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# Weakening of the state by occupying more lands: evidence from the Five Dynasties

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## Abstract

Can wars truly build states and rationalize their structures? This study focuses on the administrative origin of state-building and finds historical evidence that seems contrary to the idea of "war-making states". As states acquire more territory, they become increasingly vulnerable to setbacks in subsequent military activities, even when facing state failure or demise. Drawing upon geospatial data spanning from 906 to 969 AD during China's Five Dynasties and utilizing a difference-in-differences method, our study reveals that (1) states did not progressively expand in size due to continuous warfare, and (2) larger territorial acquisitions were associated with decreased probabilities of state survival, as expanding net territorial areas corresponded to higher likelihoods of state failure in the following years. (3) The relationship between civilian and military systems within a state profoundly impacts the validity of the "war-making states" hypothesis. This study highlights that war makes states more susceptible to collapse if the military system dominates the civilian bureaucracy. Conversely, if the civilian system controls the military and forms a centralized regime, the "war-making states" hypothesis holds true. These findings revise the prevailing hypothesis of "war-making states" in historical sociology, showing that the "war-making states" hypothesis depends on a specific political structure and bureaucratic system.

**Keywords:** War-making states, State building, State failure, Civilian-military relations, Centralization

## Introduction

Frequent geopolitical competition plays a pivotal role in state formation. From *The Formation of National States in Western Europe* (Tilly 1975) to *Coercion, Capital, and European States: AD 990–1990* (Tilly 1990), scholars such as Charles Tilly have emphasized the role of war in the formation of European states, and the explanatory pathways of state-centric state-building have garnered considerable attention (Boix et al. 2011). According to Tilly, "capital" and "coercion" are two key variables in the formation of European nation-states. However, there is a gap in the understanding of who uses capital and coercion to drive state-building, especially when examining non-European states. In this study, we attempt to open the "black box" of the state and identify the actors in different state forms.

Prior to Tilly, "state-formation" and "state-building" had captivated immense attention in the field of historical sociology, evolving into the Weberian approach. Max Weber's followers endorse Weber's definition of the state as one that "successfully claims the monopoly of the legitimate use of physical force within a given territory" (Weber 1972).<sup>1</sup> This approach also recognizes the substantial influence of geopolitical rivalries on state formation, crediting changes in warfare patterns for the development of modern states (Hintze 1975; Weber 1968, 1922). The hypothesis of "war-making states" was systematically explained in a famous article by Tilly. After the state initially formed, it launched wars and drew resources from the people it protected to fund the next war. In other words, the interaction between waging war, resource extraction, and capital accumulation shaped the formation of European states (Tilly 1985). According to the theory of "war-making states", many scholars argue that major powers, usually territorial states, can mobilize more labor and resources to deploy large standing armies and costly coercion technologies (Cederman et al. 2023). This allows them to achieve victories in protracted wars and emerge as the most adaptable states in war-torn environments (Downing 1992; Ertman 1997; Roberts 1995). Consequently, it is believed that larger states are better equipped to meet the demands of warfare and are more likely to survive than smaller states are (Parker 1996). Karen A. Rasler and William R. Thompson used Box-Tiao intervention models to study the impact of international wars, especially global conflicts, on major powers. Their findings supported the "war-making states" hypothesis, reinforcing its influence in contemporary historical sociology (Rasler and Thompson 1985).

Is the concept of "war-making states" universally applicable? Scholars have extensively demonstrated the applicability of this hypothesis in China during the Spring and Autumn period and the Warring States period. Edgar Kiser and Yong Cai analyzed the impact of frequent and brutal wars on the bureaucratic evolution of the Qin Empire, distinguishing it from other premodern empires. They argued that war weakened the power of the nobility, thus creating conditions for the rise of bureaucracy (Kiser and Cai 2003). Victoria Tin-bor Hui suggested that Qin was able to unify China because it implemented comprehensive self-strengthening reforms and adopted various strategies to launch aggressive wars against foreign states (Hui 2005). Dingxin Zhao argued that from the Spring and Autumn period to the Warring States period, the unique pattern of frequent but inconclusive local wars in China facilitated the rise of an efficiency-oriented "instrumental culture" across military, political, economic, and ideological domains, ultimately leading to the formation of Confucian-legalist states (Zhao 2015). In general, scholars' research on state-building during the Spring and Autumn and Warring States periods demonstrates that war can strengthen a country. However, scholars have focused primarily on these war-torn eras, while research on other periods of division in Chinese

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<sup>1</sup> Tilly largely agreed with this definition, defining the state as "a differentiated set of organizations that (successfully) claims control over the legitimate use of physical force in a geographically limited territory, and that is capable of making war and peace" (Tilly 1990). According to this definition, the state includes "city-states, empires, theocracies, and many other forms of government," while excluding other forms of social organization such as "tribes, lineages, corporations, and churches" (Skocpol 1995).

history, such as the Three Kingdoms, Wei-Jin Southern and Northern Dynasties, and Five Dynasties and Ten Kingdoms, has been limited.<sup>2</sup>

Given these observations, according to the hypothesis of "war-making states", China's bureaucratic state system was created through warfare during the pre-Qin period. Therefore, post-Qin-Han states should inherently possess rationalized bureaucratic systems.<sup>3</sup> Accordingly, larger states such as the Five Dynasties should have been better equipped for warfare and more likely to survive than smaller states during the Five Dynasties and Ten Kingdoms period (907–960 AD). They would have deployed larger standing armies and advanced military technologies, leading to victories and eventual unification of China. However, this was not the case. During this period, central governments could hardly control local armies effectively. Larger states, typically with weak top-down control, could easily be defeated by other states or troops. A characteristic of this period was the meddling of military officers in government affairs. Before the centralization of Later Zhou in 950 AD, the percentage of military officers involved in government affairs was greater than that of purely civilian officials.

