

# The Nexus of Elites and War Mobilization\*

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## Abstract

This paper demonstrates that elites mobilize war and war mobilization benefits the elites, which consequently shapes the post-war power structure. Our case is the organization of the Hunan Army—an army commanded by one Hunanese scholar-general that suppressed the deadliest civil war in history, the Taiping Rebellion (1850–1864). We construct comprehensive datasets which describe the elites in the scholar-general's pre-war network as well as the distribution of political power before and after the war. We examine how pre-war elite connections affected where killed soldiers came from and subsequent shifts in the post-war distribution of political power toward the home counties of these very elites. Two findings stand out: (i) elites used their personal network for war mobilization; and (ii) network-induced mobilization elevated regional elites to the national political stage. Our findings highlight the feedback between elite power and war and shed new light on how war affects the state.

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Do not let me hear you talking together / About titles and promotions  
For a single general's reputation / Is made out of ten thousand corpses.

— Cao Song (828–903)

The battle-plain is the harvest-field of the aristocracy, watered with the blood of the people.

— Richard Cobden (1804–1865)

## 1 Introduction

Elites play a critical role in mobilizing citizens to participate in conflicts that range from civil to inter-state wars. From this observation, two important questions arise: How do they mobilize? How does mobilization affect the elites after the war? Because the act and type of mobilization depend on the expected returns to winning, and the returns to winning depend on the type of mobilization, the two questions are naturally connected. This two-way connection is important for not only the process of war but also post-war consequences. However, while there exists a burgeoning literature that unpacks the black box of mobilization in conflict settings,<sup>1</sup> most of the literature does not directly address elites and mobilization as a two-way problem. In this paper, we highlight the nexus of elites and war mobilization by demonstrating two patterns. First, elites use their personal networks for war mobilization. Second, the network-driven war mobilization consequently increases elite power after the war by elevating regional elites to the national political stage, where they influence the fortunate of the country. We also show that our findings are relevant for understanding how war ultimately shapes the state.

Our context is one of the deadliest civil wars in world history and a war that profoundly altered the political development path of China: the Taiping Rebellion, a civil war waged in China from 1850 to 1864 between the peasant rebels of the Taiping Heavenly Kingdom and the Qing dynasty (1644–1911). To put it into perspective, the Taiping Rebellion coincided with the U.S. Civil War (1861–1865) in its final years, and its death toll—at least 20 million deaths—was more than 30 times

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<sup>1</sup>This literature has examined the roles of financial resources (e.g., [Esteban and Ray 2008](#), [Mitra and Ray 2014](#)), media and propaganda (e.g., [Yanagizawa-Drott 2014](#), [Adena et al. 2015](#)), social capital (e.g., [Satyanath, Voigtländer and Voth 2017](#), [Passarelli and Tabellini 2017](#)) and leadership/role models ([Acemoglu and Jackson 2015](#), [Dippel and Heblich 2021](#), [Rogall 2021](#)).

higher than that of the U.S. Civil War (Platt 2012).<sup>2</sup> Our focus is on the organization of the state side: One of the most striking aspects of this war is that the Taipings were defeated by a relatively small army,<sup>3</sup> known as the Hunan Army, commanded by one scholar-general from Hunan Province, Zeng Guofan. The Hunan Army was organized from existing militias that had fought with the Taipings during the period 1850–1852. After Zeng took power in 1853, he turned to his personal network to recruit soldiers from commoners in Hunan province. The organization of the Hunan Army has attracted much attention from historians, who delineated the recruitment process of the Army.<sup>4</sup>

This setting has several strengths that enables us to elucidate the relationships between pre-war elite networks, war mobilization and post-war elite power. First, this case possesses a well-defined elite network institutionalized by the Civil Service Exam system. We demonstrate the links in this network quantitatively for the first time. As the primary elite recruitment channel that produced the bureaucrats for the country, the system provided the opportunity for elites to forge political alliances based on the exam (involving the links between the examiners and examinees and those between examinees). In addition, kinship, including marriages, has always provided an important link among the elites. We digitized a large number of historical archival sources and constructed a database that covers Zeng and 2,460 other elites (with 164 from Hunan) in his network, giving us variation in pre-war connections with Zeng across 1,646 counties. Second, we can proxy war mobilization by the death of individual soldiers, the costliest form of war contribution. This information was recorded partly because the soldiers' family members were paid compensation. We digitize the records for 34,328 deaths with soldier names, their origin counties and the year and the battle in which they died. Finally, we are able to measure elite power based on rich information on the Chinese bureaucracy. We are interested in the distribution of power that has the potential to influence a nation. To this end, we built a database on national-level offices (including those in the central government and top offices in each province) during the period from 1820–1910, which we use to study the consequences of war mobilization on elite power in both the short and long runs.

The first part of our study documents that elites used their personal networks for war mobilization. Empirically, we employ a difference-in-differences strategy by exploiting county-level variation

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<sup>2</sup>In terms of population share, the Taiping Rebellion deaths accounted for at least 5% of the Chinese population and the U.S. Civil War deaths accounted for roughly 2% of the U.S. population at that time.

<sup>3</sup>During its prime time, the Army had approximately 130,000 soldiers. This size appears small relative to the civilian deaths because most of the civilian deaths were not caused by fighting between the Taipings and the government forces. Instead, many unarmed civilians were killed by both parties of the war. Famine- and plague-triggered deaths were among the major causes of civilian deaths.

<sup>4</sup>These works include Luo (1939), Kuhn (1970) and Platt (2012), which we discuss more in Section 2.2.

across 75 Hunan counties in elite connections and time variation in Zeng Guofan's appointment. Specifically, we compare counties with more elite connections with those with fewer or no connections before and after Zeng took power. Our baseline networks focus on exam connections and blood relationships which are not subject to individual choices. We measure elite connections of a county by the sum of direct and indirect connections inversely weighted by distance to Zeng and use the unweighted sum of connections to Zeng as an alternative measure. We find that counties with one additional elite connection with Zeng experienced 23% more soldier deaths, or over 6,600 more soldier deaths during the period 1854–64. The main concern in establishing the relationship between elite network and war mobilization is determining whether the estimate is driven by other omitted county characteristics. For instance, those counties with more elite connections could be more politically important and might in turn respond more to the war. We find that the effect of elite connections occurred only after Zeng took power to organize his own army, implying no systematic differences across counties before the Army became organized. We also construct placebo networks by assuming that Zeng succeeded in the previous or the next exam. While both placebo and actual networks are correlated with the general political importance of a county, our findings are specific to actual networks.

Another concern is whether it is reasonable to use soldier deaths to proxy mobilization. While soldier deaths are the costliest type of mobilization, an alternative interpretation could be that soldier deaths mainly reflect a pattern of strategic deployment that led to different death rates given the same level of mobilization. One may even conjecture that elite connections are associated with weaker soldiers who died more. Several empirical patterns confirm that soldier deaths are a reasonable proxy for mobilization. First, we find that the relationship between elite connections and soldier deaths is weaker in counties with more alternative mobility opportunities *ex ante*, consistent with the interpretation that a higher opportunist cost reduced the probability of joining the army. Second, leveraging information on battles, we conduct a battle-level analysis and find that the impact of elite connections on soldier deaths are similar without and with battle fixed effects, suggesting that strategic deployment across battles is not a critical issue. Third, in one famous battle in 1858, the entire troops of the Hunan Army involved were annihilated, which creates a scenario where death rates did not differ across home counties. We find that the impact of elite connections on soldier deaths in this battle is close to that for other battles in the same year. Additionally, we find a significantly larger impact of elite connections on deaths for soldiers from the same clan as relevant elites, consistent with the historical narratives that elites used clan relationships for recruitment.<sup>5</sup>

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<sup>5</sup>See more discussion on these narratives in Section 2.2.

What did the elites gain from their war mobilization effort? The second part of our study investigates the impact of network-induced war mobilization on elite power after the war and its implications for the state. The main challenge here is to differentiate the role of network-induced war mobilization from that of elite networks. To address this challenge, we use information on all 1,646 counties across the country during 1820–1910. The non-Hunan counties also enjoyed different degrees of connections in Zeng’s network but did not experience soldier deaths in the Hunan Army, which provides us with a comparison group to examine the impact of connections (without war mobilization) over time. Empirically, using a difference-in-difference specification, we find that the Hunan counties with more connections with Zeng obtained more national-level offices during and after the war: One additional direct elite connection with Zeng in a county is associated with 52% more national-level offices after Zeng took power in 1853, whereas no notable change occurred during 1820–1853. In contrast, the office advantages of non-Hunan counties connected with Zeng remained stable before, during and after the war, suggesting the relevance of war in power distribution. The comparison between Hunan and non-Hunan counties delivers a triple-difference design, from which we obtain the impact of elite connections in Hunan on the change in elite power before and after the war.

The difference between Hunan and non-Hunan counties suggests the feasibility of directly estimating the impact of network-induced mobilization on elite power using an instrumental variable (IV) approach. Specifically, we use  $\text{connections} \times \text{Hunan}$  to predict soldier deaths during the period 1854–64 (i.e., after Zeng took power) and examine how the predicted soldier deaths of a county are associated with national-level offices held by that county during the period 1820–1910. With this design, we are able to link elite connections, soldier deaths and elite power together: One additional direct elite connection with Zeng in a county is associated with 256 more deaths, which then increases the national-level offices allocated to this county by 52%.

Three additional pieces of evidence support that the power effect comes from network-induced war mobilization. First, the year-by-year estimates show that no association existed between network-predicted soldier deaths and elite power before the war. In other words, the benefits of elite networks were similar for Hunan and non-Hunan counties before the war. Second, we employ the same placebo networks (i.e., assuming that Zeng passed the previous and the next national-level exams) as in our analysis above. When using actual networks and their interactions with Hunan to predict soldier deaths while controlling for the placebo networks, the placebo networks do not have any impact on national-level offices (during and after the war), which supports that our findings are

not driven by other county-level characteristics that are correlated with elite networks.<sup>6</sup> Finally, the multiple sources of connections permit us to conduct over-identification tests, which confirm that when using the national-level exam links to predict soldier deaths, the other links are not correlated with national-level offices, and vice versa.

Finally, we discuss the implications of our findings for the state. Can rewarding the elites with power buy loyalty to the state? The answer is not clear. On the one hand, one may argue that the elites who benefited greatly might become defendants of the regime (Wright 1957). On the other hand, the source of elite power changed. Before the war, the elites had to climb the bureaucratic ladder through the regulations of the state. During and after the war, war mobilization became an important source of elite power, which may make the elites less willing to follow the interest of the state (e.g., Luo 1939, McCord 1993). We cannot causally prove such broad conjectures but find suggestive evidence more consistent with the latter hypothesis. Specifically, we examine the origins of governors and vice-governors for each province and show that war mobilization enabled Hunan elites to govern major provinces in central and South China. As a test on the behavior of the elites, we study the choices of these provincial governors at a critical historical event in 1900 known as the “Southeast Mutual Protection Movement,” which marked the first time that some regional officials openly refused to obey orders from the state when the Qing state declared war on 11 foreign nations. We find that the provinces under the control of the Hunanese governors and vice-governors were more likely to be in the mutual protection movement and remain neutral during the war.

By documenting how elites mobilized war and how war mobilization affected the elites, our study contributes to several lines of research. Our first main finding—elites used their personal network for war mobilization—joins the literature to unpack how mobilization works. Our setting shares similarities with yet differs from recent studies that underscore leaders in war and emphasize the importance of leadership and role models (e.g., Dippel and Heblich 2021, Cagé et al. 2020).<sup>7</sup> Most of the elites in our setting did not directly fight in battle, implying that leadership and role models are less essential in our setting. Instead, historical narratives suggest that elites used their personal network in recruitment to screen soldiers and build trust. This interpretation of personal

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<sup>6</sup>This test shares similarities with the analyses in Enikolopov, Makarin and Petrova (2020). They use city-cohort variation in studying together with VK founders to predict the penetration of VK, while controlling for the connections in the previous or following cohorts.

<sup>7</sup>Dippel and Heblich (2021) document that leaders of the failed German revolution of 1848–1849 were expelled to the United States and became antislavery campaigners who helped mobilize Union Army volunteers. Cagé et al. (2020) show that individuals who served under Philippe Pétain during the pivotal WWI battle of Verdun played a role in mobilizing Nazi collaborators during the Pétain-led Vichy regime.

networks is consistent with the importance of social capital (e.g., [Satyanath, Voigtländer and Voth 2017](#), [Passarelli and Tabellini 2017](#)). We use the previously described advantages of our setting to depict how social capital works via individual-level links.<sup>8</sup>

Our findings are relevant across varied contexts. For instance, based on interviews of participants in the Rwandan genocide, [Fujii \(2009\)](#) concludes, “It was social ties, not ethnic membership, that patterned the process of recruitment and targeting”.<sup>9</sup> Similar observations exist in regard to the organization of the *rondas campesinas* in Peru and armed organizations in Kashmir (see a review by [Wood \(2008\)](#) for additional cases). Measuring elite networks, however, is generally very difficult. The Civil Service Exam institutions in our setting provides a unique laboratory to depict these links, and the structure of our data allows for a uniquely deep analysis of these elite structures.

Our second main finding—how network-driven war mobilization shapes the post-war power structure—is novel and useful for understanding the extent to which “war made the state” (e.g., [Tilly 1985](#), [Besley and Persson 2010](#), [Dincecco and Prado 2012](#)). While the theoretical literature differentiates inter-state wars from civil wars and argues that civil wars weaken the state ([Besley and Persson 2010](#)), empirical studies examining the most tangible form of state capacity—taxation capacity—have often found that civil war also facilitates tax increase (e.g., [Slater \(2010\)](#) in Southeast Asia, [Rodriguez-France \(2016\)](#) in Colombia).<sup>10</sup> Our study suggests that knowing how elite power changes can be instructive. In fact, to finance the Hunan Army, the state introduced a new trade tax known as *likin* which persisted after the war and became an important source of tax revenue.<sup>11</sup> However, one would arrive at an incorrect conclusion on state capacity by only looking at tax revenues of the state. By demonstrating how the power structure changes before and after the war, our study further enriches our understanding on how war shapes the state.

Equally important, these two findings can be interpreted in the same framework, which suggests a feedback between elite power and war mobilization. This two-way nexus speaks to a central issue politics: How to credibly motivate elites to help the ruler win and maintain power (e.g., [Myerson 2008](#)). Our results highlight a tradeoff faced by the state. On the one hand, rewarding elites with

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<sup>8</sup>Broadly speaking, our study is also related to [König et al. \(2017\)](#), who study the network of alliances and enmities in the Second Congo War and document how the network structure affects the intensity of the conflict. Differing from their focus, however, our study focuses on war mobilization and speaks to the connections between war and the state.

<sup>9</sup>[Heldring and Robinson \(2021\)](#) compare formal government agencies and the existence of historical Nyiginya state and find the latter is more predictive for violence in the Rwandan genocide, consistent with the importance of social forces.

<sup>10</sup>Using data from Colombia, [Ch et al. \(2018\)](#) document that internal conflict increases tax revenues for municipalities suffering greater right-wing violence but decrease tax revenues for those with substantial left-wing guerrilla violence.

<sup>11</sup>[Deng \(2020\)](#) finds that regions with more Taiping battles experienced a larger increase in taxation.

power gives them motivation to help the state to fight against the challengers in the short run, where the personal networks of the elites help to mobilize the mass. On the other hand, the elites with more power can erode the strength of the state in the medium and long run, where their personal networks perpetuate their power.<sup>12</sup>

## 2 Context and Historical Narratives

First, we describe the historical context of the Taiping Rebellion and the Hunan Army in Section 2.1. Then, we provide a summary of historical narratives on the importance of elite networks in organizing the Army and the rise of Hunan elites after the war in Section 2.2.

### 2.1 The Taiping Rebellion and the Hunan Army

The Taiping Rebellion began in the southwestern province of Guangxi in 1850. Its causes share similarities with those of several major rebellions in Eurasia in early modern times, as described in Goldstone (1991): Overpopulation, misgovernment, and ethnic competition all contributed to the tensions in mid-19th century China. Under the famine conditions of 1849–1850, tensions exploded frequently into open warfare. The leader of the Taipings was Hong Xiuquan, a man who attended the Civil Service Exam four times but was unable to succeed. Transformed by illness and inspired by Christian missionary tracts, he started the God Worship Society in 1844, which was renamed the Taiping Heavenly Kingdom and became a regime that claimed dominion over the entire Qing empire.

The Taipings launched a crusade northward toward the rich provinces. At the start, the rebels were much more effective than the poorly organized and corrupt Qing armies. During the period from 1850–1852, the Taipings fought battles in Hunan (neighboring Guangxi) and Hubei and conquered several prefectures. In March 1853, they conquered Nanjing (an important city in the lower Yangtze River and previous imperial capital during the early Ming) and declared the city its Heavenly Capital.

