]	
Period (1870-89)*Mass rebellion (1850-69)		0.420***
		(0.157)
		[0.007]
County FE	Yes	Yes
Period FE	Yes	Yes
R^2	0.830	0.827
Observations	4744	4744

Notes. Estimation method is OLS. Unit of analysis is county-period. Column 1 includes data for 1810-29 and 1830-49. Column 2 includes data for 1830-49 and 1870-89. All specifications include county and period fixed effects. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Table 5: Clan Activity and Qing State Failure

Dependent variable:	Declaration of Independence in 1911					
	(1)	(2)	(3)	(4)	(5)	(6)
Ln(0.01+Genealogy Books)	0.012***	0.013***	0.011***	0.012***	0.009***	0.009***
	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.003]	[0.005]
Mass rebellion (1850-69)				0.079***		0.056**
				(0.019)		(0.023)
				[0.000]		[0.015]
Civil service exam quota					0.004***	0.003**
					(0.001)	(0.001)
					[0.001]	[0.017]
Prefectural FE	No	Yes	Yes	Yes	Yes	Yes
County-level controls	No	No	Yes	No	No	Yes
R^2	0.023	0.174	0.188	0.192	0.261	0.280
Observations	2372	2372	2281	2372	1583	1554

Notes. Estimation method is OLS. Unit of analysis is county. Dependent variable is binary indicator of formal declaration of independence from Qing state in 1911 by county. Variable of interest is clan activity as proxied by $\ln(0.01 + GenealogyBooks)$ between 1890-1909. County-level control variables include latitude and longitude, distance to coast (log), distance to major rivers (log), distance to provincial capital (log), mean elevation, mean slope, initial population density, mean agricultural suitability for rain-red rice, and mean agricultural suitability for irrigated rice. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Online Appendix for
Internal Conflict, Elite Action, and State Failure

Robustness Checks for Panel Regression Analysis, 1000-1849

Alternative Specifications of Dependent Variable

The main analysis in Section 6 of the paper defines $ClanActivity_{i,t}$ as $\ln(0.01 + GenealogyBooks_{i,t})$. Appendix Table A.3 shows that our main results are robust to two alternative ways to specify the dependent variable. In columns 1 to 4, we take $\ln(1 + GenealogyBooks_{i,t})$ rather than $\ln(0.01 + GenealogyBooks_{i,t})$, while in columns 5 to 8, we keep $ClanActivity_{i,t}$ in its original linear form $GenealogyBooks_{i,t}$. The results remain negative in sign and highly significant across all eight specifications.

Lagged Variable of Interest

The influence of mass rebellion on clan activity may not be contemporaneous. Put differently, clan activity in period t may be a function of mass rebellion in period $t-1$ rather than in period t. To evaluate this possibility, Appendix Table A.4 repeats the main analysis for the lagged (versus the contemporaneous) variable of interest $Rebellion_{i,t-1}$. The results are always negative in sign and highly significant. Furthermore, the coefficient magnitudes for $Rebellion_{i,t-1}$ are similar in size to those for $Rebellion_{i,t}$ in the main results. Thus, our results do not depend on whether we use the contemporaneous or the lagged term of our variable of interest.

Quadratic Variable of Interest

Counties that experienced "too many" rebellions may have witnessed *greater* clan activity even prior to 1850, as elites turned back to the traditional clan for protection. To address this possibility, Appendix Table A.5 adds the quadratic term $Rebellion^2_{i,t}$. The coefficient estimate for $Rebellion_{i,t}$ remains negative and highly significant, with value -0.107. The coefficient estimate for $Rebellion^2_{i,t}$ does in fact turn positive and significant. However, this coefficient magnitude is relatively small (0.018). Furthermore, this positive effect does not apply until six mass rebellion battles (per 50-year period) were reached; most counties were exposed to less than six such battles through 1849.

Alternative Samples

The main analysis controls for unobserved heterogeneity across place and time by including county and period fixed effects and province-specific trends. To further account for the role of heterogeneity across place, Appendix Figure A.2 excludes sample provinces one at a time

for the regression model in column 2 of Table 1. The coefficient estimates for $Rebellion_{i,t}$ remain relatively stable, and are always significant. Similarly, as an additional way to account for the role of heterogeneity across time, Figure A.3 shows the results after excluding each 50-year period one by one. Once more, the coefficient estimates for $Rebellion_{i,t}$ are always negative in sign and significant. Overall, these tests provide further evidence that the main results are robust across place and time.