Using geospatial data from this period, our study shows that the size of the state did not gradually increase as a result of the ongoing war. Larger states, if mainly controlled by warlord regimes instead of bureaucratic regimes, were unable to maintain territorial advantages during wars. Furthermore, the acquisition of larger territories was associated with a decreased likelihood of state survival, as an increase in net territorial area led to a greater probability of military failure and even potential state collapse. More importantly, we prove that this hypothesis is only valid in centralized bureaucratic ancient states. In decentralized warlord states, war fails to make the state strong. This pattern was observed in the Later Liang, Later Tang, Later Jin and Later Han dynasties during the Five Dynasties period. This study advances the theory of "war-making states" by opening the structural "black box" of the state. When state power is heavily influenced by local warlords, victory in interstate wars does not lead to state-building by sharing the spoils of war from the center to the periphery, as in centralized states. Instead, the spoils of war are consumed by local warlords, strengthening their capacity to act against the central government.

It was not until the late Five Dynasties period that the expansion and changes in the scale of the Northern Song Dynasty could empirically validate the assertions of the bellucist theory. This finding is consistent with our hypothesis. After the establishment of the Later Zhou in 950 AD, the state began to reshape the political structure of centralized power by changing the relationship between civilian bureaucracy and military generals. The civilian bureaucracy once again became the dominant form of the state, transitioning from a warlord-type military dictatorship to a monarchical dictatorship. We propose that the "war-making states" hypothesis can be validated under only one condition: the

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<sup>2</sup> Ge (2018) adopted a new standard for unity and division in Chinese history. The "unification" he identified refers to "political consistency, concentration, and integration into a whole, rather than the consistency or integrity of culture, nationality, language, customs, economy, thought, religion, blood lineage, or even geographical environment".

<sup>3</sup> In the context of world civilizations and states, China has long been a large-scale political unity. The institutional forces supporting this political unity include centralization, administrative bureaucracy, the county system and the household registration system. The inherent conditions of Chinese civilization determined the relatively early emergence of administrative bureaucracy in China, elements of a modern state that did not appear in Western states until the 19th century (Xu 2020).

civilian system within the state must control the military system that could distribute the spoils of war at the state level. In other words, “war can not necessarily build states, but it will lead to state failure for some political systems” (Abramson 2017; Abramson and Carter 2016). The value of this study for the “war-making states” hypothesis is more corrective and constructive than the current challenges to Tillys theory in historical sociology, particularly the notable finding that emphasizes the failure of the state as a result of war (Goldstone 1991; Miliken and Krause 2002; Lemke 2002; Taylor and Botea 2008). We are not attempting to completely overturn the “war-making states” hypothesis but rather to modify its elements to make it more empirically explanatory in other ancient Chinese contexts. Relative to the “war-making → resource extraction → capital accumulation → war-making” closed-loop logic proposed by Tilly (1985), we emphasize the potential value of bureaucracy and centralization. These findings supplement the common assumption of “war-making states” in contemporary historical sociology and even reveal a political phenomenon: the “war-making states” hypothesis is applicable only within a specific political structure.

## Theory

Adopting Webers definition of the state and drawing on Abramsons work (Abramson, 2017), this paper aims to define the state in China during the Five Dynasties and Ten Kingdoms period, particularly focusing on the central dynasty, the local military governors, and the various militarily independent governments (*Fanzhen*, 藩镇). We constructed three criteria for defining the state:

### Direct military conquest

Following the coding scheme for war-related events, if a political unit is militarily occupied by a foreign power, it is no longer considered an independent country (Stinnett et al. 2002). Similarly, if a political unit successfully conquers a territory, the newly occupied territory will be considered part of the conquering country. For example, after Later Liang was eliminated by Later Tang, Later Liang was no longer coded as an independent country, and its territory was coded as part of Later Tang. Likewise, when Wuyue was annexed by an agreement with Northern Song in 978 AD, Wuyue was no longer coded as an independent country and was merged into Northern Song.

### Fiscal extraction capacity

Fiscal extraction capacity refers to a states capacity to extract resources from society, primarily through taxation. This capacity makes the most direct contribution to a states material resources (Acemoglu and Robinson 2006). Without the capacity to extract resources from society, a country cannot function properly. Historical experience shows that the long-term impact of past military conflicts on public finances is fundamental, and strong fiscal capacity is the most crucial long-term institutional change brought about by history (Dincecco and Prado 2012). There are two main explanations for the importance of fiscal capacity. First, the “self-interested state” hypothesis argues that states naturally aim to expand tax revenue and maximize their interests. Rulers prefer to maintain their ruling power and pursue private benefits (Levi 1989). Second, the “war-making hypothesis” suggests that states have a strong incentive to preserve themselves

and enhance their military competitiveness and that defense is a public good that states must invest in and provide (Cárdenas 2010). Therefore, having fiscal extraction capacity serves as evidence of a political units monopoly on coercion as a state. For example, we coded Jingnan as an independent country from the time its military commissioner (in 925 AD) had the right to levy taxes within its jurisdiction.

### **Independent administrative institutions**

Independent administrative institutions refer to the capacity of officials at different levels, from high-ranking officials to ordinary civil servants, to independently execute rules and provide services (Olson 2000). Bureaucrats within the organizational system act as agents of the state, providing public services and regulating economic activities. They collect and supervise data and coordinate effectively, covering the states territory and social groups with certain technical capabilities. However, having a bureaucratic system alone is not sufficient, as institutional changes are slow, and policies must be adjusted in response to changes in the real environment. Therefore, policies serve as important tools to absorb and mitigate short-term shocks. Hence, we consider a state with independent administrative institutions as an independent country. If certain countries share common administrative institutions, they are considered one country, such as Southern Han and Jinghai before 936 AD.