Realizing that the official military could not contain the Taipings, the Qing government asked Zeng Guofan, a Hunanese scholar who had served in the central government, to organize an army to fight the Taipings. The choice of Zeng was partly accidental, driven by the circumstance of his

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<sup>12</sup>See more related findings in Section 5.2 when we examine who benefited and the dynamic impacts on elite power.

return to Hunan. His mother died in 1852, and, following the filial mourning rule in the Chinese bureaucracy, he was obliged to resign his official posts and return to Hunan, where his stay at his home province was supposed to last three years. There were also other factors underlying the choice of Zeng, notably local militarization in the mid-19th century. Local militias emerged in several southern provinces during this era and represented the initially spontaneous militarization of the local elites who sought to protect their communities and their property, given that the state was too weak to provide such public goods. The militias in Hunan already were well known and were employed to fight against the Taipings in Guangxi and Hunan from 1850–1852. The Hunan Army was organized upon the foundation of these existing militias.

Commanded by Zeng, a scholar without any military experience, the Army was often defeated by the Taipings in the beginning. From 1853–1864, the Hunan Army and the Taipings fought more than 600 battles across 11 provinces. In the summer of 1864, the Hunan Army finally conquered the Heavenly Capital, Nanjing, ending the war.

## 2.2 Historical Narratives

Scholars have noted that personal networks played a critical role in organizing the Hunan Army. Luo (1939) provides the most detailed account of the organization of the Army, which is the primary source for other historians. According to Luo, the reliance on social networks is the most salient feature of the Army. As interpreted by Kuhn (1970), because the state was weak, the recruitment and command structure of the Hunan Army reflected certain governing principles of the social structure in general.<sup>13</sup> Specifically, these social links involved connections formed from the Civil Service Exam and kinship among the elites as well as clan ties at the bottom for elites to reach commoners.

Why did social networks matter? Although elites in Zeng’s network played an active role in recruiting soldiers, most of these elites did not fight in battles. Thus, attracting soldiers as role models was less likely in this setting. Instead, historical discussion suggests that information and trust were critical. On the demand side, a network provides information for screening the soldiers. As explained in Kuhn (1978): “[The fact that] [t]he Hunan Army ultimately swelled to a strength of some 132,000 men...not large by the standards of the day, exemplifies Zeng’s emphasis of quality over numbers...Hunan Army units were distinguished for strict attention to details of recruitment, training, discipline and indoctrination in Confucian principles.” Zeng himself wrote about the

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<sup>13</sup>The competition between the state and society is a key issue in political economy of development, as illustrated by the recent work of Acemoglu and Robinson (2019).

principle for screening soldiers in 1855: “Young, strong, simple-minded peasants are the most preferred...Carefree wanderers should be avoided.” On the supply side, social networks facilitate trust. Soldiers were promised a monthly salary of four taels, twice that of the official troops, and the soldier’s family was promised 50 taels, about twice the yearly income of an unskilled labor, if he died in battle. Sometimes, the elite also emphasized that fighting the war provided a good career path for commoners (Luo 1939). Trust is vital for such promises to be believable.

A different line of historical research points out that the success of the Hunan Army launched the career of its leaders and secured political power for the Hunanese throughout the country. Platt (2007) provides many vivid examples on this subject. He uses Xinning—a county in Hunan bordering Guangxi (the origin of the Taiping Rebellion) as an example among others: “For more than two centuries before 1850, even the district’s most illustrious sons had attained no office higher than district magistrate, the lowest rank in the imperial bureaucracy. But in the decades following the Taiping Rebellion, Xinning generated no less than 174 civil officials—including three governor-generals (exercising full command of two or three provinces), one governor, and seventy-three prefectural magistrates.” Some of these elites including Zeng Guofan and Zuo Zongtang became the leaders of the Self-Strengthening Movement (c. 1861–1895) after the war, who established modern arsenals and shipyards in central and southern provinces and founded the first college that taught foreign subjects in Beijing. Their influence even went beyond central and southern China. Schluessel (2020) documents how the Hunanese elites dominated the Muslim-majority region of Xinjiang during the 1870s–1900s and undertook a program to “recreate Xinjiang not as a territory but as a province like its own Hunan or any other in China proper.”

Our analyses seek to not only provide quantitative evidence for these perceptive observations but also bring these different narratives together to elucidate the nexus of elites and war mobilization, which enables us to shed light on the important connections among elites, war and the state.

## **3 Data and Measurement**

### **3.1 Measuring Elite Networks**

The Qing government, following precedent, relied on the Civil Service Exam system (c. 600–1905) to recruit bureaucrats. As a result, the Civil Service Exam system served as the primary venue for social mobility and elite network formation. In addition, similar to other societies, kinship also was

an important source of links. Below, we define elite networks and describe our elite network data and how we aggregate individual-level data to the county level.

**Sources of Links.** Our network data comprise three types of links: (1) those from the Civil Service Exams, including examiner-examinee and examinee-examinee relationships; (2) kinship, including blood and marriage relationships; and (3) other friends. We present the data construction process in Appendix A.1.

There are two important relationships specific to the exam system, particularly via the triennial provincial-level and metropolitan (i.e., national-level) exams that produced bureaucrats for the state.<sup>14</sup> The first is examiner-examinee link. After each exam, the new graduates paid respect to the court-commissioned examiners (who were already high-level officials in the central government) whom they then considered their lifelong masters and entered into “a firm master-disciple pledge to assist each other to weather the storms of political life” (Miyazaki 1981). The graduates called themselves disciples (*men-sheng*) of the examiners. In this way, Zeng became a disciple of Muzhang’a in 1838, who helped Zeng’s career in the 1840s. In the words of Miyazaki, “The graduate felt very grateful for being appreciated by the court-commissioned examiner, who, free to determine who was qualified, had selected him among many competitors”. The other link is quasi-classmates formed via the exam. The graduates who succeeded from the exam referred to each other as “quasi-classmates” (*tong-nian*, meaning “the same year”). For example, Zeng Guofan and Li Wen-an (Li Hongzhang’s father) were quasi-classmates. Again, these quasi-classmate links are political, as they were expected to support each other politically. Because the exams were carefully recorded, we were able to digitize the exam record archives to capture these relationships. The data also allow us to observe indirect links with Zeng. For instance, his examiner, Muzhang’a, had disciples from other national-level exams. These disciples were linked with Zeng indirectly via Muzhang’a. We use information on all of the exams that took place during the three decades before the war (1820–1849) to construct the exam links.<sup>15</sup>

Our second source of links are based on kinship. Blood relationships, such as brothers and sons, are certainly important, but marriage also provides the opportunity to connect with important families. For instance, Zeng and Guo Songtao were in-laws. Guo was already an important local

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<sup>14</sup>The exam has three levels: prefecture, provincial, and national. Because passing the prefecture-level exam alone did not hold promise of a political career, the master-disciple and quasi-classmate links in the elite circle applied only to the provincial- and national-level exams. Thus, we do not include prefecture-level links.

<sup>15</sup>Our data sources are Jiang, Jing and Chen (2010) and Zhu and Xie (1980). See more about the data construction process in Appendix A.1.

elite before the war and became a national-level statesman after the war. Guo Songtao and Zuo Zongtang (who later also became an important national-level politician) also were in-laws. We obtain this information from *Zeng Guofan's Family Tree* (Cheng 1997). Our third source refers to the individuals covered in *The Chronicle of Figures in the Hunan Army* (Mei 1997) who helped him in war mobilization. We call these individuals as friends of Zeng. The records from these two sources may suffer from selection concerns, which we consider by using different definitions of networks.

**Defining Elite Network and County-level Connections.** Because some of the links were not subject to personal choices (e.g., exam links) whereas others (e.g., marriages) were, we take this into consideration by defining elite networks in two ways, which we term *baseline networks* and *expanded networks*.

Our *baseline networks* include only exam links and blood relationships and are plotted in Figure 1A. These relationships could not be chosen by an individual and were thus exogenous to the war. In the figure, each big circle consists of successful individuals from one exam (which took place once every three years). The black dots indicate the individuals from Hunan. On average, only around 200 individuals succeeded in a national-level exam cohort, with three to eight hailing from Hunan. All of these individuals were eligible for official positions and, hence, belonged to the elite class. Our baseline network covers 2,419 elites, 131 from Hunan.

Our *expanded networks* add marriage relationships and friends to the baseline networks, as shown in Figure 1B. This definition covers 2,460 elites, 164 from Hunan. This alternative measure uses all of the available information but with the caveat that marriages and friends were subject to personal choices. Thus, we focus on the baseline network and use the expanded networks as robustness checks.

To measure a county's connections in the elite networks, we need to transform the networks above to a county-level variable. Our baseline measure for a county's connections is  $\sum_{n=1}^{N_c} \frac{1}{d_{c,n}}$ , where  $N$  refers to the number of elites originally from a county, and  $d$  indicates the steps to be linked with Zeng. Table 1 presents the summary statistics for this variable. We also employ an unweighted measure by counting the number of connected elites from a county.

There is wide variation across counties in the elite networks. To see this variation, we plot the spatial distribution of county-level (directly and indirectly) connected elites across the country and within the Hunan province in Figures 2(a)-(b). As shown, there is wide variation even within Hunan: 36 of all 75 counties had some connections in Zeng's personal networks, among which seven

counties had more than five connections. Next, we examine what contributes to these variations.

**County-level Connections vs. Other Characteristics.** A county's elite connections may be correlated with its other characteristics. We are concerned about whether our connection measure reflects a county's economic development, political importance and its relationship with the Taipings. We collect ten variables that can be grouped into three broad categories to gauge the importance of such concerns.

- (i) geography-economic factors: log area, whether the county has a main river, log calorie suitability, log population in 1820 and log urban population in 1850. These variables capture a county's productivity and economic advantages.
- (ii) political importance: whether the county is a prefecture capital or not, log quotas for the entry-level Civil Service Exam pre-Taiping and log number of pre-Taiping *Jinshi* (i.e., those who succeeded in the national-level exams).
- (iii) Taiping-related factors: whether the county was on the route of the Taipings to Nanjing and log distance to Nanjing.

We explain how we construct these variables and our data sources in Appendix A.2, and examine the correlations between our baseline measure of connections and these characteristics for both Hunan counties and all counties in Appendix A.3. Two patterns are clear. First, county-level elite connections are not strongly correlated with geographical variables, economic factors, or the Taiping routes. Second, elite connections are positively associated with a county's political importance, proxied by being a prefecture capital and the number of *Jinshi*. Intuitively, politically more important counties tend to have more elites in general, which correlates with our connections measure even though we focus on a specific network. This pattern begs the question of whether our results capture the general eliteness of a county, which we address in our analyses.

## 3.2 Measuring War Mobilization

We use soldier deaths to proxy war mobilization and consider the alternative interpretation of strategic deployment in our later analyses. Specifically, we digitize the records of deaths of 34,328 soldiers with their names and origin counties from Provincial Gazetteers of Hunan (Zeng 1885). In Appendix A.4, we explain the data source for this variable and give an example to illustrate the information in the original archives. For 29,490 of these records, we also know the year and location

(battle) of the soldier's death.

Using individual-level information, we construct a county-year panel of soldier deaths during the period 1850–1864 for all 75 counties in Hunan. The individual-level data provide some additional information on clan relationships (reflected by surnames) and social status (i.e., exam degree or not) which we use to address possible measurement error in our analyses.

### **3.3 Measuring Elite Power**

To measure the distribution of political power before and after war, we construct a database on national-level offices and officials from 1820–1910 based on *The Chronicle of Officials in the Qing Dynasty* (Qian 2005). Much like previous dynasties, the Qing used an official rank system. The system had nine numbered ranks, each subdivided into upper and lower levels. We focus on those with a rank of three and above (i.e., vice minister-level and above), which include both those in the central government (such as ministers) and top officials in each province (e.g., governors and vice governors). We refer to these positions as national-level offices for simplicity, as the top official in provinces were also involved in national-level decision making process.

Our data cover 28,899 national-level offices held by 2,971 officials on an annual basis. On average, 221 officials held 318 offices for a given year. Of the officials, 67% were of Han ethnicity and held 65.6% of all positions (whereas the Han accounted for over 99% of the population). We focus on the offices held by Han officials because the Manchu officials had a different career track and all came from Manchuria.

We present an example of the records and plot the yearly distribution of national-level offices (Appendix A.5) which shows a fairly stable number of positions and officials over time. Using this position-level information, we construct a county-year panel of national-level offices during the period 1820–1910 for all 1,646 counties.

## **4 Elite Networks and War Mobilization**

### **4.1 Motivational Evidence and Research Design**

Did elite networks affect where soldiers who died came from? As motivational evidence, we plot the number of soldier deaths by year and by two groups of counties within Hunan: 36 counties with elite

connections vs. the other 39 counties without connections (defined by our baseline networks). As shown in Figure 3, before Zeng took power in 1853, the numbers of soldier deaths in non-connected and connected counties appear to be in parallel. In contrast, after Zeng took power, the number rose to a higher level for connected counties, which persisted until the end of the war in 1864. On average, the yearly soldier deaths pre- and post-1853 were 6.6 and 13 for non-connected counties, but 4.7 and 53.1 for connected counties, suggesting the importance of Zeng’s network in war mobilization proxied by soldier deaths.

Based on this pattern, we use a difference-in-differences strategy by exploiting county-level variation across Hunan in elite connections and time-variation in Zeng’s appointment in 1853. The data cover 75 counties during the period 1850–1864, and the specification is as follows:

$$\begin{aligned} (\ln)\text{SoldierDeath}_{c,t} = & \beta \text{EliteConnections}_c \times \text{Post1853}_t + \alpha_c + \lambda_t + \theta \mathbf{X}_c \times \text{Post1853}_t \\ & + \theta' \pi_{\text{pref}} \times \lambda_t + \epsilon_{c,t}, \end{aligned} \quad (1)$$

where  $\text{SoldierDeath}_{c,t}$  refers to the number of soldier deaths in county  $c$  and year  $t$ . We measure  $\text{EliteConnections}_c$  in two ways: (i)  $\sum_{n=1}^{N_c} \frac{1}{d_{c,n}}$  where we discount the importance of links by distance; and (ii)  $N_c$ , where we do not weight the links.

We control for county-level characteristics that vary little over time and the factors that affect all counties over time by including county-level fixed effects ( $\alpha_c$ ) and year fixed effects ( $\lambda_t$ ). In addition, we gradually control for the ten county-level characteristics introduced above and their interaction with post dummy ( $\mathbf{X}_c \times \text{Post1853}_t$ ) and prefecture-by-year fixed effects ( $\pi_{\text{pref}} \times \lambda_t$ ). All standard errors are clustered at the county level.

To facilitate interpretation of the coefficients, we use  $\ln(\text{Soldier deaths}+1)$  as the dependent variable in our main estimates and present Poisson estimates to confirm that the log transformation itself is not critical for our estimations.

## 4.2 The Impact of Elite Networks on Soldier Deaths

**Main Results.** We find that soldier deaths in counties with more connections with Zeng increased significantly after Zeng took power. In Column (1) of Table 2, we control only for county and year fixed effects and obtain an estimate of 0.214. In Column (2), we add prefecture-by-year fixed effects and the estimate changes to 0.162. In Columns (3)–(5), we gradually add county-level characteristics and their interactions with the post dummy and obtain estimates around 0.239. We present the Poisson regression estimate in Column (6), which is 0.224, close to the estimate in Column (5).

In addition, Columns (7)–(9) present the results using an unweighted connection measure which provides an estimate of 0.172. The standard deviations for the weighted and unweighted measures are 2.53 and 3.71, respectively. The estimates for the one-standard-deviation change for the two measures are thus comparable: 0.605 and 0.638, respectively. Based on our preferred estimate in Column (5), one more elite directly connected with Zeng increases the number of soldier deaths by 23.9%. To put this number into perspective, a 23.9% increase in the number of soldier deaths implies 8.1 soldier deaths in one county-year, or 6,683 more soldiers during the period 1854–64 for the 75 counties.

A key assumption for our difference-in-differences strategy is that the counties with different degrees of elite connections would not be mobilized differently without Zeng’s appointment. We use two strategies to validate this assumption. First, we present the results year by year in Appendix B.1 and a visualization of the estimates in Figure 4. As shown, elite connections to Zeng were not correlated with soldier deaths before 1853, implying that the counties did not exhibit different trends before Zeng took power. After Zeng took power, however, we observe a large positive effect of elite connections that persisted until the end of the war.

Second, we find that a county’s elite connections are positively associated with its political importance (shown in Appendix A.3). By controlling for political importance measures and their interactions with the post dummy in Table 2, we show that our estimates are not driven by a county’s political importance. To further validate the relevance of the networks that we have identified, we leverage the timing of the exams to construct placebo networks. Specifically, we construct placebo networks by assuming that Zeng passed the 1836 or 1840 national-level exam, rather than the actual one (1838). Under such assumptions, his national-level exam networks would look different (as shown by the maps in Appendix B.2), even though the placebo networks would be correlated with the actual network and a county’s general eliteness. We find that the placebo national-level exam connections did not exhibit similar findings once the actual one was considered, as reported in Table 3. Thus, our findings are driven by the specific elite networks that we identified, rather than by a county’s general political eliteness. In addition, the estimates based on the national-level exam networks are two times higher than those from our baseline network, consistent with the fact that the national-level exam links were the most important political links among different sources we consider.