Lagged Dependent Variable

The main analysis controls for regional patterns in clan activity over time by including province-specific trends. The level of clan activity in the previous period $t-1$, however, may still influence the chance of mass rebellion in period t. To further account for this possibility, Appendix Table A.6 includes the lagged dependent variable $ClanActivity_{i,t-1}$ as an independent regressor. The coefficient estimates for $ClanActivity_{i,t-1}$ are positive and highly significant, indicating that clan strength today is partly a function of previous clan activity. While the coefficient estimates for $Rebellion_{i,t}$ fall slightly in magnitude relative to the main results, they remain negative in sign and highly significant across all four specifications. Thus, controlling for previous clan strength does not change the main results by much.[18]

Placebo Tests

As another way to account for the possibility of reverse causation, we create a placebo variable $Rebellion_{i,t+1}$ equal to the first lead of our variable of interest. For example, if the dependent variable $ClanActivity_{i,t}$ measures clan activity between 1100-49, then the placebo variable $Rebellion_{i,t+1}$ measures the number of mass rebellions between 1150-99 (versus our variable of interest $Rebellion_{i,t}$, which measures the number of contemporaneous mass rebellions between 1100-49). If the placebo coefficient estimate is not significant, then this test will provide further evidence that the main relationship runs from mass rebellion to clan activity, and not vice versa. Appendix Table A.7 shows the placebo test results. The placebo coefficient estimates are never significant. Furthermore, relative to our variable of interest, they also switch signs (the placebo coefficient estimates are always positive). Overall, the placebo tests results provides further evidence in favor of our interpretation of the main re-

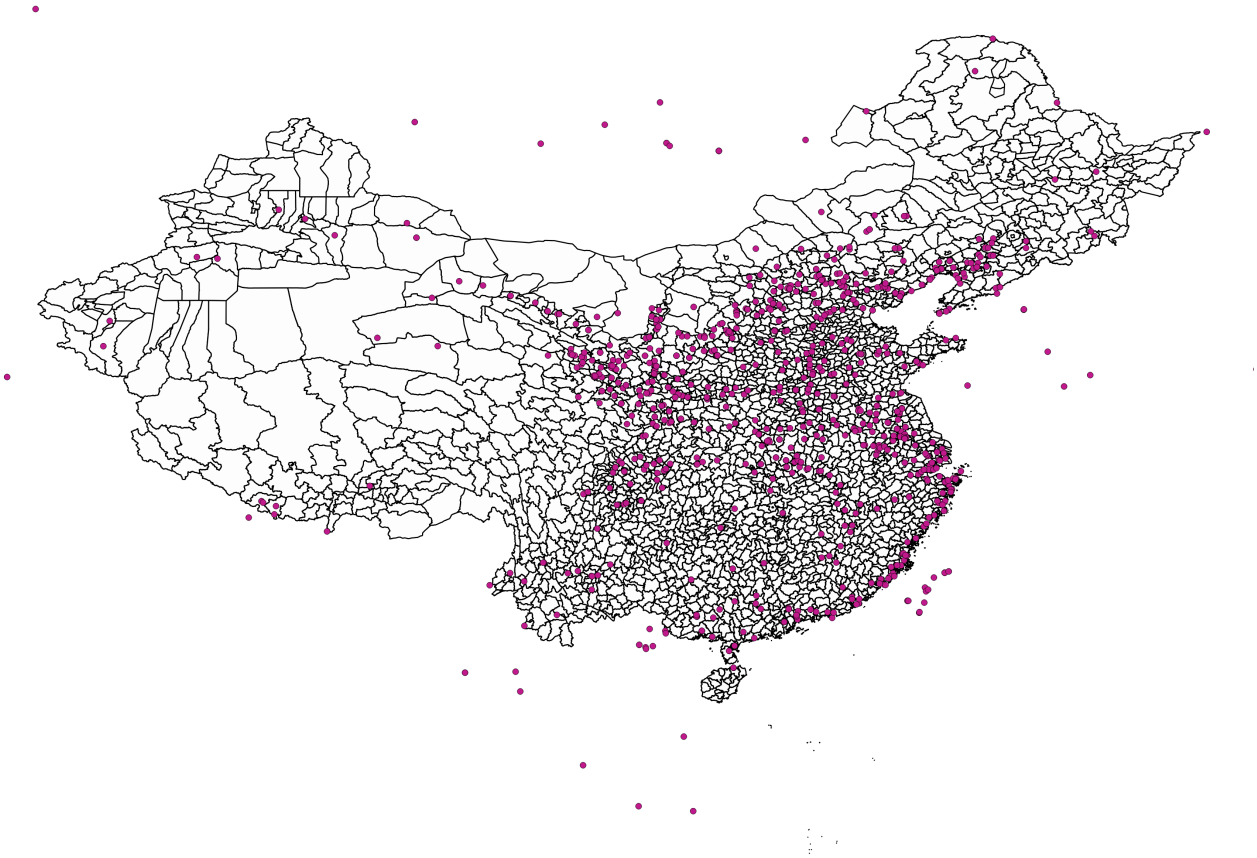
[18]Including the lagged dependent variable induces asymptotic bias of order $1/T$ (Nickell 1981). Given that $T = 17$ in our pre-1850 panel, however, Nickell bias should be relatively small.

sults, namely that there is a robust relationship running from mass rebellion to clan activity, but not the other way around.