In contrast to modern states, premodern states were characterized by patriarchal and patrimonial governance systems. According to Weber (1947), within premodern states, a form of domination centered on traditional legitimacy and charismatic legitimacy existed, known as bureaucratic patrimony. In this system, bureaucracy coexisted with a hereditary system based on kinship, forming a variant of patrimonial governance grounded in traditional authority. Weber described this system as follows: "When political power, even though extended beyond the sphere of proprietary power, is exercised by a prince in accordance with the principles of family power, we call it a patrimonial state" (Weber 1951). Influenced by Weber, Philip A. Kuhn (1992) referred to the dominant form of governance in the Chinese Empire as "monarchical bureaucracy". In the system, imperial power coexisted with bureaucratic authority. Supreme power rested in the hands of the monarch, whereas the bureaucratic system provided the organizational foundation and governance tools for the imperial authority. This created a system of domination in which traditional authority and charismatic authority coexisted. The patrimonial characteristics of imperial power, combined with the bureaucratic system, became the key force driving the effective governance of the state, as imperial power ensured the unity of political decrees in the Chinese Empire (Zhou 2021).

However, during the more than two thousand years of imperial history in China, imperial authority was not always the highest form of power. During periods of division, centralized authority represented by imperial power was replaced by local power wielded by warlords. The despotic power of the central government was severely weakened, and local warlords became the primary source of power in their respective regions. Scholars have found that in military warlord systems, military leaders often appointed generals on the basis of strong personal loyalty and maintained their power networks through informal relationships centered on kinship ties. This approach allowed central control of the military group to extend to the periphery (Ahram and King 2012; Blair

and Kalmanovitz 2016; Marten 2006, 2019). While imperial authority relied on kinship ties to maintain the daily operation of the empire, it heavily depended on the bureaucratic system (formal institutions) to penetrate and exert despotic power over local and peripheral regions. This condition created a coexistence of formal and informal institutions, with the two forms of power in a constant struggle for dominance (Barkey and Van Rossem 1997; Zhou 2021). In the context of warlord politics, military leaders relied more on informal relationships characterized by loyalty to maintain their power networks, appointing their "brothers" or "fathers and sons" to nominal positions. For example, during the Five Dynasties period, the king of Jin, Li Keyong, appointed his thirteen "sons" (*Shisantaibao*, 十三太保), twelve of whom had no blood relation to him, to the main state positions. They were all military commanders who gained military achievements and were adopted as "godsons" by Li Keyong.<sup>4</sup> In light of this, compared with imperial politics, the autonomy of the bureaucratic system in warlord politics was greatly diminished, and it was insufficient to create tension with warlord power.

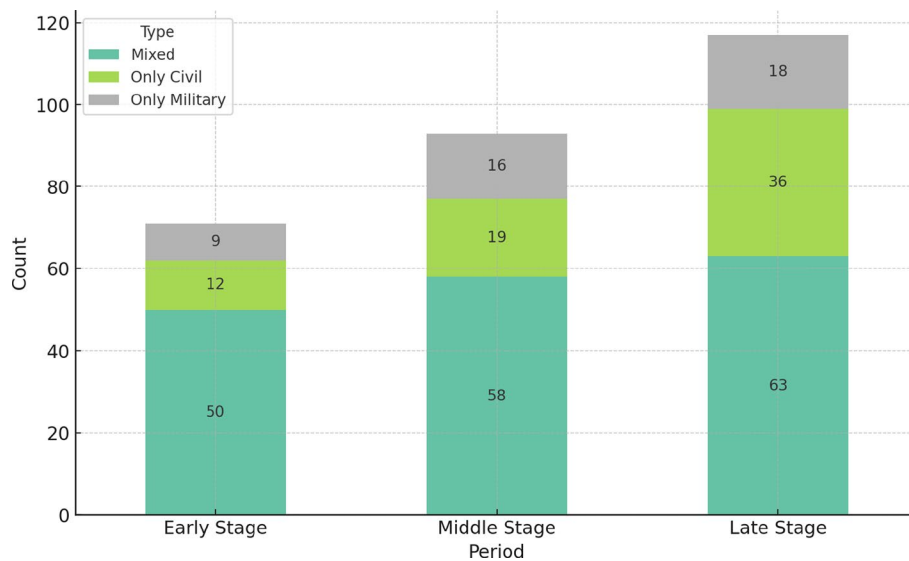
In Imperial China, imperial politics and warlord politics represented two forms of governance during periods of unification and fragmentation, respectively. During periods of unification, which were the norm in Chinese history, central power, represented by the emperor, could extend to the local and peripheral areas of the empire through the bureaucratic system, with the military subservient to the authority and commands of the central government. During periods of fragmentation, which were anomalous in Chinese history, the division of the state prevented the central power, represented by the emperor, from extending to local and peripheral areas. This led to the rise of various warlords who did not obey the commands of the central government and acted according to their own political logic.

Military power and political power have often overlapped among elites in historical contexts. Owing to their special positions in the bureaucracy, royal family and clan, elites are likely to possess both political and military power, exhibiting different characteristics in various historical periods. In the early Tang dynasties, officials often held both civilian and military titles, and many high-ranking officials were actively involved in both military and political affairs, leading to a phenomenon known as "civilian–military interchangeability". For example, prominent generals such as Li Jing (571–649 AD) and Hou Junji (? -643 AD) concurrently served in high-level civilian positions, whereas high-ranking civilian officials such as Fang Xuanling (579–648 AD) and Pei Xingjian (619–682 AD) actively participated in military strategy and troop command. During the reign of Emperor Xuanzong, the trend toward civil dominance became more pronounced. A considerable number of officials rose to the position of chancellor after serving on the frontier, despite having spent the majority of their careers in civilian roles and undertaking only brief military assignments. Notable examples include Zhang Jiazhen (666–729 AD), Du Xiyao (? -744 AD), and Zhang Yue (667–730 AD). This situation changed after the An Lushan Rebellion, as the decline of central authority led to the loss of political power by civilian officials

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<sup>4</sup> Many ancient warlord groups allocated power according to informal relationships based on consanguinity such as "father and son" and "brother," such as Liu Bei, Guan Yu and Zhang Fei in the Shu Han during the Three Kingdoms period.