**Can Soldier Deaths Proxy Mobilization?** Because deaths are the costliest type of contribution to war, it is meaningful to study soldier deaths as the outcome of war mobilization. Nevertheless, one may wonder whether soldier deaths mainly reflect different death rates given the same level of mobilization. The fact that the impact of networks on deaths is relatively stable after Zeng took power (Figure 4) already suggests the importance of mobilization effect. Here, we present three further analyses to show that soldier deaths can be a reasonable proxy for war mobilization.

First, we hypothesize that the impact of elite networks on mobilization is smaller in countries with a higher opportunity cost of joining the army. We proxy the opportunity cost by variation in the primary mobility channel—the Civil Service Exam whose access was governed by a quota system. Indeed, we find that the impact of elite networks on soldier deaths is smaller in counties with a higher entry-level quota per capita. As seen in Columns (1) of Table 4, one standard deviation in quotas per capita (0.241) decreases the impact of elite connections by 0.833, or 48% of the main effect of elite connections (1.747).<sup>16</sup> Columns (2)–(3) show that the finding remains similar even if we further allow for possible heterogeneities by population and by the number of *Jinshi*.

Second, we leverage battle-level information. If there exists clear strategic deployment of soldiers across battles, we expect the relationship between elite connections and soldier deaths to differ when we conduct within-battle analysis and when we pool all battles together. As shown in Columns (4)–(5) of Table 4, our estimates are similar without or with battle fixed effects, suggesting that strategic deployment of soldiers across battles is not the main driver for our finding on how elite connections increased soldier deaths.

Third, we examine the famous Battle of Three Rivers in 1858, where the entire troops of the Hunan Army involved were annihilated. This case provides a scenario where death rates were the same across the soldiers' home counties. We find that the impacts of elite connections on soldier deaths in this battle is comparable to that in other battles in 1858 (presented in Appendix B.3).

Finally, the historical narratives suggest that clan relationships provided information and helped to build trust in recruiting soldiers. We proxy clan relationship by the surnames of the elites and the soldiers. Specifically, we assume that the elite-soldier belonged to the same clan if they came from the same county and shared the same surname. We find a significantly larger impact of elite connections for the soldiers from the same clan as the elites. Columns (6)–(7) of Table 4 present the results for 75 counties  $\times$  15 years  $\times$  number of surnames (for each county). As shown, the impact of

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<sup>16</sup>This finding is consistent with the importance of perceived social mobility (proxied by quota per capita) in political stability, as studied by Bai and Jia (2016).

elite connections on the deaths of soldiers from the same clan is four times higher than that for a different clan. It seems difficult for strategic deployment to account for this result unless we assume that the elites inexplicably intentionally increased the death rates of the soldiers from their own clans.

**Additional Measurement Checks.** Measurement error in elite networks is likely. Our finding holds if we expand our definition of elite networks to the expanded networks, as reported in Appendix B.4. The estimates based on expanded networks are slightly smaller than those from our baseline definition.

We also address measurement error in soldier deaths in two ways. First, in the death records, 14% did not report death year. Thus, it may be possible that elite connections are correlated with more precise information on deaths. As a check, we examine the relationship between elite connections and the probability of missing years by counties. As shown in Appendix B.5, there is no correlation between elite connections and missing information, suggesting that such a concern is not critical. Second, 93 of the individuals in the soldier death records held exam degrees. When checking the correlation of such deaths and commoner deaths, we find a strong correlation (with a R-squared of 0.44). When examining how connections affect the deaths of the two groups, we also find comparable standardized coefficients, as shown in Appendix B.6. Because it is difficult to make mistakes on the degree holders, this result further suggests that our finding is unlikely to be explained by misreporting of soldier deaths.

## 5 War Mobilization and Post-War Elite Power

### 5.1 Motivational Evidence and Research Design

How did war mobilization affect elite power after the war? In particular, we want to know the impact of *network-induced soldier deaths* documented above on elite power. The challenge, however, is that elite networks might affect war via channels beyond war mobilization. To address this challenge, we use information on both Hunan and non-Hunan counties. The non-Hunan counties enjoyed different degrees of network connections but did not produce soldiers for the Hunan Army. Thus, elite power in non-Hunan counties gives us a sense of the role of elite networks in shaping elite power without war mobilization.

As motivational evidence, we plot the annual number of national-level offices held by four groups of counties—the connected and unconnected counties in Hunan and the connected and unconnected counties in other provinces, as seen in Figure 5. Two patterns are apparent: First, the number of national-level offices held by individuals from connected counties in Hunan clearly increased in the later stage of the war and after the war. Second, there is no similar increase for connected counties in non-Hunan provinces, even though connected counties generally accounted for more national-level offices. These patterns suggest that, without war mobilization, the power advantages due to elite connections was fairly stable over time, pointing to the importance of war mobilization in explaining changes in elite power distribution.

Based on this evidence, we implement a triple-difference design to estimate the impact of elite connections in Hunan on national-level office distribution before and after Zeng took power, using the following specification:

$$\begin{aligned} \text{NatlOffice}_{c,t} = & \rho_1 \text{Hunan} \times \text{EliteConnect}_c \times \text{Post1853}_t + \rho_2 \text{Hunan} \times \text{Post1853}_t \\ & + \rho_3 \text{EliteConnect}_c \times \text{Post1853}_t + \alpha_c + \lambda_t + \theta \mathbf{X}_c \times \text{Post1853}_t + \epsilon_{c,t}, \end{aligned} \quad (2)$$

where  $\text{NatlOffice}_{c,t}$  indicates the number of national-level offices a connected county  $c$  held in year  $t$ . As above, we include county fixed effects  $\alpha_c$  and year fixed effects  $\lambda_t$  as well as all of the county-level controls in equation (1). Possible time-varying impacts of  $\text{EliteConnect}_c$  and Hunan are also controlled for. Again, all the standard errors are clustered at the county level.

Then, to directly estimate the impact of network-induced soldier deaths on national-level office distribution (before and after Zeng took power), we implement an IV approach by taking equation (2) as our reduced-form specification. Our first-stage specification uses  $\text{Hunan} \times \text{EliteConnect}_c$  to predict soldier deaths during the period 1854–1864:

$$\begin{aligned} \text{SoldierDeaths}_{c,1854-64} \times \text{Post1853}_t = & \lambda_1 \text{Hunan} \times \text{EliteConnect}_c \times \text{Post1853}_t + \lambda_2 \text{Hunan} \times \text{Post1853}_t \\ & + \lambda_3 \text{EliteConnect}_c \times \text{Post1853}_t + \alpha_c + \lambda_t + \theta \mathbf{X}_c \times \text{Post1853}_t + \epsilon_{c,t}. \end{aligned} \quad (3)$$

The ratio  $\hat{\rho}_1/\hat{\lambda}_1$  gives us an IV interpretation on the impact of network-induced soldier deaths on elite power. We further examine the validity of this approach by checking pre-trends, leveraging the placebo networks constructed above, and using different sources of elite connections to conduct over-identification tests.

## 5.2 The Impact of Network-induced Soldier Deaths on Elite Power

**Reduced-form and IV Estimates.** We first focus on the reduced-form estimates in Columns (1)–(3) of Table 5. Columns (1)–(2) confirm the motivational patterns in Figure 5: One direct elite connection in a Hunan county is associated with 0.044 more national-level offices after 1853, or around 47% of the county-year mean (0.093); in contrast, no such association exists for counties in other provinces. Column (3) presents the reduced-form estimate (0.048), which is roughly equivalent to the difference between the estimates in Columns (1) and (2).

Column (3)–(5) constitutes of the reduced-form, first-stage and second-stage estimates, which allows us to link elite connections, soldier deaths and elite power. Specifically, one direct elite connection in a Hunan county increases soldier deaths during the period 1854–1864 by 256 (Column (4)). The  $F$ -statistic of 249.2 indicates that the first-stage estimate is strong. The reduced-form estimate in Column (3) and the first-stage estimate in (4) together imply an IV estimate of 0.189 (Column (5)), meaning that 1,000 more soldier deaths are associated with 0.189 more national-level offices, almost double the mean. In sum, these results imply that one additional direct link with Zeng in a country increased soldier deaths during the period 1854–1864 by 256, which then increased the national-level offices allocated to that county by 0.048 or 52% of the mean.

As a comparison, we present the OLS estimate in Column (6), where the coefficient on 1,000 soldier deaths is 0.239, not significantly different from our IV estimate (0.189). The OLS design permits us to run a horse race between soldier deaths and  $\text{Hunan} \times \text{EliteConnect}_c$ . As shown in (7), once we control for soldier deaths, the impact of  $\text{Hunan} \times \text{EliteConnect}_c$  no longer varies over time, suggesting that the impact of connections can be attributed to war mobilization.

**Is war mobilization the channel?** The validity of the IV interpretation rests on an assumption that war mobilization is the channel for elite connections to affect elite power. We conduct three analyses to examine this assumption. First, we study the dynamic pattern and present the year-by-year IV estimates during the period 1821–1910, using 1820 as the reference year (Figure 6). The dynamic pattern confirms that pre-trends are absent and that the mobilization-power relationship appears in the later stage of the war and after the war, revealing the importance of war for the power effect we observe.

Second, our findings in this part are driven by the specific elite networks we characterize rather than omitted county-level characteristics correlated with elite works. To see this, we employ the

same placebo networks (i.e., assuming that Zeng passed the previous and the next national-level exams) as in the analysis above. Similar to the strategy in [Enikolopov, Makarin and Petrova \(2020\)](#), we use actual networks and their interactions with the Hunan dummy to predict soldier deaths while controlling for the placebo networks. As shown in [Table 6](#), the predicted soldier deaths are strongly associated with national-level offices during and after the war. The fact that the placebo networks do not have any impact on national-level offices during and after the war further supports that our findings are driven by war mobilization rather than other county-level characteristics that affected power after the war.

Additionally, we leverage the multiple sources of links in the elite network and divide them into two components: the national-level exam connections and the rest. If one component has an additional impact on power beyond the channel of mobilization, we would expect to see a significant coefficient of this component when using the other as an instrument. Column (1) of [Table 7](#) shows that the estimate using two instruments is similar to our baseline IV estimate. Column (2)–(3) report the result using one component of links to predict soldier deaths and shows that the other component is not predictive of national-level offices, which again confirms that war mobilization provides the opportunity for elite networks to beget elite power.

**Who Benefited?** Having documented that the counties with more pre-war elite connections in Zeng’s personal network produced more national-level officials thanks to war mobilization, we now investigate who in these counties benefited. We are interested in knowing whether the benefits concern a fixed group (e.g., those in the network) or go beyond such a group, which is useful for shedding light on the long-run implications. If only a fixed group benefited, we expect their influence to decline over time. In contrast, if the benefits also applied to additional individuals from their home counties, the power impact is likely to persist. Two analyses support the latter interpretation.

First, the 90-year panel in [Figure 6](#) allows us to see post-war dynamics in the long run, where we observe a persistent power impact for several decades. Meanwhile, the power impact also exhibits fluctuations. In [Appendix C.1](#), we take a closer look at the fluctuations and find that they are driven by individuals of different cohorts (rather than by the same group of individuals). This finding implies that the power impact concerns multiple cohorts, which explains its relevance in the long run.

Second, we decompose the individuals who hold national-level offices into those inside and outside the network. As reported in [Table 8](#), indeed, those in the network benefited: network-induced

soldier deaths per thousand increased the number of national-level offices held by those inside the network 3.2-fold. In addition, some not in the elite network also benefited: network-induced soldier deaths per thousand increased the number of national-level offices held by those outside the network 1.7-fold.

Together, these results war mobilization increased elite power in two senses. First, war mobilization directly benefited those in the elite network. Second, war mobilization created new elites not in the pre-war elite networks, and these new elites were more likely to come from the home counties of those in pre-war elite networks. The latter suggests a phenomenon of elite self-perpetuation, likely partly due to typical patronage in the bureaucracy.<sup>17</sup>

**Additional Checks.** Soldier deaths before 1854 were not driven by the elite network that we have characterized and, thus, do not reflect war mobilization by the elites in the network. If we find that soldier deaths before 1854 are not associated with an increase in elite power, our finding on the mobilization-power link would be strengthened. This is the case, as shown in Appendix C.2.

In addition, our findings are robust to varying the comparison provinces, as reported in Appendix C.3. We first restrict the comparison provinces to the five provinces along the Taiping route (Columns (1)–(2)). Then, we use Hunan’s three neighboring provinces out of the five provinces along the Taiping route as the comparison and find similar first- and second-stage results (Columns (3)–(4)). Finally, we focus on the two provinces in the Huai River region (Anhui and Jiangsu) as the comparison provinces. Influenced by the Hunan Army, elites in this region established the Huai Army, which collaborated with the Hunan Army in some battles.<sup>18</sup> It is possible that the elites from the Huai region also benefited similarly to those from Hunan. Such a provincial-level influence, however, should not affect our county-level research design. Indeed, we still obtain a similar pattern when using these two provinces as the comparison provinces (Columns (5)–(6)).

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<sup>17</sup>Although quantifying the importance of patronage is not our focus in this paper, abundant qualitative discussions exist. For instance, the top officials from Hunan filled the strata below them with their own people in China proper (Platt 2007). In the case of Xinjiang, the network of patronage that begun with Zuo Zongtang (who appeared in our network data) and was “maintained by common origins and practice turned into an opaque governing elite” (Schluessel 2020).

<sup>18</sup>We do not study the Huai Army because it was formed with the support of the Xiang Army and the data is less systematic than the Xiang Army.

### 5.3 Implications for the State

Our finding on how war mobilization elevated elite power is relevant for understanding how war shapes the state. In particular, we ask: Can rewarding elites with power buy loyalty to the state? There exist two historical narratives on this question. One argues that elites who benefited greatly became defendants of the regime (Wright 1957). The other argues that the sources of elite power varied before and after war: Before the war, the elites' career paths were strictly regulated by the state and their power stemmed from the state. In contrast, during and after the war, war mobilization became an important source of elite power, which made the elites less willing to follow the interest of the state. The loss of control of the state may contribute to the final downfall of the dynasty in 1911 (Luo 1939) and foreshadowed the Warlord Era during 1916–1928 (McCord 1993).

Although it is difficult to empirically test these broad conjectures, we are able to depict how the power structure evolved and how it mattered in a major historical event in 1900 known as “Southeast Mutual Protection” or “Southeast Autonomous Plan”, where a majority of provincial governors refused to follow the imperial decree promulgated by the Qing state to declare war on 11 foreign nations with the aim of preserving peace in their own provinces. This was the first time provincial officials openly disobeyed the state and signaled a dramatic decline of state control (Chong 2012).

We first examine the origins of the top four officials (one governor and three vice-governors) by province before, during and after the war.<sup>19</sup> Due to the rule of home-province avoidance in the bureaucracy, the Hunanese could not govern Hunan. Thus, we consider 17 out of 18 provinces by excluding Hunan in our following analyses. A useful benchmark number is a simple randomization, which implies that the probability of holding such offices by Hunanese should be 5.8% (1/17). As shown in Figure 7(a), before the war, the shares of these top officials originated from Hunan were all lower than 5%, indicating that Hunanese were not a powerful group. The shares increased dramatically during the war, especially in the central and south provinces (see Appendix C.4 for a map on the spatial distributions across time). For instance, in Guangxi, Zhejiang and Hubei, the shares were over 25%, i.e., there was at least one among the top four officials originated from Hunan.

We also find suggestive evidence that the Qing court attempted to limit the power of the Hunan elites. As shown in 7(b), after the war, the state relocated some Hunanese governors to more peripheral provinces (Guizhou and Gansu). Nevertheless, the shares of Hunanese among the

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<sup>19</sup>The governor is an official charged with the general control of all affairs. The other three are the Superintendent of Provincial Finances, the Provincial Criminal Judge and the Provincial Educational Examiner. The fact that the Educational Examiner is one of the top officials confirms the importance of the Civil Service Exam in the bureaucracy.

governors and vice-governors remained high (10–15%) in provinces where they became powerful during the war, suggesting a difficulty in removing these regional elites from their newly established power bases.

As a case to illustrate the consequences of the power of these regional elites, we examine the choices of provincial officials to support or disobey the state when the state declared war against 11 foreign countries in 1900. To preserve peace in their own provinces, 10 out of the 17 provinces signed an agreement to disobey the imperial declaration of war and to instead remain neutral. As shown in 7(c), the share of Hunanese governors and vice-governors during the war-era—a proxy for regional elite power—is positively associated with the probability of joining this agreement, more consistent with the historical narrative that these regional elites became more autonomous and ultimately weakened the state.<sup>20</sup>

## 6 Conclusion

As one of the most important wars in Chinese history, many historical narratives exist on the Taiping Rebellion. By constructing systematic data from over a dozen historical sources and employing different empirical strategies, we are able to bring these perspectives together to develop insights into the connections among elites, war, and the state. We document that elites use their personal network for mobilization, and network-induced mobilization further elevates elite power after the war. The first finding joins the existing efforts to uncover the process of war mobilization. The second offers a new perspective to link war mobilization and elite power, which underscores that war mobilization can shape the state via altering the power structure. Importantly, these two findings together suggest a feedback between elite power and war mobilization.