Elite Rebellion

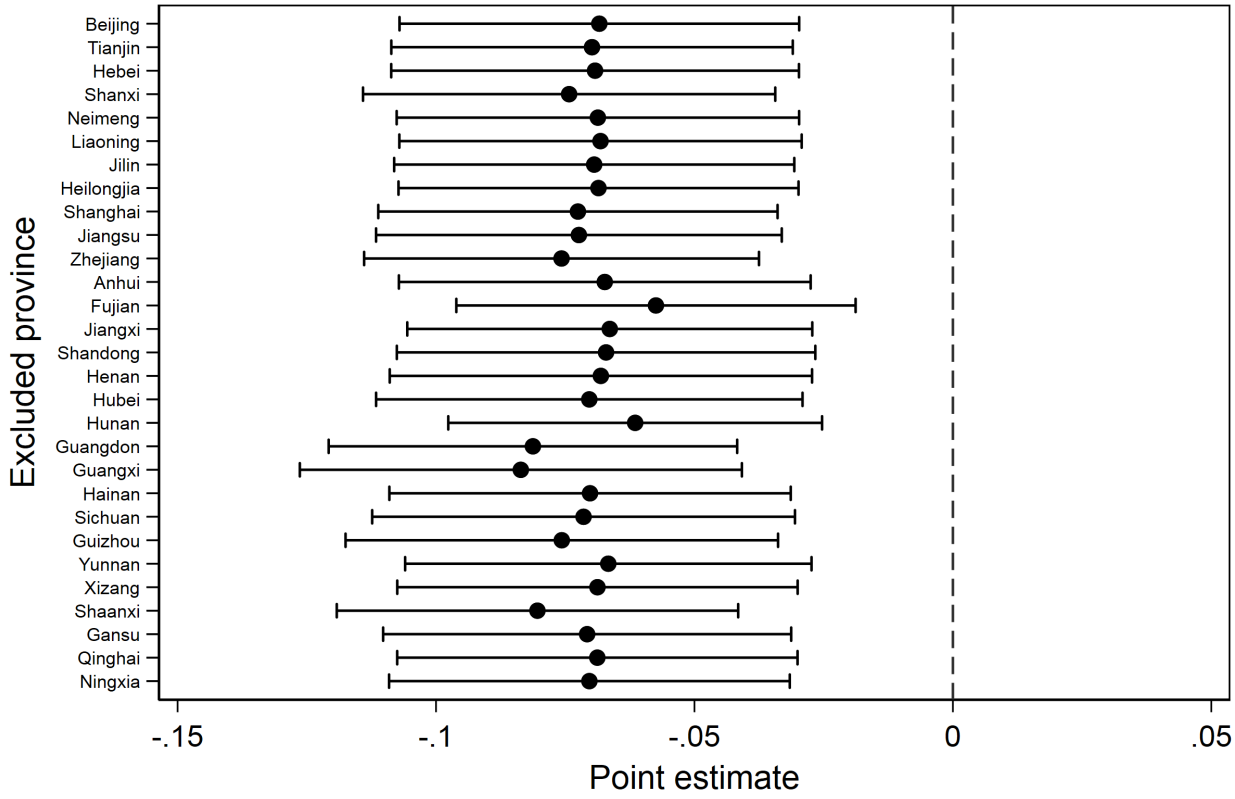
Beyond mass rebellion, elite rebellion was another form of violent internal conflict in imperial China. We identify rebel groups as elite if its leadership held official government positions according to the *Catalog of Historical Wars*. Unlike mass rebellion, the goal of elite rebellions was generally to gain regional independence, and such rebellions did not typically pose significant redistributive threats. Appendix Table A.8 adds the number of elite rebellions per 50-year period as a control in the main analysis. As expected, there is no significant relationship between elite rebellion and clan activity, and our main results remain unchanged.