**Fig. 1** The Distribution of Civil and Military Positions (Secondary Third Rank and Above) among High-Ranking Officials in the Later Tang. Only Civil refers to officials holding solely civilian titles, Only Military refers to officials holding solely military titles, and Mixed refers to officials holding both civilian and military titles or occupying positions that fused civilian and military identities. Early, Middle and Late Stages respectively refer to 926 AD, 931 AD, and 936 AD of Later Tang. Some officials may have held positions in two or three time periods, so there are instances where an official is coded multiple times

and the rise of military governors, who wielded political authority over both local and central affairs. This state of affairs persisted from the mid-Tang period through the Five Dynasties and Ten Kingdoms period. Many military officials held a nominal civilian title, but their power was derived from their military capabilities. As shown in Fig. 1 below, on the basis of our database of officials of secondary third rank and above in Later Tang, the following situation is revealed.

Beginning in 950 AD, the central government embarked on a series of "reinforcing civil over military" reforms aimed at centralizing power, disempowering local warlords, and enhancing the authority and status of civilian officials. By the early Northern Song period, civilian and military officials had become two distinct and largely separate categories, with civilian officials enjoying substantially greater political power than their military counterparts did. Zhao (2015) observes that "political power was subsumed by military power within the central government regime". Mann and other sociologists argue that the sources of social power for the emperor and warlords differed: the emperors power came from political power, whereas the warlords power came from military strength. Therefore, the governance logic of the two types of power was quite different: political power tends to govern the country through long-term "stationary banditry" via the bureaucratic system, whereas military power tends to govern through short-term "roving banditry" (Mann 1986; Olson 2000; Zhao 2015).

Given these observations, we propose our central argument: in mature bureaucratic states of the Middle Ages, the core mechanism of state-building is not necessarily war but rather whether the bureaucratic power within the state can control the military power. If the bureaucratic power can control the military power, the "war-making states" hypothesis holds true; if not, the hypothesis does not hold true. The states during the

Five Dynasties and Ten Kingdoms period were typical military dictatorships, where military power controlled bureaucratic power.

### **Historical background**

The Five Dynasties and Ten Kingdoms period, spanning 54 years, was a time of fragmentation in Chinese history. It commenced with the fall of the Tang Dynasty in 907 AD and concluded with Zhao Kuangyin's usurpation of the Later Zhou, leading to the establishment of the Song Dynasty in 960 AD. This period was essentially a continuation of the local separatism that characterized the late Tang Dynasty. Following the collapse of the Tang, local military governors declared independence; those in the North China region, which possessed considerable military strength and claimed to have inherited the Mandate of Heaven, underwent five regime changes and are hence collectively referred to as the "Five Dynasties," including Later Liang (907–923 AD), Later Tang (923–937 AD), Later Jin (936–947 AD), Later Han (947–951 AD), and Later Zhou (951–960 AD). Apart from the first and last dynasties, namely, the Later Liang and Later Zhou, which were established by Han Chinese, the three intermediate dynasties—the Later Tang, Later Jin, and Later Han—were established by the Shatuo people. Although the "Five Dynasties" appeared to be powerful, they were still incapable of controlling the entire Han region. Other separatist military governors either declared themselves emperors or recognized the Central Plains Dynasty as the legitimate regime, with the ten longer-lasting and relatively more powerful states collectively referred to as the "Ten Kingdoms", namely, Wu (902–937 AD), Former Shu (907–925 AD), Min (909–945 AD), Wuyue (907–978 AD), Chu (907–951 AD), Southern Han (917–971 AD), Jingnan (924–963 AD), Later Shu (934–965 AD), Southern Tang (937–975 AD), and Northern Han (951–979 AD). During this period, rulers often prioritized military affairs over civilian affairs. There were intense military frictions between the states, and local warlords frequently rebelled and seized the throne, resulting in incessant warfare both within and between the states (Wang 2017). The Five Dynasties and Ten Kingdoms period, along with the Spring and Autumn, Warring States, and Northern and Southern Dynasties periods, was one of the few times in Chinese history when there was a half-century or more of fragmentation and warfare.

During this period, numerous independent states emerged in China. The central plains experienced the rise and fall of five successive dynasties: Later Liang, Later Tang, Later Jin, Later Han, and Later Zhou. These dynasties had relatively short lifespans, averaging 12.8 years. Among the Ten Kingdoms, Wu and Southern Han were the most powerful entities. However, Wu was overthrown by Li Bian, who established the Southern Tang. Other formidable states in the middle and lower reaches of the Yangtze River included Wuyue and Min. The middle and upper reaches, as well as the Pearl River Basin, were occupied by Jingnan, Chu, and Southern Han. Southern Tang initially flourished, conquering Min and Chu, but its strength waned due to frequent military expansions, ultimately leading to its defeat by Later Zhou. Sichuan witnessed the prosperity of Former Shu and Later Shu, which ranked as the second-strongest states after Southern Tang. Northern Han, the sole northern state among the Ten Kingdoms, was established by the



descendants of the Liu family from Later Han. Apart from the Five Dynasties and Ten Kingdoms, other states also had relatively short lifespans, averaging 33.9 years.<sup>5</sup>