The Taiping Rebellion shares similarities with many other civil wars. For instance, the soldiers of both sides were peasants who were very much alike. The leaders of the Hunan Army were incumbent elites in the Qing government. The Taiping Heavenly Kingdom was founded by enterprising individuals, such as Hong Xiuquan, who attempted to find an alternative way to become an elite after repeatedly failing the Civil Service Exam. It would appear not to be an exaggeration to say that such a deadly war, like many others, was fought for the sake of the elites. Thus, our key insight—elites mobilized war and war benefited elites—is relevant to understanding war and

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<sup>20</sup>Specifically, when the share of Hunanese officials increases from 5% to 15%, the probability of the disobeying the state increased by 35 percentage points. With 17 observations, however, this estimate should be viewed cautiously.

conflicts in other contexts. By studying how war affects the power of the elites versus that of the state, we believe that we can better understand why war strengthens the state in some scenarios but weakens the state in settings like ours.

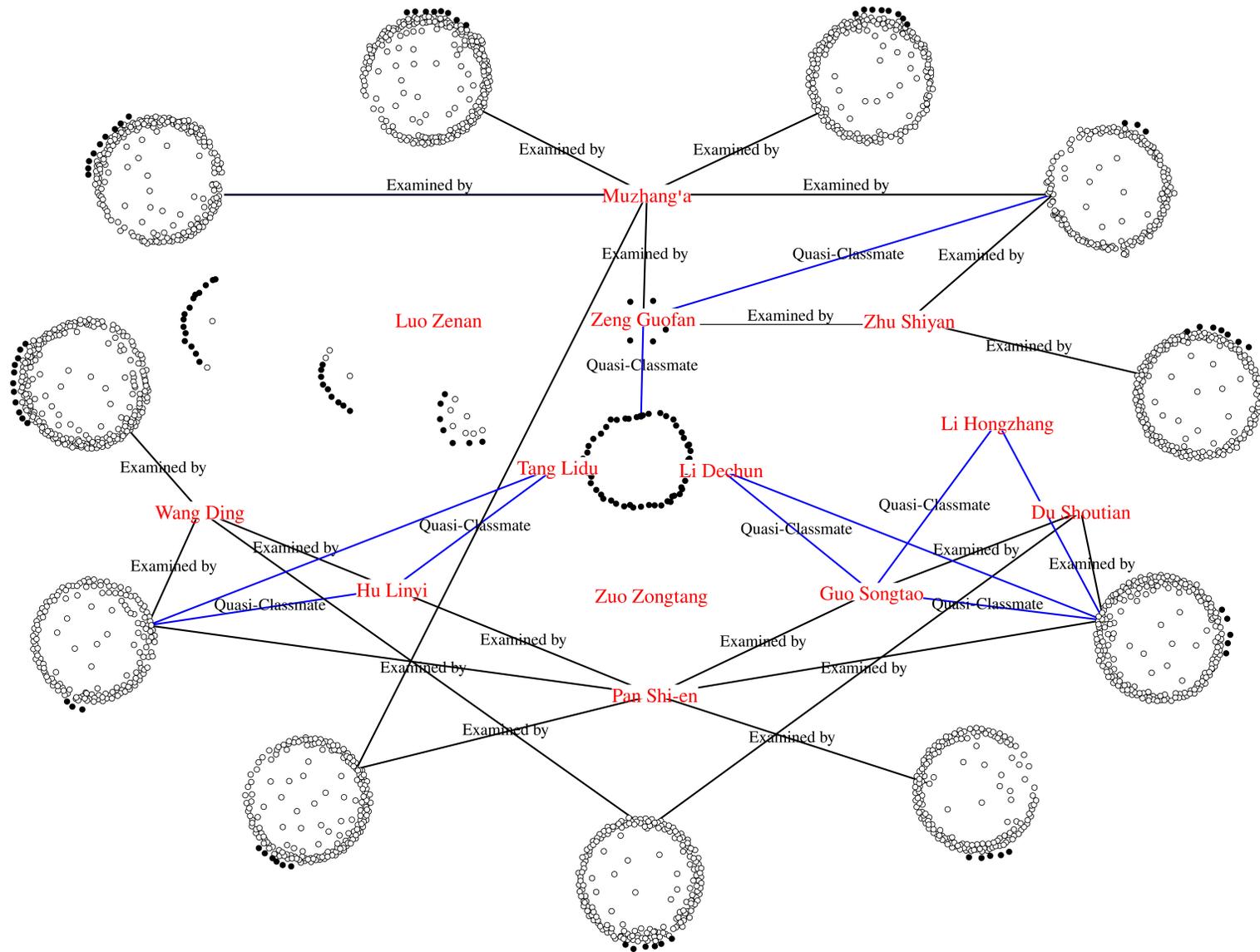
## References

- [1] Acemoglu, Daron, and Matthew O. Jackson (2015), “History, Expectations, and Leadership in the Evolution of Social Norms,” *Review of Economic Studies*, 82(2): 423–456.
- [2] Acemoglu, Daron, and James A. Robinson (2019), *The Narrow Corridor: States, Societies, and the Fate of Liberty*. Penguin Press.
- [3] Adena, Maja, Ruben Enikolopov, Maria Petrova, Veronica Santarosa, and Ekaterina Zhuravskaya (2015), “Radio and the Rise of the Nazis in Prewar Germany,” *Quarterly Journal of Economics*, 130(4): 1885–1939.
- [4] 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.
- [5] Besley, Timothy, and Torsten Persson (2010), “State capacity, Conflict, and Development,” *Econometrica*, 78(1): 1–34.
- [6] Cagé, Julia, Anna Dagorret, Pauline A. Grosjean, and Saumitra Jha (2020), “Heroes and Villains: The Effects of Combat Heroism on Autocratic Values and Nazi Collaboration in France,” Working Paper.
- [7] Ch, Rafael, Jacob Shapiro, Abbey Steele, and Juan F. Vargas (2018), “Endogenous Taxation in Ongoing Internal Conflict: The Case of Colombia,” *American Political Science Review*, 112(4): 996–1015.
- [8] Cheng, Kuang-Yu, and Sheng-Mo Hsu (1980), *Historical Atlas of China (Zhongguo Lishi Ditu)*, Taiwan: Chinese Culture University Press.
- [9] Cheng, Xiaojun (1997), *Zeng Guofan’s Family Tree (Zeng Guofan Jiazu )*. Liaoning Guji Press.
- [10] Chong, Ja Ian (2012), “Feudalising the Chinese Polity, 1893–1922” in *External Intervention and the Politics of State Formation: China, Indonesia, and Thailand, 1893–1952*. Cambridge University Press.
- [11] Deng, Hanzhi (2020), “The Merit of Misfortune: Taiping rebellion and the Rise of Indirect Taxation in Modern China, 1850s–1900s,” Working Paper, LSE.
- [12] Dincecco, Mark, and Mauricio Prado (2012) “Warfare, Fiscal capacity, and Performance,” *Journal of Economic Growth* 17(3): 171–203.
- [13] Dippel, Christian, and Stephan Hebllich (2021), “Leadership in Social Networks: Evidence from the Forty-Eighters in the Civil War,” *American Economic Review*, 111(2): 472–505
- [14] Enikolopov, Ruben, Alexey Makarin, and Maria Petrova (2020), “Social Media and Protest Participation: Evidence from Russia,” *Econometrica*, 88(4): 1479–1514.
- [15] Esteban, Joan, and Debraj Ray (2008), “On the Saliency of Ethnic Conflict,” *American Economic Review*, 98(5): 2185–2202.
- [16] Fujii, Lee Ann (2009), *Killing Neighbors: Webs of Violence in Rwanda*. Ithaca: Cornell University Press.
- [17] Galor, Oded and Ömer Özak (2016), “The Agricultural Origins of Time Preference,” *American Economic Review*, 106(10): 3064–3103.

- [18] Ge, Jianxiong (Ed.) (2000), *Zhongguo renkoushi (China Population History)*, Shanghai: Fudan University Press.
- [19] Goldstone, Jack A. (1991), *Revolution and Rebellion in the Early Modern World: Population Change and State Breakdown in England, France, Turkey, and China, 1600–1850*. University of California Press.
- [20] Harvard Yenching Institute (2007), CHGIS, Version 4, Cambridge.
- [21] Heldring, Leander and James Robinson (2021), “Segmentary State Capacity: The Rwandan Case,” Working Paper.
- [22] Jiang, Yasha, Li Jing, Shenqi Chen (2010), *China’s Imperial Civil Service Exam Records (Zhongguo Kejulu Xubian)*. China National Microfilming Center for Library Resources.
- [23] König, Michael D., Dominic Rohner, Mathias Thoenig, and Fabrizio Zilibotti (2017), “Networks in Conflict: Theory and Evidence from the Great War of Africa,” *Econometrica*, 85(4): 1093–1132.
- [24] Kuhn, Philip A. (1970), *Rebellion and its Enemies in Late Imperial China: Militarization and Social Structure, 1796-1864*. Cambridge: Harvard University Press.
- [25] Kuhn, Philip A. (1978), “The Taiping Rebellion,” *The Cambridge History of China*, Vol. 10, Edited by John Fairbank, Cambridge: Cambridge University Press.
- [26] Kun, Gang et al. (Ed.), (1899), *Qinding da Qing huidian shili (Imperially Established Institutes and Laws of the Great Qing Dynasty)*, Beijing: Zhonghua shu ju (reprinted in 1991).
- [27] Luo, Ergang (1939), *Xiangjun Xinzhi (A New History of the Hunan Army)*. Shanghai: Shanghai shudian, reprinted in 1996.
- [28] McCord, Edward Allen (1993), *The Power of the Gun: The Emergence of Modern Chinese Warlordism*. Berkeley: University of California Press.
- [29] McGuirk, Eoin, Nathaniel Hilger, and Nicholas Miller (2017), *No Kin in the Game: Moral Hazard and War in the US Congress*, NBER Working Paper 23904.
- [30] Mei, Yingjie (1997), *The Chronicle of Figures in the Hunan Army (Xiangjun Renwu Nianpu)*. Yuelu Press: Changsha.
- [31] Mitra, Anirban, and Debraj Ray (2014), “Implications of an Economic Theory of Conflict: Hindu-Muslim Violence in India,” *Journal of Political Economy*, 122(4): 719–765.
- [32] Myerson, Roger (2008), “The Autocrat’s Credibility Problem and Foundations of the Constitutional State,” *American Political Science Review*: 125–139.
- [33] Miyazaki, Ichisada (1981), *China’s Examination Hell: The Civil Service Examinations of Imperial China*. Yale University Press.
- [34] Passarelli, Francesco, and Guido Tabellini (2017), “Emotions and Political Unrest,” *Journal of Political Economy*, 125 (3): 903–946.
- [35] Platt, Stephen R. (2007), *Provincial Patriots: The Hunanese and Modern China*. Harvard University Press.
- [36] Platt, Stephen R (2012), *Autumn in the Heavenly Kingdom: China, the West, and the Epic story of the Taiping Civil War*. Knopf.
- [37] Qian, Shifu (2005), *(The Chronicle of Officials in the Qing Dynasty (Qingdai zhiguan nianbiao)*. Beijing: Zhonghua shuju.
- [38] Rogall, Thorsten (2021), “Mobilizing the Masses for Genocide,” *American Economic Review*, 111(1): 41–72.
- [39] Rodriguez-Franco, Diana (2016), “Internal Wars, Taxation, and State Building,” *American Sociological Review* 81(1): 190–213.
- [40] Satyanath, Shanker, Nico Voigtlönder, and Hans-Joachim Voth (2017), “Bowling for Fascism: Social Capital and

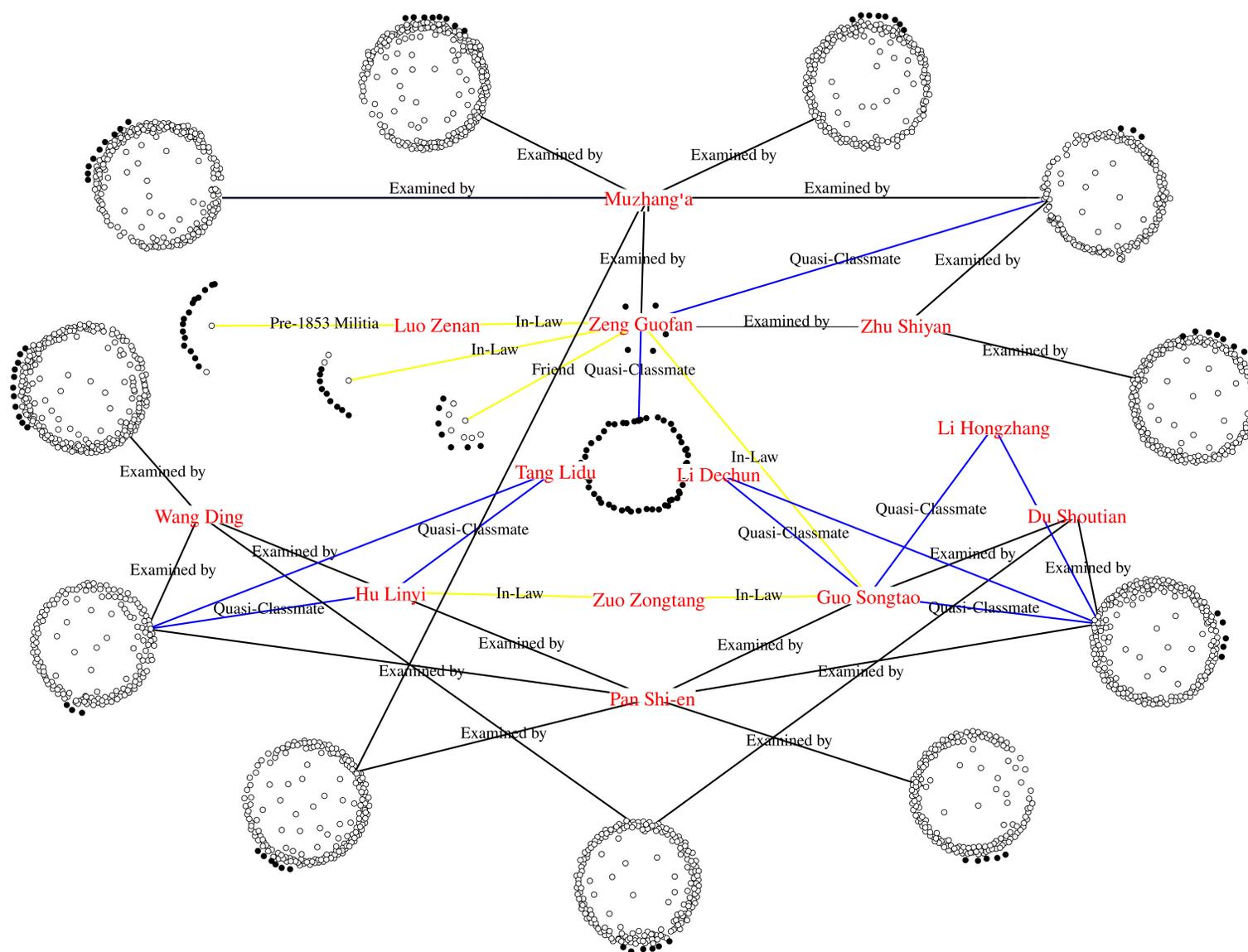
- the Rise of the Nazi Party,” *Journal of Political Economy*, 125(2): 478–526.
- [41] Schluessel, Eric (2020), *Land of Strangers: The Civilizing Project in Qing Central Asia*. Columbia University Press.
- [42] Skinner, G. W., Zumou Yue, and Mark Henderson (2008), ChinaW-Cities, County Seats and Yamen Units (1820–1893), <https://doi.org/10.7910/DVN/JCT5NE>, Harvard Dataverse, V2.
- [43] Slater, Dan (2010), *Ordering Power: Contentious Politics and Authoritarian Leviathans in Southeast Asia*. Cambridge University Press.
- [44] Tilly, Charles (1985), “War-Making and State-Making as Organized Crime,” in *Bringing the State Back In*, edited by Evans, Rueschemeyer and Skocpol: 169–191.
- [45] Wood, Elisabeth Jean (2008), “The Social Processes of Civil War: The Wartime Transformation of Social Networks,” *Annual Review of Political Science*, 11: 539–561.
- [46] Wright, Mary Clabaugh (1957), *The Last Stand of Chinese Conservatism: The Tung-Chih Restoration, 1862-1874*. Atheneum.
- [47] Yanagizawa-Drott, David (2014), “Propaganda and Conflict: Evidence from the Rwandan Genocide,” *Quarterly Journal of Economics*, 129(4): 1947–1994.
- [48] Zeng, Guoquan (1885), Hunan Gazetteer. In *the Continuation to the Siku Quanshu*, edited by Editorial Committee of the Continuation to the Siku Quanshu, 2002, Shanghai: Shanghai Classics Publishing House.
- [49] Zhu, Baojiong, and Peilin Xie (Ed.) (1980), *Official Directory of Ming-Qing Imperial Exam Graduates (Ming Qing jinshi timing beilu suoyin)*, Shanghai: Shanghai guji.