Figure A.1: External War Locations, 1000-1900



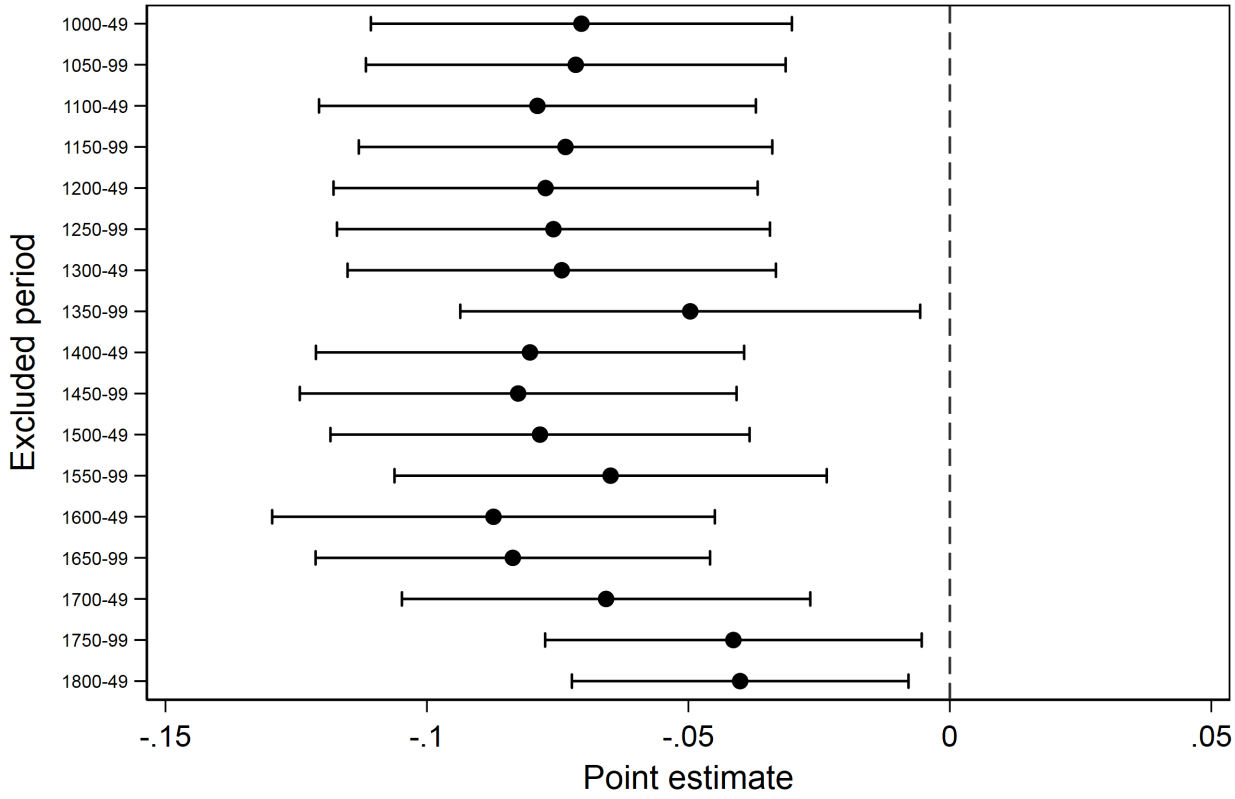
Notes. This figure shows the location of each recorded external war battle in China between 1000-1900. County lines are for 1990 borders.

Figure A.2: Mass Rebellion and Clan Activity: Exclude Provinces One by One



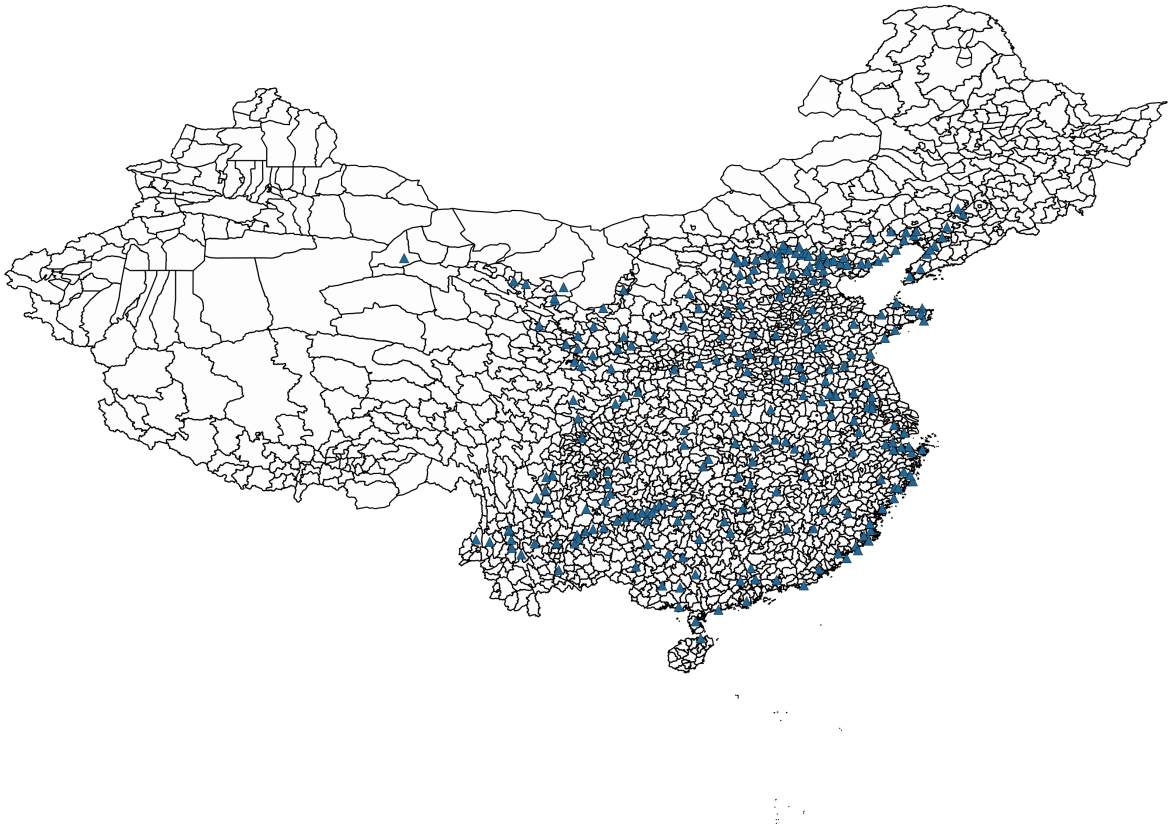
Notes. Sample period is 1000-1849. Each black dot represents point estimate for regression model in column 2 of Table 1 when we exclude each province one by one. Horizontal bars indicate 90 percent confidence intervals.