The "Five Dynasties" shared a common characteristic: a highly militarized political structure, with professional military commanders holding the majority of important positions (Fang 2009). The concept of military dominance in governance was the main cause of frequent wars and internal conflicts among these states (Bol 1992). According to the "war-making states" hypothesis, powerful states benefit from prolonged warfare, strengthening their state-building through gradually rationalized bureaucratic and fiscal systems. However, the states during the Five Dynasties and Ten Kingdoms period did not follow this pattern. Prolonged warfare did not make the states stronger; instead, it made them more susceptible to collapse. Among the representative strong states of the "Five Dynasties," Later Tang and Later Jin were destroyed by the Khitan army because of conflicts with Khitan, and Later Han was overthrown by domestic warlords during internal conflicts. Among these larger states, with the exception of Later Zhou, which underwent centralization reform by Guo Wei, one experienced dynastic change due to internal wars, and the other three were conquered by neighboring states.

In 960 AD, Palace Commander Zhao Kuangyin took advantage of the power vacuum before the new emperor could fully consolidate his authority by falsely claiming that the Liao Dynasty (Khitan) and Northern Han were invading. Using this as a pretext, Zhao led his troops to Chen Bridge Station, where he launched the famous Chen Bridge Mutiny. Consequently, Zhao Kuangyin seized the throne and established the Song Dynasty (Northern Song, 960–1127 AD). Continuing the Later Zhou's centralization reform, the Song Dynasty systematically eliminated various states, such as the Later Shu (965 AD), the remnant forces of Northern Han in Taiyuan (979 AD), Southern Han (971 AD), Southern Tang (975 AD), Jingnan (963 AD), and the Hunan Wuping Army (963 AD). Through agreements, the Song Dynasty also brought Wuyue (978 AD) and the Dingnan army (805 AD) under its control, achieving unification and bringing to a close the Five Dynasties and Ten Kingdoms period. Although the territory of the Song Dynasty did not reach the same extent as that of the Tang Dynasty did, subsequent wars for unifying China during the reigns of Taizu and Taizong (960–997 AD) against the Liao Dynasty and even the smaller Western Xia were repeatedly unsuccessful. These failures led to an era of competition between the Northern Song Dynasty and various ethnic minority regimes in the north (Tao 1988). Historians generally believe that the reason why the Song Dynasty was able to unify the core regions of China was due to the political reforms promoting centralization carried out by Later Zhou's Guo Wei and Chai Rong. The most important aspect of these reforms was the reversal of the previous "military-first, bureaucracy-second" relationship between civilian and military systems, eventually establishing a "bureaucracy-first, military second" system. After the political reforms, the states' orders were unified at the central level, allowing the spoils of war to be distributed at the state level (Mote 1999). Therefore, Song firmly continued the

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<sup>5</sup> The so-called Ten Kingdoms refers to the ten relatively large countries that existed in various parts of China in addition to the Five Dynasties during the Five Dynasties and Ten Kingdoms period. However, according to the approach to coding countries in this paper, the counted countries not only include these ten countries but also some countries with less influence.

reforms of Later Zhou, greatly expanded the power of the bureaucracy, and firmly suppressed military power under the civilian system.

### Research design

To verify the hypothesis proposed earlier, we constructed the data by manually referencing multiple sets of historical maps according to the previously mentioned encoding scheme. The main source for constructing the basic ArcGIS boundaries was the *Atlas of Chinese Historical Maps*, edited by Qixiang Tan (Tan 1982). However, this atlas only provides measurements for some major states during the Five Dynasties and Ten Kingdoms period, with a measurement frequency of approximately 15 years, which is insufficient for statistical analysis. Other than this atlas, there were no other digital map collections with more frequent measurement results. Therefore, we combined the descriptions of wars and territorial changes during the Five Dynasties and Ten Kingdoms period from five official Chinese historical books: *Old Book of Tang* (Liu 1975, 945), *New Book of Tang* (Ouyang 1975, 1060), *Old History of the Five Dynasties* (Xue 1976, 974), *New History of the Five Dynasties* (Ouyang 2015, 1053), and *History of Song* (Merkit 1985, 1345). According to the *Atlas of Chinese History* (1982), we selected 908 AD, 934 AD, 943 AD, 943 AD, 949 AD, 954 AD, and 959 AD as the "baseline years" and integrated the information from the historical archives to create panel map data, which were set with a yearly frequency. In our dataset, each map represents the measurement results taken on the first day of the first month of the lunar calendar each year, allowing us to measure the territorial changes in the Five Dynasties and Ten Kingdoms period in China on a high-frequency basis. We then took the logarithm of the territory size as our independent variable (variable *ln\_territory* in the dataset).

The dependent variable of this study is state failure events. We constructed the variable "*state\_failure* (variable *state\_fail* in the dataset)" to represent the failure of a regime or a state by measuring the number of rebellions (including coups and usurpations) that occurred in a state in a given year, as well as the total number of aggressions from other regimes in that year, including northern nomadic regimes and minority regimes in the southwest. Additionally, we coded this variable into a binary form to test the trend. The literature indicates that military incapacity is the most direct manifestation of state capacity failure (Eriksen 2011; Rotberg 2018). On the one hand, domestic rebellions signify that the existing state is unable to control potential power contenders. On the other hand, when facing foreign military threats, the state is unable to organize effective military defenses. Therefore, we chose to use data related to military failures to measure state capacity failure. The data on state failure in this study are derived from Chen Gaoyong's *Chronicle of Natural Disasters and Man-made Calamities in Chinese History* (Chen 2007).