**Figure 1A. Elite Network Definition: Baseline Networks**



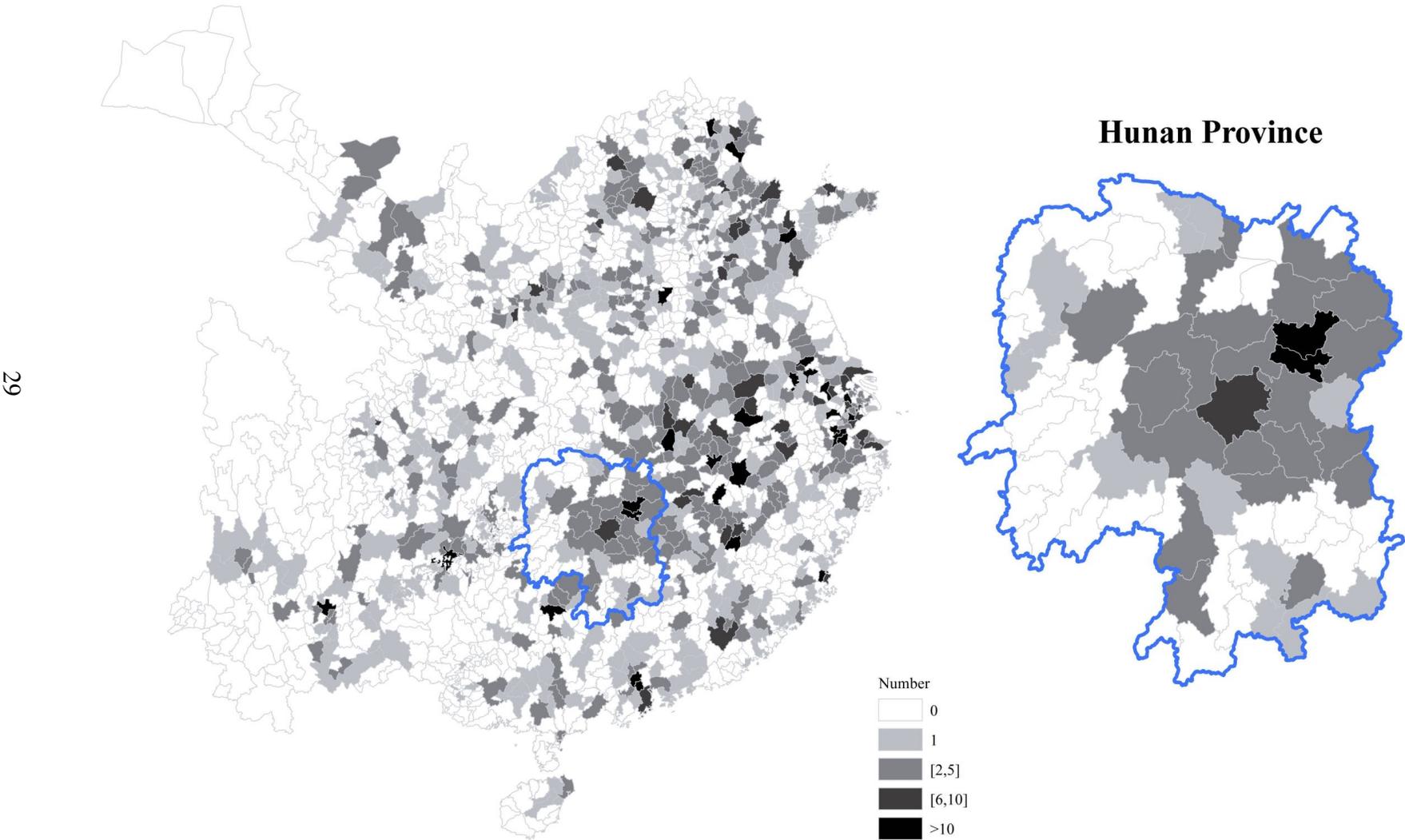
*Note.* This figure plots the elites in our baseline networks, defined by exam relationships and blood relationships. Each big circle consists the graduates from one exam. The black dots indicate the individuals from Hunan. The individuals not linked in these networks appear in the expanded networks (see next page).

**Figure 1B.** Elite Network Definition: Expanded Networks



*Note.* This figure plots the elites in our expanded networks, i.e., adding marriages and friends to the baseline networks.

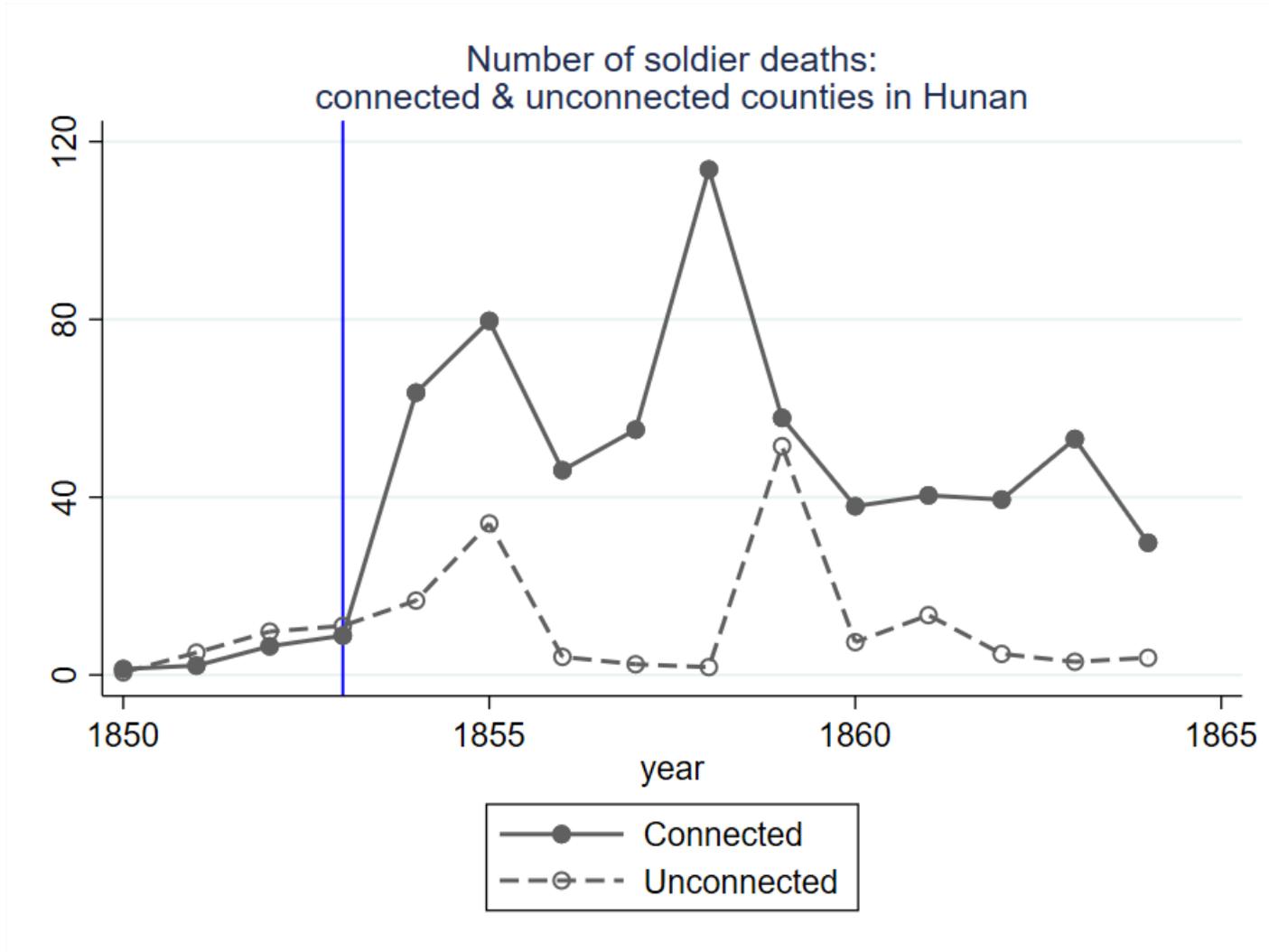
**Figure 2.** Spatial Distribution of County-level Elite Connections



*Note.* The two maps illustrate a wide variation in the number of elites connected with Zeng Guofan across counties in Hunan and the whole country. For simplicity, the number of connections is unweighted.

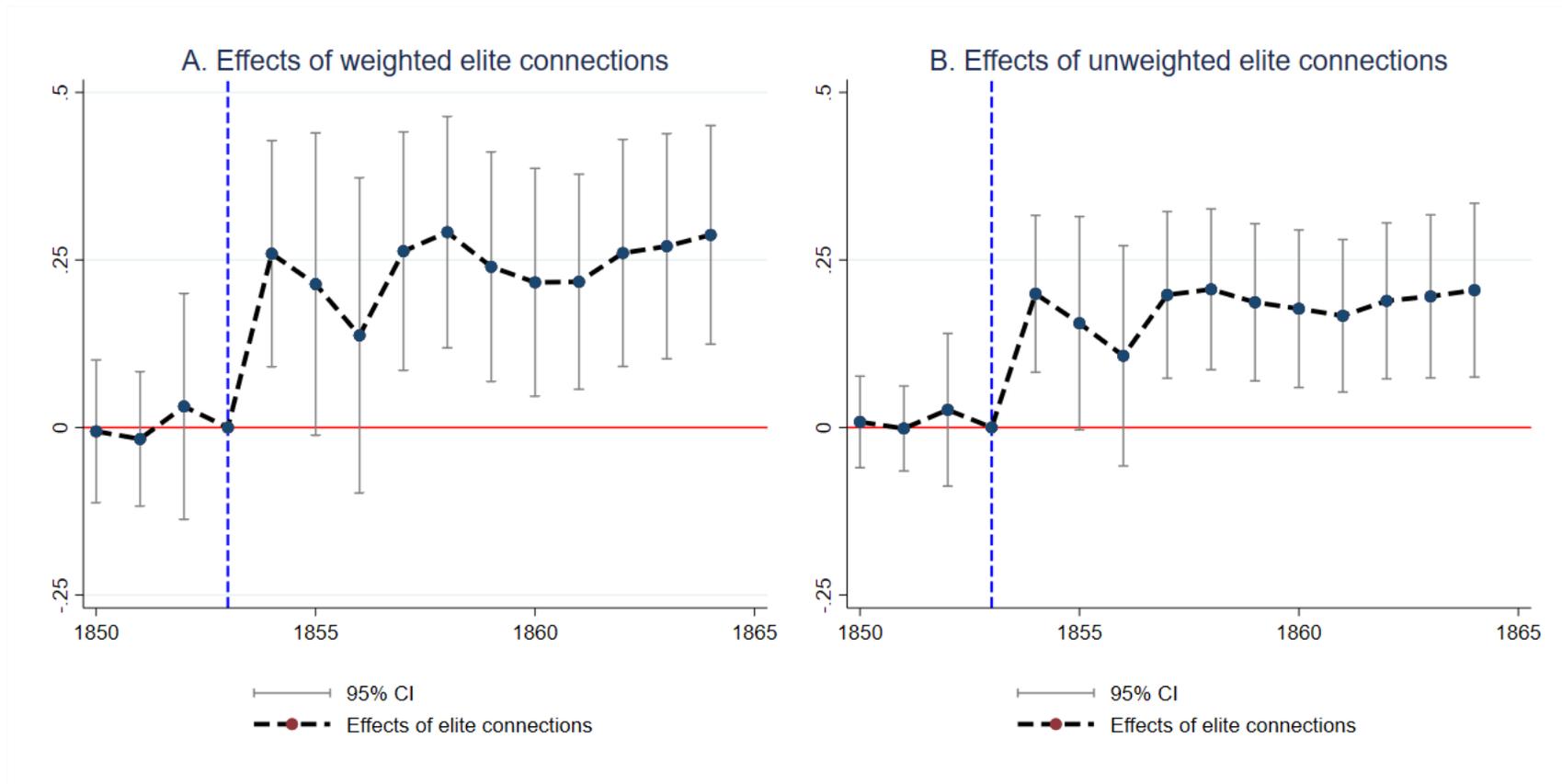
**Figure 3.** Motivational Evidence on Elite Networks and Soldier Deaths: Raw Data

30



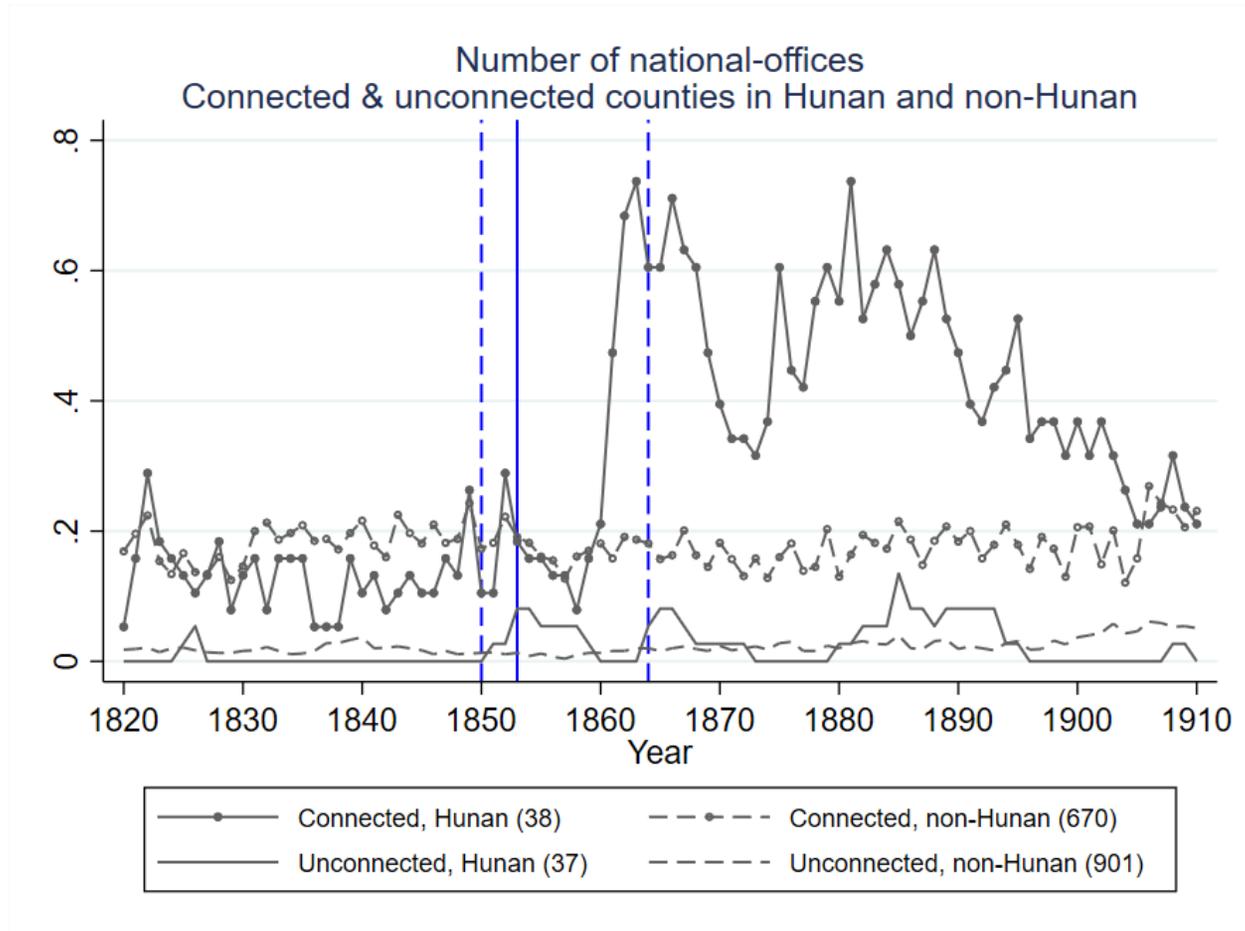
*Note.* This figure plots the number of soldier deaths by year in unconnected and connected counties (i.e., those with at least one elite in our baseline elite network.) The blue indicates the year Zeng was assigned to organize an army from existing militias.