Figure A.3: Mass Rebellion and Clan Activity: Exclude 50-Year Periods One by One



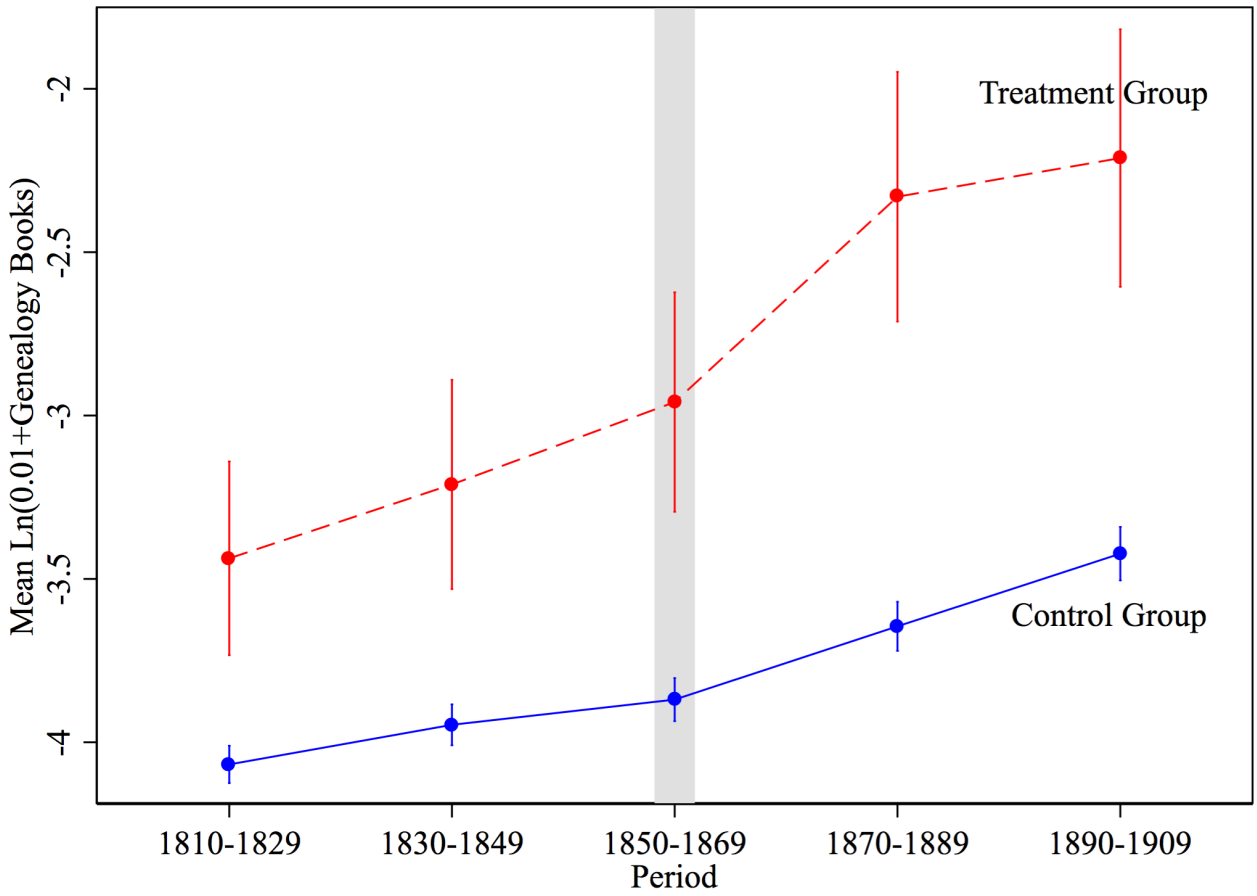
Notes. Sample period is 1000-1849. Each black dot represents point estimate for regression model in column 2 of Table 1 when we exclude each 50-year period one by one. Horizontal bars indicate 90 percent confidence intervals.