In summary, we employed a panel dataset of state failures, encompassing both domestic rebellions and foreign invasions, to measure a country's state failure. Additionally, we utilized spatial panel data calculated from historical maps, corroborated with other historical sources, to obtain data on the territorial extent of various regimes during the Five Dynasties and Ten Kingdoms period.

Furthermore, we included control variables such as "natural disasters", "legitimacy", "independent status", "external military pressure", and "economic-geographical status"

(see Appendix 1–5) to mitigate their endogenous effects.<sup>6</sup> Considering the panel data structure of our dataset, we incorporated two-way fixed effects in our model, including both time effects and regime-group effects, to minimize potential interference from within-group dynamics or "time inflation" on our conclusions.

The empirical strategy of this study is to analyze the relationship between territorial expansion and state failure during the Five Dynasties and Ten Kingdoms period. If territorial expansion results in increased political power over a territory, then the "war-making states" hypothesis is validated; otherwise, it is not. Therefore, Hypothesis 1 is as follows: Controlling for the aforementioned variables, during the Five Dynasties and Ten Kingdoms period, the larger the territory of a country or regime is, the greater the likelihood that it will experience state failure. The proposed model is as follows:

$$\text{state\_failure}_{it} = \beta_0 + \beta_1 \times \text{territory\_size}_i + \text{control\_variables}_{it} + \text{group - year FE}_{it} + \epsilon_{it} \quad (1)$$

where  $\text{state\_failure}_{it}$  indicates the state failure measure of the  $i$ -th regime in the  $t$ -th time period.  $\beta_0$  is the intercept term.  $\beta_1$  indicates the effect of the size of the actual control territory of a state ( $\text{territory\_size}_i$ ) on the measure of state failure;  $\text{territory\_size}_i$  represents the area size of the  $i$ -th individual;  $\text{control\_variables}_{it}$  is a set of control variables, taking into account other factors that may affect the measure of state failure of the  $i$ -th individual in the  $t$ -th time period. Group FE $_i$  is the individual fixed effect, which considers the influence of the  $i$ -th individuals constant characteristics on the measure of state failure. Year FE $_t$  is the time fixed effect, which takes into account the influence of common factors in the  $t$ -th time period on the measure of state failure for all individuals.  $\epsilon_{it}$  represents the random error term of the  $i$ -th individual in the  $t$ -th time period.

On the other hand, our first hypothesis is based on the analysis of political fragmentation during the Five Dynasties and Ten Kingdoms period. This hypothesis assumes a basic theoretical framework suggesting that, compared with the institutionalized positive externalities brought about by civilian rule, the political landscape dominated by military officials and regional warlords often leads the benefits of warfare to become private gains for local warlords. This, in turn, exacerbates state fragmentation and results in political division. This condition further increases the probability of civil war and reduces the cost of foreign invasion in the context of the ancient agricultural period (Zhou 2012). Additionally, this implies an underlying assumption that the military power of these regional regimes is much stronger than that of civilian officials. Therefore, the causal effect validated by our first hypothesis cannot be negated by arguing from the opposite perspective.

To test this hypothesis, we collected comprehensive data on officials ranked at or above the third rank from *New History of the Five Dynasties*, *Old History of the Five Dynasties*, and the China Biographical Database (CBDB). If an official was promoted and given a higher rank through military achievements or inheritance of military merits, they were classified as a military official. Otherwise, they were classified as a civilian official. Through manual coding, we discovered that during the Five Dynasties and Ten

<sup>6</sup> Control variables are disaster, legitimacy, independence, enemy\_strength and env in the dataset; the introduction of the control variables is provided in Appendix 1-5.

Kingdoms, the Later Zhou (951–960 AD) and the subsequent Northern Song Dynasty had more officials with a civilian background compared to military officials within their core bureaucratic groups. This finding is also supported by historical records. Guo Wei (904–954 AD) and Chai Rong (921–959 AD), the first two rulers of the Later Zhou, implemented a series of centralizing reforms, such as establishing a central army under their direct command, prohibiting military officials from holding the position of chancellor, and decentralizing the military power of generals.