**Figure 4.** The Impact of Elite Connections on Soldier Deaths: Year-by-Year Estimates



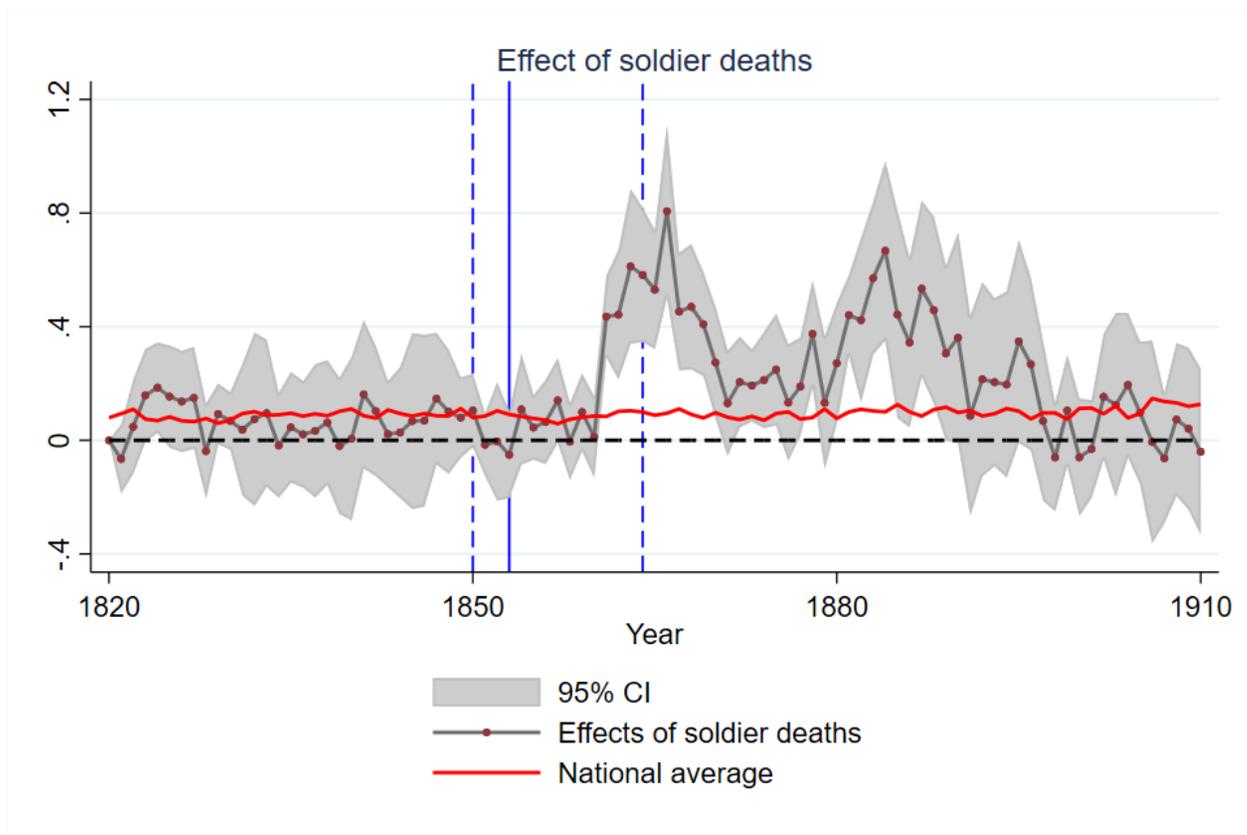
*Note.* This figure plots year-by-year estimates of the impact of county-level elites connections on county-level soldier deaths, using 1853 as the reference year. It shows that elite connections increased soldier deaths after Zeng took power in 1853 and persisted until the end of the war.

**Figure 5.** Motivational Evidence for the IV Design: National-level Offices by Connection-Province



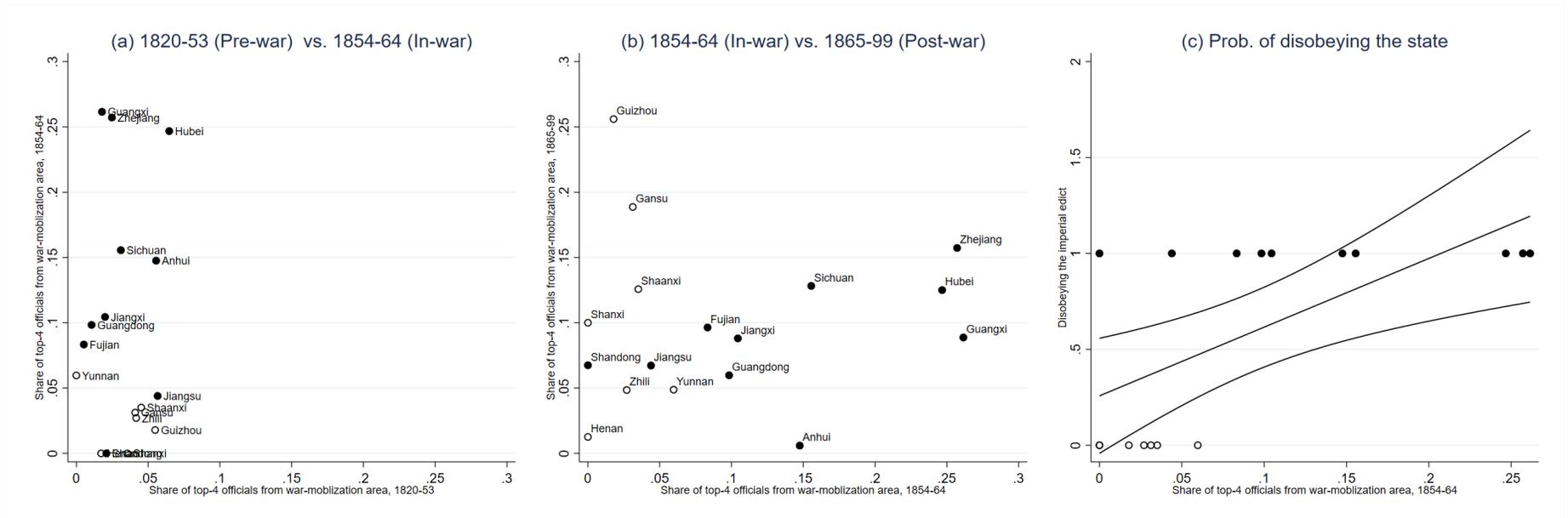
*Note.* This figure plots the number of national-level offices in four groups of counties. It shows that (1) connected counties in Hunan obtained more power in the later stage of the war and after the war, and (2) the role of connections in non-Hunan provinces was relatively stable over time.

**Figure 6.** The Dynamics Impacts of Network-induced Soldier Deaths on # National-level Offices: IV Estimates



*Note.* This figure reports the IV estimate year by year during 1820–1910, using the year of 1820 as the reference year. It shows that counties with more network-induced soldier deaths obtained more national-level positions during the last few years of the war and after the war.

**Figure 7.** Suggestive Evidence on How the Rise of Regional Elites Weakened the State



*Note.* The black dots indicate the 10 provinces that disobeyed the state in 1900 when the state declared war against 11 foreign nations.

Figure (a) shows that among top-4 officials (governors and vice-governors) for each province, the Hunanese appeared disproportionately during the war era, but not during the pre-war era. If the distribution were randomly distributed, 1/17 would come from Hunan.

Figure (b) shows that after the war, the state relocated some of the Hunanese officials to periphery provinces. Nevertheless, the Hunanese were still disproportionately present in the provinces where they took power during the war.

Figure (c) presents a positive association between the presence of the Hunanese officials and the probability of disobeying the command from the state to declare war against foreign nations in 1900.

**Table 1.** Summary Statistics

Sample	A. Hunan counties, 1850–1864				B: All counties, 1820–1910			
	Source	Obs.	Mean	S.D.	Source	Obs.	Mean	S.D.
Number of soldier deaths, by year	A	1,125	26.21	145.75				
Number of soldier deaths during 1854-64					A	149,786	27.51	462.82
Elite connections, Baseline networks (weighted)	B, C, D, E	1,125	1.23	2.53	B, C, D, E	149,786	0.68	2.02
Number of national-level offices					K	149,786	0.09	0.54
ln Area	F	1,125	7.84	0.48	F	149,786	7.40	0.89
ln Population	A	1,125	12.08	0.66	L	149,786	12.08	1.02
ln Calories suitability	G	1,125	11.12	0.50	G	149,786	10.48	1.44
Main river dummy	F	1,125	0.40	0.49	F	149,786	0.42	0.49
Prefecture capital	H	1,125	0.28	0.51	H	149,786	0.14	0.35
ln Urban population	H	1,125	8.53	1.48	H	149,786	7.70	2.76
ln Number of Jinshi	B, F	1,125	1.11	1.07	B, F	149,786	1.46	1.23
ln Quotas for the entry-level exam	I	1,125	2.63	0.36	I	149,786	2.50	0.84
ln Distance to Nanjing	F	1,125	6.75	0.15	F	149,786	6.64	0.67
Along the route of Taipings during 1850-53	J	1,125	0.12	0.33	J	149,786	0.04	0.19

*Note.* A. Zeng (1885); B. Zhu and Xie (1980); C. Jiang, Jing and Chen (2010); D.Cheng (1997); E. Mei (1997); F. CHGIS (2007); G. Galor and Özak (2016); H. Skinner, Yue and Henderson (2008); I. Kun (1899); J. Cheng and Hsu (1980); K. Qian (2005); L. Ge (2000). See more on the data construction process in Appendix A.1.

**Table 2.** The Impact of Elite Connections on Soldier Deaths: DID Estimates  
Sample: Hunan counties, 1850–1864

Dependent variable: Method	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	ln (Deaths +1) Linear						Deaths Poisson	ln (Deaths +1) Linear	
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times \text{Post1853}$	0.214*** (0.058)	0.162** (0.068)	0.199*** (0.070)	0.246*** (0.074)	0.239*** (0.074)	0.224** (0.111)			
$N_c \times \text{Post1853}$							0.146*** (0.042)	0.172*** (0.054)	0.179** (0.082)
County FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pref. FE×Year FE		Y	Y	Y	Y	Y		Y	Y
Geography-economic var.×Post			Y	Y	Y	Y		Y	Y
Political var.×Post				Y	Y	Y		Y	Y
Taiping var.×Post					Y	Y		Y	Y
Observations	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125
R-squared	0.187	0.488	0.501	0.524	0.532		0.187	0.532	
Number of counties	75	75	75	75	75	75	75	75	75

*Note.* The table shows that elite connections increased soldier deaths of a county after Zeng took power in 1853. The sample includes all 75 Hunan counties during 1850–1864. Control variables include (i) Geography-economic factors: ln area, ln population, ln calorie suitability, and whether the county has a main river; (ii) Political importance: whether the county is a prefecture capital, ln quotas for the entry-level Civil Service Exam pre-Taiping, and ln number of pre-Taiping Jinshi (who succeeded in the national-level exam); (iii) Taiping-related factors: whether the county was on the route of the Taipings to Nanjing, and ln distance to Nanjing. Standard errors presented in the paraphrases are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

**Table 3.** The Impact of Elite Connections on Soldier Deaths: Placebo Networks  
Sample: Hunan counties, 1850–1864; Dependent variable:  $\ln(\text{Deaths}+1)$

	(1)	(2)	(3)	(4)
National-level exam connections×Post1853 (weighted by distance to Zeng)	0.582*** (0.202)	0.616*** (0.228)	0.611** (0.246)	0.616*** (0.229)
Placebo connections I×Post1853 (Assuming Zeng passed the previous exam)		-0.058 (0.164)		-0.023 (0.335)
Placebo connections II×Post1853 (Assuming Zeng passed the next exam)			-0.048 (0.119)	-0.035 (0.250)
County FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Pref FE×Year FE	Y	Y	Y	Y
Controls×Post	Y	Y	Y	Y
Observations	1,110	1,110	1,110	1,110
R-squared	0.532	0.532	0.532	0.532

*Note.* This table shows that placebo elite networks by assuming Zeng Guofan succeeded in the exam before and after the real one could not explain our finding, confirming that our findings are specific to the actual networks rather than a general eliteness of certain counties.

Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

**Table 4.** Is the Number of Soldier Deaths a Proxy for Mobilization?  
Sample: Hunan counties, 1850–1864; Dependent variable:  $\ln(\text{Deaths}+1)$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	By opportunity cost			Across vs. Within battles		By clan relations	
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times \text{Post1853}$	1.747*** (0.582)	0.379** (0.179)	1.793** (0.699)	0.039** (0.015)	0.039** (0.015)		
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times \text{Post1853} \times \text{Quotas per capita}$	-3.456*** (1.218)		-3.613** (1.691)				
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times \text{Post1853} \times \text{Jinshi per capita}$		-0.669* (0.354)	0.086 (0.470)				
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times \text{Post1853} \times \ln \text{ Population}$	-0.776** (0.322)	0.081 (0.120)	-0.818* (0.434)				
Same-surname connections $\times$ Post						0.224*** (0.068)	0.247*** (0.073)
Diff.-surname connections $\times$ Post							0.056*** (0.015)
County FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
Pref FE $\times$ Year FE	Y	Y	Y	Y	Y	Y	Y
Controls $\times$ Post	Y	Y	Y	Y	Y	Y	Y
Battle FE					Y		
Year FE $\times$ Surname FE							
County FE $\times$ Surname FE						Y	Y
Observations	1,125	1,125	1,125	52,050	52,050	52,050	52,050
R-squared	0.539	0.534	0.539	0.145	0.211	0.145	0.211

*Note.* Columns (1)–(3) show that the effect of elite connections is smaller for counties with higher exam quotas, suggesting that alternative opportunities mitigate the mobilization effect. Columns (4)–(5) show that the effects of elite connections holds are similar without and with battle fixed effects, implying that deployment across battles is not critical for our finding. Columns (6)–(7) show that the impact of elite connections is much larger when the elites and the soldiers share the same surnames.

Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

**Table 5.** The Impact of Network-induced Soldier Deaths on Elite Power: IV and OLS Estimates  
Sample: All counties, 1820–1910

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sample	Hunan	Non-Hunan	All	All	All	All	All
Method			Reduced-form	IV	Second-stage	OLS	
Dependent var	Natl-level	Natl-level	Natl-level	First-stage	Natl-level	Natl-level	Natl-level
Mean	offices	offices	offices	Soldier	offices	offices	offices
	0.093	0.093	0.093	deaths <sub>1854–64</sub> (1K)	0.093	0.093	0.093
Soldier deaths <sub>1854–64</sub> (1K)×1854-1910					0.189*** (0.052)	0.239*** (0.057)	0.244*** (0.061)
Connections×Hunan×1854-1910			0.048*** (0.013)	0.256*** (0.016)			-0.014 (0.016)
Connections×1854-1910	0.044*** (0.009)	0.012 (0.011)	0.011 (0.011)	0.001 (0.001)	0.011 (0.011)	0.010 (0.011)	0.011 (0.011)
Hunan×1854-1910			0.085 (0.063)	0.322** (0.163)	0.024 (0.046)	-0.006 (0.029)	0.007 (0.032)
County FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
Controls×1854-1910	Y	Y	Y	Y	Y	Y	Y
Observations	6,825	142,961	149,786	149,786	149,786	149,786	149,786
R-squared	0.359	0.388	0.383	0.688	0.017	0.392	0.392
First-stage F-test				249.2			

*Note.* Columns (1)–(2) motivate the reduced-form estimate in Column (3). Columns (3)–(5) present the reduced-form, first-stage, and IV estimates using Connections×Hunan×1854-1910 to instrument Soldier Deaths×Post1853. Column (6) presents the OLS estimate, and Column (7) a horse-race test between Connections×Hunan×1854-1910 and Soldier Deaths×1854-1910. Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

**Table 6.** The Impact of Network-induced Soldier Deaths and Elite Power: Placebo Networks  
Dependent variable: Number of national-level offices

	(1)	(2)	(3)	(4)
Soldier deaths <sub>1854-64</sub> ×1854-1910 (instrument: Natl-exam connections×Hunan×1854-1910)	0.309*** (0.079)	0.345** (0.135)	0.301*** (0.069)	0.294*** (0.077)
Placebo connections I×Hunan×1854-1910 (Assuming Zeng passed the previous exam)		-0.136 (0.327)		0.024 (0.274)
Placebo connections I×1854-1910		0.004 (0.035)		-0.059 (0.050)
Placebo connections II×Hunan×1854-1910 (Assuming Zeng passed the next exam)			0.006 (0.036)	-0.045 (0.056)
Placebo connections II×1854-1910			0.020 (0.032)	0.067 (0.046)
National-level exam connections×1854-1910	0.022 (0.021)	0.019 (0.036)	0.006 (0.031)	0.019 (0.035)
Hunan ×1854-1910	-0.042 (0.047)	-0.080 (0.117)	-0.035 (0.039)	-0.034 (0.071)
County FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Controls×1854-1910	Y	Y	Y	Y
Observations	149,786	149,786	149,786	149,786

*Note.* This table show that our finding on network-driven soldier deaths and elite power is driven by the actual networks rather than a general eliteness of a county.

Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the parentheses are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

**Table 7.** The Impact of Network-induced Soldier Deaths on Elite Power: Over-id Tests  
Sample: All counties, 1820–1910; Dependent variable: Number of national-level offices

	(1)	(2)	(3)
Instruments	Both connections×	Natl-level exam connect.× Hunan×1854–1910	Other connect.×
Natl-level exam connect.×Hunan×1854-1910			-0.001 (0.074)
Other connect.×Hunan×1854-1910		-0.000 (0.036)	
Soldier deaths <sub>1854–64</sub> ×1854-1910	0.228*** (0.047)	0.228*** (0.030)	0.228*** (0.054)
Natl-level exam connect.×1854-1910	0.007 (0.020)	0.007 (0.022)	0.007 (0.022)
Other connect.×1854–1910	0.019 (0.031)	0.019 (0.040)	0.019 (0.040)
County FE	Y	Y	Y
Year FE	Y	Y	Y
Controls×1854-1910	Y	Y	Y
Observations	149,786	149,786	149,786
Over-identification test (p-value)	0.992		

*Note.* We separate all connections into two components—those built via the national-level exams and the rest, and obtain two instruments: (i) national-level exam connections×Hunan×1854-1910 and other connections×Hunan×1854–1910. Column (1) presents the results using two instruments to predict soldier deaths. Column (2) presents the result using instrument (ii) as the instrument to check whether instrument (i) has any direct effect, and column (3) does the opposite.

Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

**Table 8.** The Impact of Network-induced Soldier Deaths on Elite Power: Inside and Outside the Network  
Sample: All counties, 1820–1910

Dependent var.	(1)	(2)	(3)
	Total national-level offices / sample mean	Held by elites in the network / sample mean	Held by those outside the network / sample mean
Sample mean	0.093	0.018	0.076
Soldier deaths <sub>1854–64</sub> ×1854-1910 (Instrumented)	2.029*** (0.558)	3.205*** (1.128)	1.755*** (0.555)
Connections×1854-1910	0.119 (0.122)	0.225 (0.185)	0.095 (0.128)
Hunan×1854-1910	0.262 (0.490)	-0.870 (0.772)	0.526 (0.550)
County FE	Y	Y	Y
Year FE	Y	Y	Y
Controls×1854-1910	Y	Y	Y
Observations	149,786	149,786	149,786

*Note.* Column (1) presents the average impact relative to the mean. Then, we decompose the national-level offices for a county-year into two groups: those held by individuals in and outside the elite network. Columns (2) and (3) show that both groups benefited.

Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

# Online Appendix

## Table of Contents

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<b>A</b>	<b>Data Construction</b>	<b>A-2</b>
A.1	Elite Networks . . . . .	A-2
A.2	County-level Characteristics . . . . .	A-3
A.3	Elite Connections and Other County Characteristics . . . . .	A-4
A.4	Soldier Deaths . . . . .	A-5
A.5	National-level Offices . . . . .	A-7
<b>B</b>	<b>More Results on Elite Networks and Soldier Deaths</b>	<b>A-8</b>
B.1	Elite Networks and Soldier Deaths: Year-by-Year Estimates . . . . .	A-8
B.2	Placebo Networks . . . . .	A-9
B.3	The Battle of Three Rivers . . . . .	A-10
B.4	Expanded Networks . . . . .	A-11
B.5	Soldier Deaths: Prob. of Missing Years vs. Elite Connections . . . . .	A-11
B.6	Soldier Deaths: Degree-Holders vs. Commoners . . . . .	A-12
<b>C</b>	<b>More Results on Soldier Deaths and Elite Power</b>	<b>A-13</b>
C.1	Understanding the Fluctuation of the Power Impact . . . . .	A-13
C.2	Soldier Deaths: Placebo Deaths . . . . .	A-13
C.3	Comparison Provinces: Alternative Groups . . . . .	A-14
C.4	Provincial Governors and Vice-Governors Originated from Hunan . . . . .	A-16

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## A Data Construction

### A.1 Elite Networks

*The Civil Service Exam Links* Using information on all exams during 1820–1845, we define the exam links by four steps described below.

- Zeng Guofan passed the provincial-level exam in 1834 and the metropolitan (national-level) exam in 1838, based on which we identify the quasi-classmate relationships between other successful examinees and Zeng. We collect the list on *Juren*, successful examinees at the provincial exam, from Jiang, Jing and Chen (2010), and *Jinshi*, the successful examinee at the national-level exam, from Zhu and Xie (1980). Specifically, 53 *Juren* in 1834 and 182 *Jinshi* in 1838 were directly connected with Zeng via quasi-classmate links.
- We identify the examiners of Zeng in the national-level exam: Muzhang’a, Zhu Shiyuan, Wu Wenrong and Liao Hongquan, who were Zeng’s masters.
- We track all the other exams Zeng’s examiners had supervised, and define the examiner-examinee relationship between these examiners and the *Jinshi* from all the other exams. Out of the four examiners of the 1838 national-level exam, two of them had served as the examiners of the other five exams. Specifically, Muzhang’a supervised the national-level exams in 1823, 1832, 1835 and 1845, Zhu Shiyuan in 1829 and 1832. In total, 1,138 *Jinshi* connected with the two examiners via examiner-examinee links and were, hence, indirectly connected with Zeng.
- We track the political path of the quasi-classmates of Zeng Guofan at the 1834 provincial exam. Out of the 53 quasi-classmates, Tang Lidu and Li Dechun passed the national-level exams and became *Jinshi*. We repeat the three steps above to construct the exam links for these two individuals. Tang Lidu passed the national-level exam in 1836, which made him connected with 163 quasi-classmates and four examiners (masters), Pan Shi-en, Wang Ding, Wu Jie, and Wang Zhi. Out of these four examiners, Pan Shi-en also supervised the national-level exams in 1832, 1840, and 1847, and Wang Ding in 1826 and 1841. Li Dechun passed the national-level exam in 1847, which made him connected with 225 quasi-classmates and four examiners (masters), Pan Shi-en, Du Shoutian, Fu Ji and Zhu Fengbiao. Out of the four examiners, Pan Shi-en also supervised the national-level exams in 1832, 1840, and 1847, and Du Shoutian in 1841. All together, 1,235 individuals (198 individuals have been counted in step 3) got indirectly connected with Zeng via Tang Lidu and Li Dechun.

Some individuals appeared multiple times in the exam links. In total, 2,414 unique individuals were

directly or indirectly connected with Zeng Guofan via these exam links.

***Kinship*** We collect information on the blood and marriage relationships from Zeng Guofan’s Family Tree (Cheng 1997). Overall, 5 individuals were connected with Zeng via blood ties and 12 via marriages.

***Friends*** The friend network of Zeng is obtained from the Chronicle of Figures in the Hunan Army (Mei 1997). In total, 29 individuals were mentioned as friends who helped Zeng in organizing the Hunan Army.

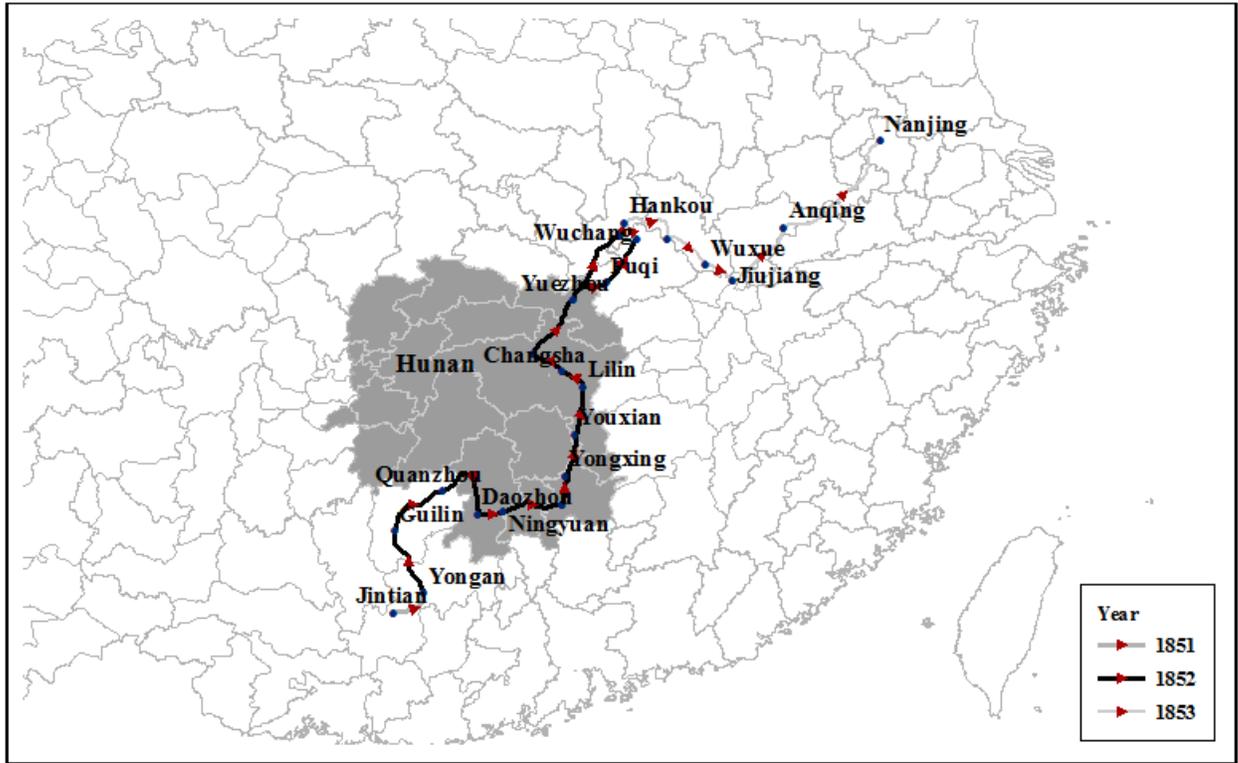
## A.2 County-level Characteristics

***Geography-economic factors*** By matching CHGIS V4 (2007) with county boundary in Qing Dynasty, we calculate the area of each county and construct a dummy indicating whether a county contains a major river using the ArcGIS software. Based on the calorie suitability index at 0.5-degree 0.5degree grid level from Galor and Özak (2016), we measure county-level calorie suitability as the average for all cells located in each county. For Hunan province, we collect the information on county population in 1820 from Zeng (1885). We obtain the county urban population in the mid-19th century from Skinner, Yue and Henderson (2008).

***Political importance*** We collect information on the geolocation of prefecture capitals . If a county contains a prefecture capital, we term it a prefectural capital county. We use the county level quotas at the entry level exam and the number of Jinshi, the successful candidates at the highest level exam, to measure the influence of civil service exam. The quota information is obtained from Kun (1899), and the number of Jinshi from Cheng and Hsu (1980).

***Taiping related factors*** The Taipings started in Guangxi province in 1850 and launched a crusade northward towards the rich provinces. Figure A.2 maps the route before 1854, which comes from Cheng and Hsu (1980). We consider whether a county is on this route and calculate a county’s great circle distance to Nanjing—the Heavenly Capital.

Figure A.2. The Routes of the Taipings 1850-53



### A.3 Elite Connections and Other County Characteristics

We examine the correlations between county-level elite connections and other county characteristics in A.3. Two patterns are worth noting. First county-level elite connections are not correlated with geographical variables, economic factors, or the Taiping routes. Second, elite connections are positively associated with a county's political importance, proxied by being a prefecture capital and the number of pre-war national-level exam graduates (*Jinshi*). This pattern begs a question whether our results capture a general eliteness of a county, which we address in different ways.

**Table A.3.** Elite Connections and Other Characteristics cross Counties  
 Dependent variable:  $\sum_{n=1}^{N_c} \frac{1}{d_{c,n}}$

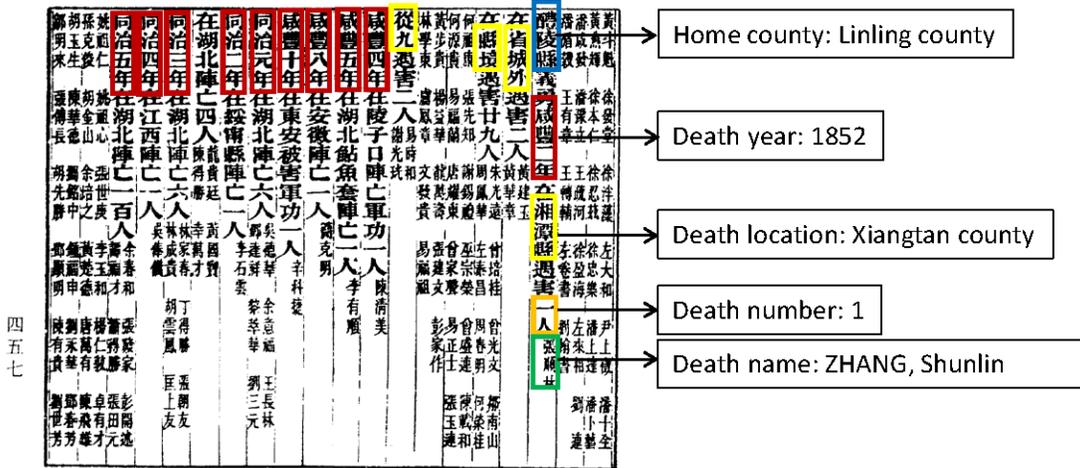
	(1)	(2)
Sample	Hunan	All
In Calories suitability	-1.266 (2.863)	0.018 (0.022)
Main river dummy	-0.171 (0.514)	0.083 (0.187)
In Area	1.000 (3.106)	-0.756 (0.868)
In Population	-0.424 (0.613)	1.177* (0.637)
In Urban population	0.084 (0.258)	-0.071* (0.039)
Prefecture capital	3.123*** (1.104)	0.786*** (0.225)
In Number of Jinshi	0.674** (0.336)	0.527*** (0.164)
In Quotas for the entry-level exam	-0.734 (1.131)	-0.385 (0.698)
In Distance to Nanjing	-0.356 (3.856)	-1.051 (1.007)
Along the route of Taiping, 1850-53	-0.428 (0.903)	0.156 (0.477)
Observations	75	1,646
R-squared	0.752	0.241

*Note.* All standard errors are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

## A.4 Soldier Deaths

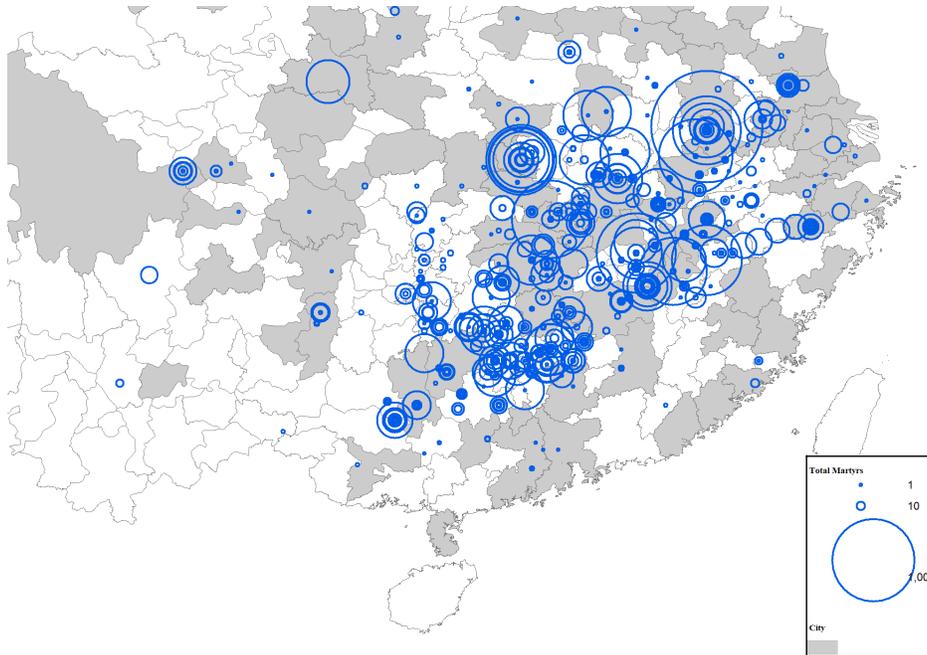
The Hunan Gazetteers ([Zeng 1885](#)) list all the soldiers who died during the Taiping rebellion by county and year. The figure below presents an example of the records.

Figure A.4. (a) Records on Soldier Deaths



We use this information in several ways. First, we calculate the total number of soldier deaths at the county-year level. Second, based on the surname information, we calculate the total number of soldier death at county-surname-year level. Third, using the information on battle location, we know the number of soldier death at county-battle level. During 1850-64, the Hunan Army and the Taipings fought at least 694 battles across 11 provinces, as mapped in the figure below.

Figure A.4. (b) Map of the Battles 1850-1864



## A.5 National-level Offices

We collect data on national-level offices and officials from *The Chronicle of Officials in the Qing Dynasty* (Qian 2005). Figure A.5 presents an example of the records.

Figure A.5. (a) Records on National-level Offices

### Vice-Minister Ministry of Rites

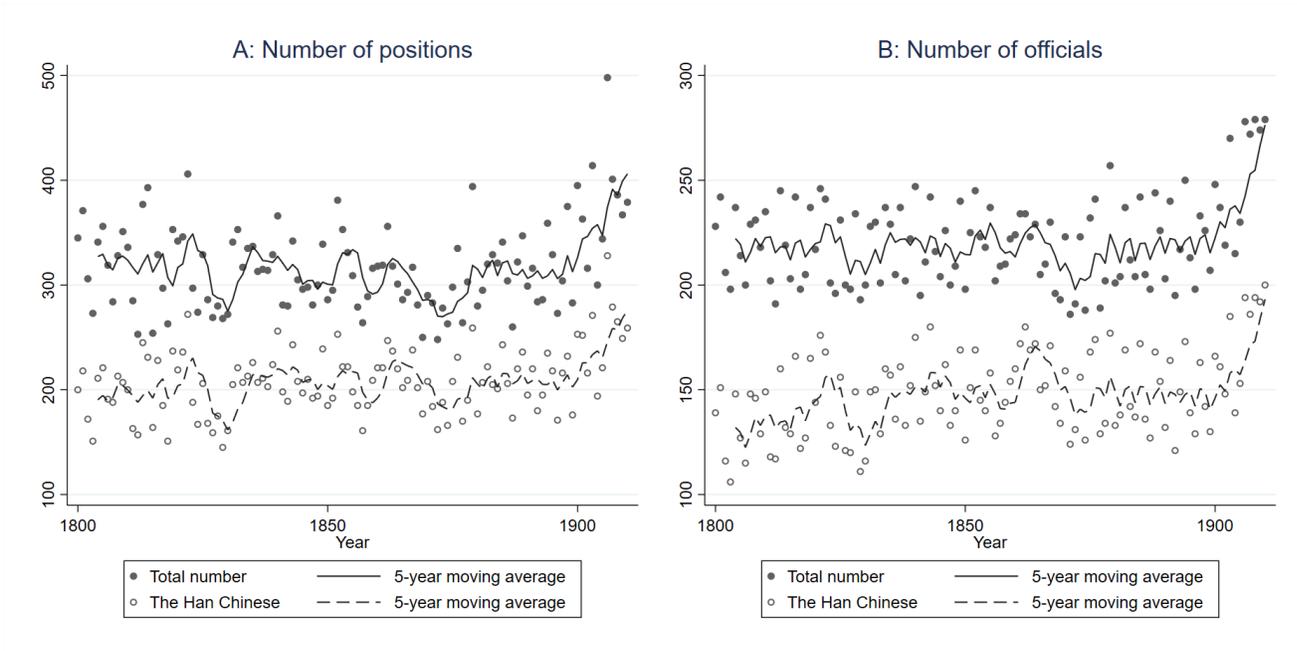
- 1: Management of imperial court ceremonies and ritual offerings.
- 2: Management of the Imperial examinations.
- 3: Foreign relations.