Figure A.4: Ming Military Garrison Locations, 1368-1467



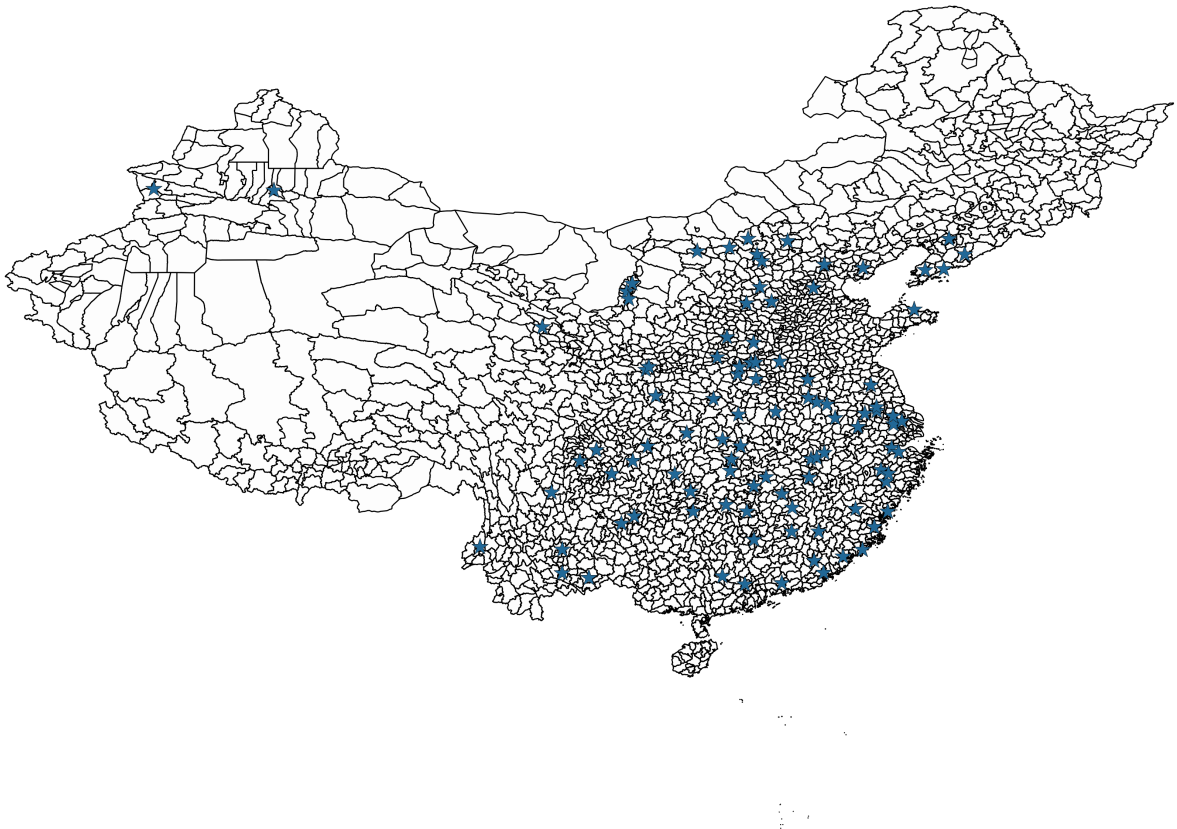
Notes. This figure shows the location of each state military garrison in China established under the first century of Ming rule (1368-1467). County lines are for 1990 borders.

Figure A.5: Clan Activity Trends Before and After Taiping Rebellion



Notes. This figure shows the change in average clan activity as proxied by $\ln(0.01 + GenealogyBooks)$ for counties that experienced at least one mass rebellion battle during the Taiping Rebellion between 1850-69 (treatment group) and those that did not (control group). Shaded vertical line represents start of Taiping Rebellion in 1850. Horizontal bars indicate 90 percent confidence intervals.

Figure A.6: Declarations of Independence, 1911



Notes. This figure shows the locations of elite groups that made a formal declaration of independence from the Qing state in 1911. County lines are for 1990 borders.