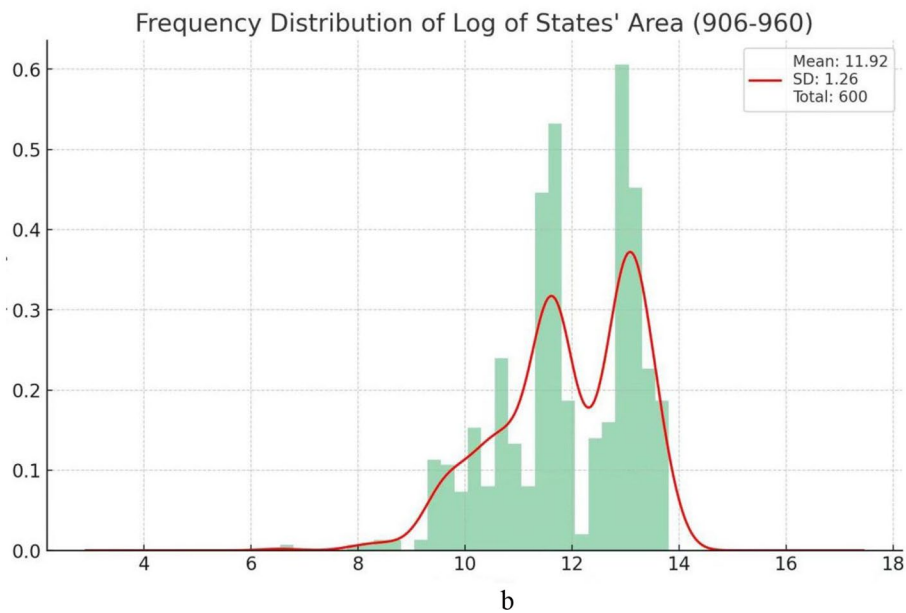
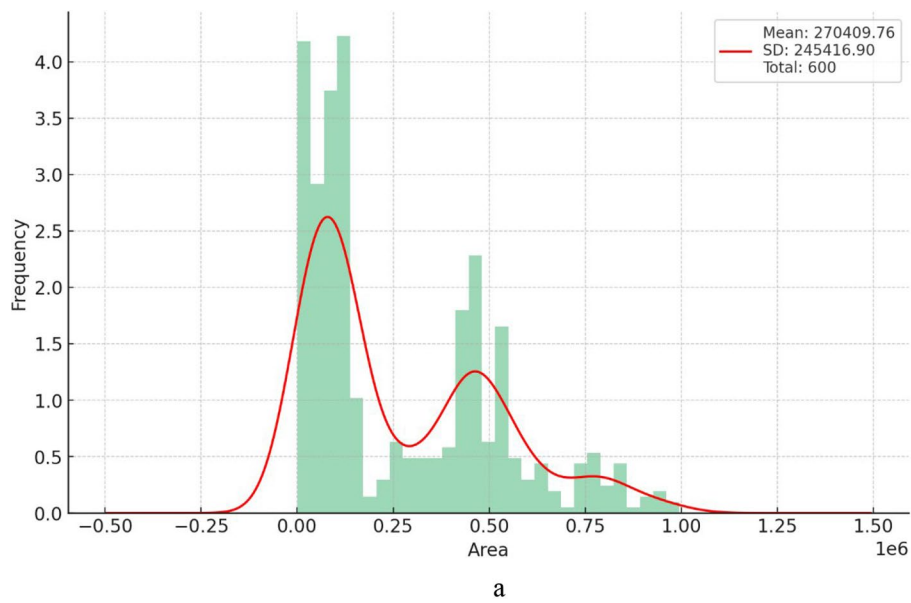
These measures gradually reclaimed and consolidated fragmented military power, allowing the institutional forces represented by civilian officials to gain the upper hand in the process of state-building (Tilly 1990; Herbst 2014; Wang 2022). The subsequent Northern Song Dynasty also centralized military power through actions such as the “Cup of Wine to Relinquish Military Authority (杯酒释兵权),” continuing the style of centralization seen in the Later Zhou by expanding the central imperial army and dividing the authority to lead and train troops. Therefore, in this study, we consider the Later Zhou and the Northern Song Dynasty as states that underwent centralizing reforms, serving as the treatment group, whereas other regimes are considered the control group, as they still had a greater proportion of military officials during the same period. Furthermore, since the Later Zhou implemented centralizing reforms in the same year it was established (950 AD), it presents a challenge to our policy evaluation—there is no strict preintervention period for the treatment group. The interrelations among the Five Dynasties constitute a “circle of coups,” where each founder of one of the Five Dynasties was a military general in the previous dynasty. For example, the founder of the Later Zhou, Guo Wei, originally served as the Privy Councilor of the Later Han. However, he replaced the Later Han emperor in a coup. The states represented by the Five Dynasties succeeded each other in time but occupied the same geographical space. To some extent, we can consider all the Five Dynasties as “self-inherited” countries. A similar methodology has been discussed in previous studies (Abadie et al. 2015; Gilchrist et al. 2023; Dreuw 2023). Therefore, the regimes of the Later Liang, Later Tang, Later Jin, and Later Han before 950 AD can be considered the prereform “control group” of the Later Zhou and the Northern Song Dynasty.

Hence, we propose Hypothesis 2: Centralizing reform could significantly enhance state-building, resulting in a reduction in the occurrence of state failure events. The model is as follows:

$$\text{state\_failure}_{it} = \beta_0 + \beta_1 \times \text{reform}_i + \text{control\_variables}_{it} + \text{group - year FE}_{it} + \epsilon_{it} \quad (2)$$

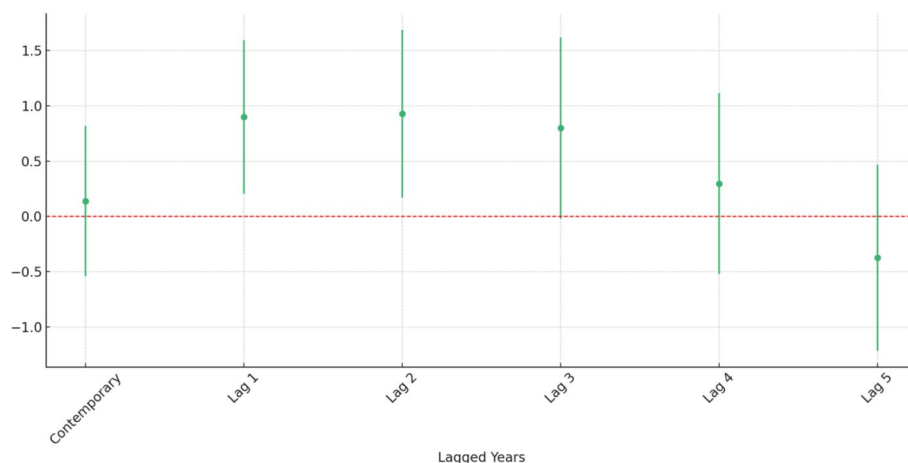
In addition, we propose the use of the difference-in-differences (DID) strategy to mitigate potential endogeneity between reform and the reduction of state failures and to assess the actual causal effects of the reform, thereby providing clearer and more comparable causality on the effects of the reform. Therefore, we propose Hypothesis 3: Centralization reform can indeed reduce the occurrence of state failure, thereby enhancing state-building. The model is as follows:

$$\text{state\_failure}_{it} = \beta_0 + \beta_1 \times \text{reform\_state}_i + \beta_2 \times \text{reform\_time}_i + \beta_3 \times \text{interaction} + \text{control\_variables}_{it} + \text{group - year FE}_{it} + \epsilon_{it} \quad (3)$$



**Fig. 2** Distribution of State Territorial Areas

The interaction term (interaction) represents the interaction between the treatment group variable (reform\_state) and the reform period variable (reform\_time). When both are 1, it represents the treatment group—the Later Zhou Dynasty and the Northern Song Dynasty after 950 AD. Its *p* value and coefficient  $\beta_3$  represent the significance and effect of the centralization reform. Additionally, to ensure the validity of the DID conclusion, we conducted a parallel trend test on the preintervention data, and the results are shown in the following section.