年代		道光二九年 己酉 1849	
吏部	左	魏 綱	
	右	張 希 八、丙寅,一,9,17; 禮學。 八、丙寅,廿一,10,7; 禮學(學)學。 九、戊申,1,14,10,29; 入選。 十二、丙寅,三,1,15; 授左。	
戶部	左	趙 光	李芝龍(軍)
	右	朱鳳標 八、丙寅; 卸職學。 十二、丙寅; 改兵右。 十二、丙寅; 著吏右授。	
禮部	左	編 楚	吳國燾
	右	吳國燾	曾國藩
兵部	左	孫葆元 八、丙寅; 卸職學。	
	右	戴 熙	黃贊清 趙 光
刑部	左	周祖培	
	右	陳孚恩(軍)	趙炳言 黃贊清
工部	左	王廣維	陳孚恩(軍) 翁心存
	右	彭蘊章 八、丙寅; 卸職學。	
倉場	左	李芝昌	朱 燾
	右	黃贊清 程庭桂	
都察院	左	李 蔚	
	右	李 蔚	

· 682 ·

Based on the records, we construct a database for national-level offices during 1820–1910. As shown in A.5, the number of national-level offices was relatively stable over time. Based on the hometown county information provided in Qian (2005), we obtain the total number of offices at county-year level. Our analysis focuses on the Han officials for both data and conceptual reasons. On the data side, the Manchu officials originated from the Manchu region, which is not included in main analysis. On the conceptual level, the civil service exam was the channel to recruit Han officials, whereas the Manchu elites—a small share of the population—could gain power without taking the exam.

**Figure A.5.** (b) Number of National-level Offices and Officials Over Time



## B More Results on Elite Networks and Soldier Deaths

### B.1 Elite Networks and Soldier Deaths: Year-by-Year Estimates

We report the year-by-year estimates on how elite connections affect soldier deaths in Table B.1, using 1853 as the reference year. These estimates are visualized in Figure 4 in the main text.

**Table B.1.** Yearly Effects of Elite Connections  
Dependent variable:  $\ln(\text{Deaths}+1)$

Elite connections measured by:	$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}}$ (1)	$N_c$ (2)
Elite connections×1850	-0.006 (0.053)	0.008 (0.034)
Elite connections×1851	-0.017 (0.050)	-0.001 (0.032)
Elite connections×1852	0.031 (0.085)	0.026 (0.057)
Elite connections×1854	0.259*** (0.085)	0.200*** (0.059)
Elite connections×1855	0.214* (0.113)	0.156* (0.080)
Elite connections×1856	0.137 (0.118)	0.107 (0.082)
Elite connections×1857	0.263*** (0.089)	0.198*** (0.062)
Elite connections×1858	0.291*** (0.087)	0.206*** (0.060)
Elite connections×1859	0.240*** (0.086)	0.187*** (0.059)
Elite connections×1860	0.217** (0.085)	0.177*** (0.059)
Elite connections×1861	0.217*** (0.081)	0.167*** (0.057)
Elite connections×1862	0.260*** (0.085)	0.189*** (0.058)
Elite connections×1863	0.270*** (0.084)	0.196*** (0.061)
Elite connections×1864	0.287*** (0.082)	0.205*** (0.065)
County FE	Y	Y
Year FE	Y	Y
Pref. FE×Year FE	Y	Y
Controls×Post	Y	Y
Observations	1,125	1,125
R-squared	0.535	0.534
Number of counties	75	75

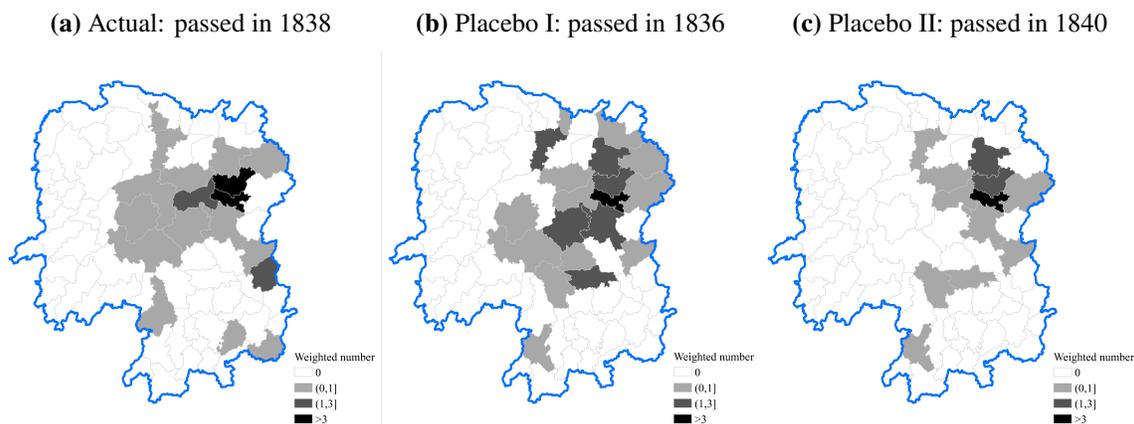
*Note.* Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the parentheses are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

## B.2 Placebo Networks

The timing of the exam provides us natural placebo tests. Zeng Guofan passed the national-level exam in 1838. This exam took place twice every three years. We construct two fake networks, by

assuming Zeng passed the previous national-level exam (1836) or the following one (1840). As shown in B.2, the county-level connections would be different.

**Figure B.2.** Maps of Real and Faked National-level Exam Networks



### B.3 The Battle of Three Rivers

We examine soldier deaths in the famous Battle of Three Rivers in 1858 where the entire Hunan troops were lost. We also compare the estimate with that for other battles in 1858. As shown in the table below, the similar estimates suggest that the difference in death rates were not a critical driver of our findings.

**Table B.3.** The Battle of Three Rivers vs. Other Battles in 1858  
Dependent variable:  $\ln(\text{Deaths}+1)$

	(1)	(2)	(3)
	In total soldier deaths in 1858	In soldier deaths in the Battle of Three Rivers	In soldier deaths in other battles, 1858
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}}$	0.412** (0.165)	0.403** (0.155)	0.385** (0.152)
Pref. FE	Y	Y	Y
Controls	Y	Y	Y
Observations	75	75	75
R-squared	0.613	0.592	0.597

*Note.* Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

## B.4 Expanded Networks

Our finding holds if we expand our elite network definition to including marriages and friends, as reported in Table B.4.

**Table B.4.** Expanded Network Connections and National-level Exam Connections  
Dependent variable:  $\ln(\text{Deaths}+1)$

	(1)	(2)	(3)	(4)
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times \text{Post1853}$	0.180*** (0.031)	0.171*** (0.039)		
$N_c \times \text{Post1853}$			0.126*** (0.022)	0.124*** (0.027)
County FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Pref. FE $\times$ Year FE		Y		Y
Controls $\times$ Post		Y		Y
Observations	1,125	1,125	1,125	1,125
R-squared	0.196	0.535	0.197	0.536
Number of counties	75	75	75	75

*Note.* Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the parentheses are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

## B.5 Soldier Deaths: Prob. of Missing Years vs. Elite Connections

In the soldier death records, 14% missed year information. We examine whether the missing probability correlates with elite connections and find it not to be the case. Table B.5 reports the results using the probability of soldier deaths with missing years to the total soldier deaths as the dependent variable.

**Table B.5.** Elite Connections and Data Missing  
Dependent variable: Share of missing years

Elite connections measured by:	$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}}$				$N_c$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Connections	0.003 (0.003)	-0.003 (0.004)	0.014 (0.013)	0.010 (0.013)	0.002 (0.003)	-0.002 (0.003)	0.010 (0.009)	0.008 (0.009)
ln (Total soldier deaths during 1850-64)		0.030*** (0.011)		0.022 (0.021)		0.030*** (0.011)		0.022 (0.020)
Controls			Y	Y			Y	Y
Prefecture FE			Y	Y			Y	Y
Observations	74	74	74	74	74	74	74	74
R-squared	0.003	0.098	0.283	0.307	0.003	0.098	0.283	0.003

*Note.* Since one county has no soldier deaths during the Taiping Rebellion, the total observation number is 74. Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the parentheses are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

## B.6 Soldier Deaths: Degree-Holders vs. Commoners

We find similar magnitudes on the deaths of individuals with and without exam degrees, as reported in B.6. Since those with degrees are unlikely to be missed, the finding suggests that measure error in soldier deaths is not a critical concern for our findings.

**Table B.6.** The Impact of Elite Connections on Soldier Deaths: Degree-Holders vs. Commoners

Dependent var. (standardized)	ln (Commoner deaths +1)		ln (Gentry deaths +1)	
	(1)	(2)	(3)	(4)
$\sum_{n=1}^{N_c} \frac{1}{d_{c,n}} \times \text{Post1853}$	0.145*** (0.045)		0.132* (0.071)	
$N_c \times \text{Post1853}$		0.105*** (0.033)		0.091* (0.054)
County FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Pref. FE $\times$ Year FE		Y		Y
Controls $\times$ Post		Y		Y
Observations	1,125	1,125	1,125	1,125
R-squared	0.532	0.532	0.348	0.347

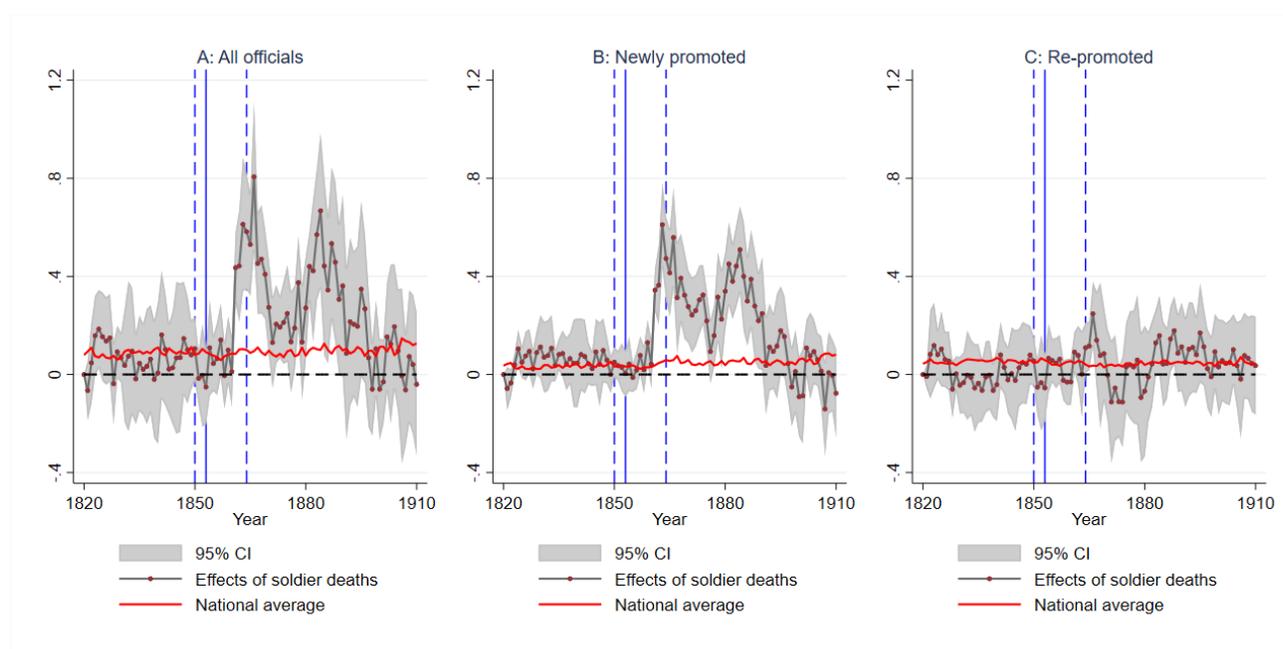
*Note.* Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the parentheses are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

## C More Results on Soldier Deaths and Elite Power

### C.1 Understanding the Fluctuation of the Power Impact

To examine whether the dynamic fluctuation pattern is driven by a fixed group or different cohorts, we differ two groups of individuals: (1) those who obtained national-level office only once, and (2) those with multiple switches. As shown in Figure C.1, our finding is driven by (1), implying that the fluctuating patterns are driven by multiple cohorts.

**Figure C.1.** Understanding the Fluctuation of the Power Impact



*Note.* Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

### C.2 Soldier Deaths: Placebo Deaths

Soldier deaths before 1854 were not driven by the elite network we characterize, and thus, do not reflect war mobilization by the elites in the network. We find that soldier deaths before 1854 are not associated with an increase in elite power, as shown in Appendix Table C.2.

**Table C.2.** The Impact of Network-induced Soldier Deaths and Elite Power: Placebo Deaths  
Dependent variable: Number of national-level offices

	(1)	(2)	(3)
Soldier deaths <sub>1854-64</sub> (sd)×1854-1910	0.502*** (0.119)		0.502*** (0.119)
Soldier deaths <sub>1850-53</sub> (sd)×1854-1910		0.030 (0.049)	0.022 (0.037)
Connections×1854-1910	0.010 (0.011)	0.014 (0.011)	0.010 (0.011)
Hunan×1854-1910	-0.006 (0.029)	0.129 (0.089)	-0.013 (0.028)
County FE	Y	Y	Y
Year FE	Y	Y	Y
Controls×1854-1910	Y	Y	Y
Observations	149,786	149,786	149,786
R-squared	0.392	0.383	0.392

*Note.* Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the parentheses are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

### C.3 Comparison Provinces: Alternative Groups

In our main analysis, the 2,282 connected elites come from all of the 18 provinces in the Qing dynasty. Our finding holds even if we focus on various subgroups of provinces as the comparison, as reported in Table C.3.

**Table C.3.** The Impact of Network-induced Soldier Deaths and Elite Power: Varying Comparison Provinces

	(1)	(2)	(3)	(4)	(5)	(6)
Hunan vs.	Other prov. along the Taiping Route		Neighbor provinces		Huai Region	
Dependent var	First-stage Soldier deaths <sub>1854-64</sub> (1K)	Second-stage Natl-level offices	First-stage Soldier deaths <sub>1854-64</sub> (1K)	Second-stage Natl-level offices	First-stage Soldier deaths <sub>1854-64</sub> (1K)	Second-stage Natl-level offices
Soldier deaths <sub>1854-64</sub> (1K)×1854-1910		0.317*** (0.096)		0.284** (0.114)		0.328** (0.152)
Connections×Hunan×1854-1910	0.253*** (0.018)		0.254*** (0.018)		0.277*** (0.027)	
Connections×1854-1910	0.008 (0.006)	-0.021 (0.021)	0.013 (0.014)	-0.019 (0.029)	-0.004 (0.011)	-0.025 (0.034)
Hunan×1854-1910	0.281** (0.138)	-0.068 (0.050)	0.250* (0.129)	-0.011 (0.052)	0.860* (0.499)	-0.091 (0.228)
County FE			Y	Y	Y	Y
Year FE			Y	Y	Y	Y
Controls×1854-1910			Y	Y	Y	Y
Observations	43,225	43,225	31,122	31,122	18,928	18,928
First-stage F-test	208.8		195.1		103.1	

*Note.* Controls include all the geography-economic variables, political importance proxies, and Taiping-related factors used in Table 2. Standard errors presented in the paraphrases are clustered at the county level. \*\*\*: significant at 1%, \*\*: significant at 5%, \*: significant at 10%.

## C.4 Provincial Governors and Vice-Governors Originated from Hunan

We plot the share of top-4 officials from Hunan pre-war and during the war era. A simple benchmark is to assume that the power were randomly distributed, where we would expect to see the Hunanese account for  $1/17$  of the positions. As shown in Figure C.4(a), the shares of Hunanese governors were close to and often slightly below  $1/17$  before the war. In contrast, during the war, the shares of Hunanese governors were even higher than  $2/17$  in several provinces in central and southern China, as shown in Figure C.4(b).

**Figure C.4.** Provincial Governors and Vice-Governors Originated from Hunan