Table A.1: Summary Statistics

	N	Mean	Std Dev	Min	Max
A: Panel Analysis, 1000-1850					
Genealogy books	40324	0.136	1.792	0.000	126.000
Ln(0.01+Genealogy books)	40324	−4.436	0.951	−4.605	4.836
Mass rebellion	40324	0.023	0.182	0.000	7.000
Mass rebellion (neighbor)	40324	0.135	0.520	0.000	9.000
External war	40324	0.028	0.252	0.000	12.000
Elite rebellion	40324	0.013	0.129	0.000	4.000
B: Panel Analysis, 1000-1900					
Genealogy books	42696	0.298	4.000	0.000	230.000
Ln(0.01+Genealogy books)	42696	−4.353	1.176	−4.605	5.438
Mass rebellion	42696	0.027	0.202	0.000	8.000
Mass rebellion (neighbor)	42696	0.158	0.592	0.000	16.000
External war	42696	0.027	0.246	0.000	12.000
C: Ming Cross-Sectional Analysis, 1368-1467					
Garrisons	2372	0.138	0.543	0.000	6.000
ln(0.01+Garrisons)	2372	−4.154	1.418	−4.605	1.793
Distance to nearest garrison	2372	184.015	330.884	0.223	2189.455
1/Distance to nearest garrison	2372	0.029	0.108	0.000	4.481
Mass rebellion	2372	0.049	0.365	0.000	11.000
D: Taiping Difference-in-Differences Analysis, 1810-89					
Genealogy books, 1810-29	2372	0.432	2.395	0.000	50.000
Ln(0.01+Genealogy books), 1810-29	2372	−4.022	1.703	−4.605	3.912
Genealogy books, 1830-49	2372	0.577	3.115	0.000	61.000
Ln(0.01+Genealogy books), 1830-49	2372	−3.893	1.866	−4.605	4.111
Genealogy books, 1870-89	2372	1.298	6.916	0.000	115.000
Ln(0.01+Genealogy books), 1870-89	2372	−3.549	2.249	−4.605	4.745
Mass rebellion, 1850-69	2372	0.094	0.400	0.000	8.000
E: Qing Cross-Sectional Analysis, 1890-1911					
Declaration of independence in 1911	2372	0.039	0.193	0.000	1.000
Genealogy books	2372	1.764	8.626	0.000	124.000
Ln(0.01+Genealogy books)	2372	−3.334	2.428	−4.605	4.820
Civil service exam quota	1583	11.030	7.024	0.000	26.000
Mass rebellion, 1850-69	2372	0.094	0.400	0.000	8.000
F: County-Level Control Variables in Cross-Sectional Analyses in Panels C and E					
Latitude	2372	32.964	6.607	7.398	52.934
Longitude	2372	111.155	9.550	74.899	134.276
Area	2372	3986.947	9866.033	3.017	200191.625
Distance to coast (log)	2372	5.492	1.917	0.000	8.081
Distance to major rivers (log)	2372	4.275	2.206	0.000	7.770
Distance to provincial capital (log)	2372	4.932	1.018	0.000	7.379
Mean elevation	2370	0.851	1.096	−0.988	5.152
Mean slope	2370	2.603	2.512	0.013	15.661
Mean agricultural suitability for rain-fed rice	2365	0.381	0.486	0.000	1.000
Mean agricultural suitability for irrigated rice	2365	0.683	0.465	0.000	1.000

Notes. See text for variable descriptions and data sources.

Table A.2: Conflict Types, 1000-1900

	N	%
Mass rebellion	1184	39.732
External war	1234	41.409
Elite rebellion	562	18.859
Total	2980	100.000

Notes. See text for variable descriptions and data sources.

Table A.3: Mass Rebellion and Clan Activity: Alternative Specifications of Dependent Variable

Dependent variable:	Ln(1+Genealogy Books)				Genealogy Books			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mass rebellion	-0.023***	-0.017***	-0.016***	-0.017***	-0.117***	-0.088***	-0.083**	-0.088***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.034)	(0.033)	(0.034)	(0.033)
	[0.000]	[0.002]	[0.006]	[0.002]	[0.001]	[0.008]	[0.015]	[0.008]
Mass rebellion (neighbor)			-0.003*				-0.013	
			(0.002)				(0.009)	
			[0.059]				[0.167]	
External war				-0.008*				-0.013
				(0.004)				(0.032)
				[0.072]				[0.672]
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-specific trends	No	Yes	Yes	Yes	No	Yes	Yes	Yes
R^2	0.110	0.244	0.244	0.244	0.036	0.109	0.109	0.109
Observations	40324	40324	40324	40324	40324	40324	40324	40324

Notes. Estimation method is OLS. Unit of analysis is county-period. Sample period is 1000-1849. All regressions include county and period fixed effects. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Table A.4: Mass Rebellion and Clan Activity: Lagged Variable of Interest

Dependent variable:	Ln(0.01+Genealogy Books)			
	(1)	(2)	(3)	(4)
L.Mass rebellion	-0.105***	-0.086***	-0.087***	-0.085***
	(0.024)	(0.023)	(0.023)	(0.023)
	[0.000]	[0.000]	[0.000]	[0.000]
L.Mass rebellion (neighbor)			0.002	
			(0.008)	
			[0.815]	
L.External war				-0.036*
				(0.021)
				[0.084]
County FE	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes
Province-specific trends	No	Yes	Yes	Yes
R^2	0.126	0.248	0.248	0.249
Observations	37952	37952	37952	37952

Notes. Estimation method is OLS. Unit of analysis is county-period. Sample period is 1000-1849. All regressions include county and period fixed effects. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Table A.5: Mass Rebellion and Clan Activity: Quadratic Variable of Interest

Dependent variable:	Ln(0.01+Genealogy Books)
	(1)
Mass rebellion	-0.107***
	(0.034)
	[0.002]
Mass rebellion (squared)	0.018**
	(0.009)
	[0.047]
County FE	Yes
Period FE	Yes
Province-specific trends	Yes
R^2	0.244
Observations	40324

Notes. Estimation method is OLS. Unit of analysis is county-period. Sample period is 1000-1849. Regression include county and period fixed effects and province-specific time trends. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Table A.6: Mass Rebellion and Clan Activity: Lagged Dependent Variable

Dependent variable:	Ln(0.01+Genealogy Books)			
	(1)	(2)	(3)	(4)
Mass rebellion	-0.068***	-0.052**	-0.047**	-0.051**
	(0.022)	(0.021)	(0.021)	(0.021)
	[0.002]	[0.015]	[0.027]	[0.017]
Mass rebellion (neighbor)			-0.011	
			(0.007)	
			[0.130]	
External war				-0.031***
				(0.011)
				[0.006]
L.Ln(0.01+Genealogy Books)	0.548***	0.446***	0.446***	0.446***
	(0.022)	(0.021)	(0.021)	(0.021)
	[0.000]	[0.000]	[0.000]	[0.000]
County FE	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes
Province-specific trends	No	Yes	Yes	Yes
R^2	0.297	0.349	0.349	0.349
Observations	37952	37952	37952	37952

Notes. Estimation method is OLS. Unit of analysis is county-period. Sample period is 1000-1849. All regressions include county and period fixed effects. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Table A.7: Mass Rebellion and Clan Activity: Placebo Tests

Dependent variable:	Ln(0.01+Genealogy Books)			
	(1)	(2)	(3)	(4)
F.Mass rebellion	0.046	0.045	0.041	0.046
	(0.038)	(0.034)	(0.034)	(0.034)
	[0.226]	[0.179]	[0.235]	[0.172]
F.Mass rebellion (neighbor)			0.009	
			(0.010)	
			[0.395]	
F.External war				-0.031*
				(0.018)
				[0.076]
County FE	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes
Province-specific trends	No	Yes	Yes	Yes
R^2	0.126	0.243	0.243	0.243
Observations	40324	40324	40324	40324

Notes. Estimation method is OLS. Unit of analysis is county-period. Sample period is 1000-1849. All regressions include county and period fixed effects. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Table A.8: Mass Rebellion and Clan Activity: Elite Rebellion

Dependent variable:	Ln(0.01+Genealogy Books)	
	(1)	(2)
Mass rebellion	-0.069***	-0.068***
	(0.024)	(0.023)
	[0.003]	[0.004]
Elite rebellion	-0.035	-0.033
	(0.026)	(0.026)
	[0.177]	[0.200]
External war		-0.037**
		(0.015)
		[0.013]
County FE	Yes	Yes
Period FE	Yes	Yes
Province-specific trend	Yes	Yes
R^2	0.244	0.244
Observations	40324	40324

Notes. Estimation method is OLS. Unit of analysis is county-period. Sample period is 1000-1849. All regressions include county and period fixed effects and province-specific time trends. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Table A.9: Mass Rebellion and Ming Military Garrisons: Linear Dependent Variable

Dependent variable:	Garrisons		
	(1)	(2)	(3)
Mass rebellion	0.228***	0.239***	0.230***
	(0.071)	(0.068)	(0.062)
	[0.001]	[0.000]	[0.000]
Prefectural FE	No	Yes	Yes
County-level controls	No	No	Yes
R^2	0.023	0.234	0.275
Observations	2372	2372	2365

Notes. Estimation method is OLS. Unit of analysis is county. Sample period is first century of Ming Dynasty (1368-1467). Dependent variable is number of early Ming military garrisons. Variable of interest is number of mass rebellions over this sample period. County-level controls include latitude and longitude, distance to coast (log), distance to major rivers (log), distance to provincial capital (log), mean elevation, mean slope, mean agricultural suitability for rain-red rice, and mean agricultural suitability for irrigated rice. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Table A.10: Clan Activity Before and After Taiping Rebellion: 15-Year Window

Dependent variable:	Ln(0.01+Genealogy Books)	
	[1820-34]+[1835-49]	[1835-49]+[1870-84]
	(1)	(2)
Period*Mass rebellion (1850-69)	0.070	
	(0.108)	
	[0.515]	
Period*Mass rebellion (1850-69)		0.349**
		(0.142)
		[0.014]
County FE	Yes	Yes
Period FE	Yes	Yes
R^2	0.828	0.823
Observations	4744	4744

Notes. Estimation method is OLS. Unit of analysis is county-period. Column 1 includes data for 1820-34 and 1835-49. Column 2 includes data for 1835-49 and 1870-84. All regressions include county and period fixed effects. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.

Table A.11: Clan Activity Before and After Taiping Rebellion: 25-Year Window

Dependent variable:	Ln(0.01+Genealogy Books)	
	[1800-24]+[1825-49]	[1825-49]+[1870-94]
	(1)	(2)
Period*Mass rebellion (1850-69)	0.171	
	(0.137)	
	[0.213]	
Period*Mass rebellion (1850-69)		0.411***
		(0.155)
		[0.008]
County FE	Yes	Yes
Period FE	Yes	Yes
R^2	0.830	0.838
Observations	4744	4744

Notes. Estimation method is OLS. Unit of analysis is county-period. Column 1 includes data for 1800-24 and 1825-49. Column 2 includes data for 1825-49 and 1870-94. All regressions include county and period fixed effects. Robust standard errors clustered at county level in parentheses, followed by corresponding p-values in brackets. ***, **, and * indicate statistical significance at 1%, 5%, and 10% level, respectively.