**Fig. 3** Effect of Territorial Area on State Failure for Different Lags

## Results

The descriptive analysis shows the characteristics of the 55 years of the Five Dynasties and Ten Kingdoms period. As shown in Fig. 2a below, the majority of countries territorial areas during this period were distributed around approximately 60,000 km<sup>2</sup>, which is approximately equal to today's Ningxia Hui Autonomous Region, the smallest provincial unit in China by territorial area. Figure 2b presents the distribution of state areas after logarithmic transformation, which presents a quasinormal distribution.

The regression results revealed evidence that supports H1. During this period, the larger the territory area a country had, which was generally plundered from other countries, the greater the possibility of state failure, represented by the loss of territorial area in subsequent years. As shown in Fig. 3, which presents the regression results visually, we controlled for two-way fixed effects and a series of control variables, and used the lagged natural logarithm of a state's territorial area to predict the possibility of state failure via the binary indicator. We found that for every 1% increase in a regime's territorial area, there is a nearly 90% increase in the number of national failure events that occur in the state the next year ( $p = 0.012 < 0.05$ ), which fades by the third year. This finding supports our theoretical framework, which suggests that during periods of military fragmentation, states monopolized by local warlords cannot convert the plundered resources into the capital needed for state-building. When a regime acquires new territory, the benefits derived do not necessarily translate into increased national strength, contributing to state-building. Instead, these benefits often become resources for local warlords to engage in rebellion and power struggles. Additionally, when one state occupied another state's territory, it often triggered retaliation or even invasion by more powerful entities in subsequent years. Randomly selecting states and years to validate the historical mechanism further supports our theoretical framework. For example, the relationships between the Later Tang, Later Jin, and Khitan during the Five Dynasties period follow this pattern.

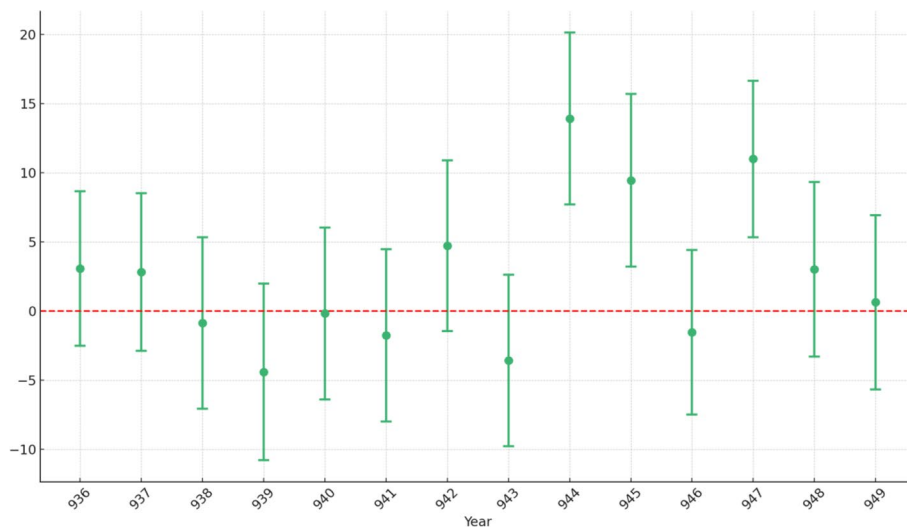
Furthermore, by examining the lagged periods of the explanatory variable, we found that the impact of controlling for the size of the territorial area on state failure can last for up to two years. However, by the third lagged period, this effect becomes



**Table 1** Regression Table of H2

DV	State failure [0–1]
L.Reform	−0.520*** (0.141)
Control Variables	YES
Year Fixed Effect	YES
State-Group Effect	YES
Constant	0.292 (0.213)
Observations	172
Adjusted R <sup>2</sup>	0.620

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$



**Fig. 4** Parallel Trend Before the Centralization Reform (936–949 AD)

nonsignificant. The maximum impact is observed in the second lagged period, with a coefficient of 0.929 ( $p = 0.018 < 0.05$ ).

With respect to Hypothesis 2, we find evidence that centralization reform can directly lead to a reduction in state failure events. As shown in Table 1, the coefficient is  $-0.52$  ( $p = 0.000 < 0.05$ ), indicating that the likelihood of state failure would be halved after the reform. However, this method cannot fully account for potential influences prior to the reform. Therefore, we designed a DID (differences-in-differences) approach to further study the "real" effect of reform in Hypothesis 3.

Before conducting the DID method, we carried out a parallel trend test on the treatment and control groups before the reform began. Only through the parallel trends test can we demonstrate that the two groups had similarities before the policy intervention, allowing the control group to serve as an "approximate" counterfactual group. In the DID method, we use the number of state failure-related events as the dependent variable instead of the binary dependent variable. This approach is necessary because, unlike in H2, we need to capture more precise changes rather than just presenting a trend.

**Table 2** DID results of centralization reform after 650 AD

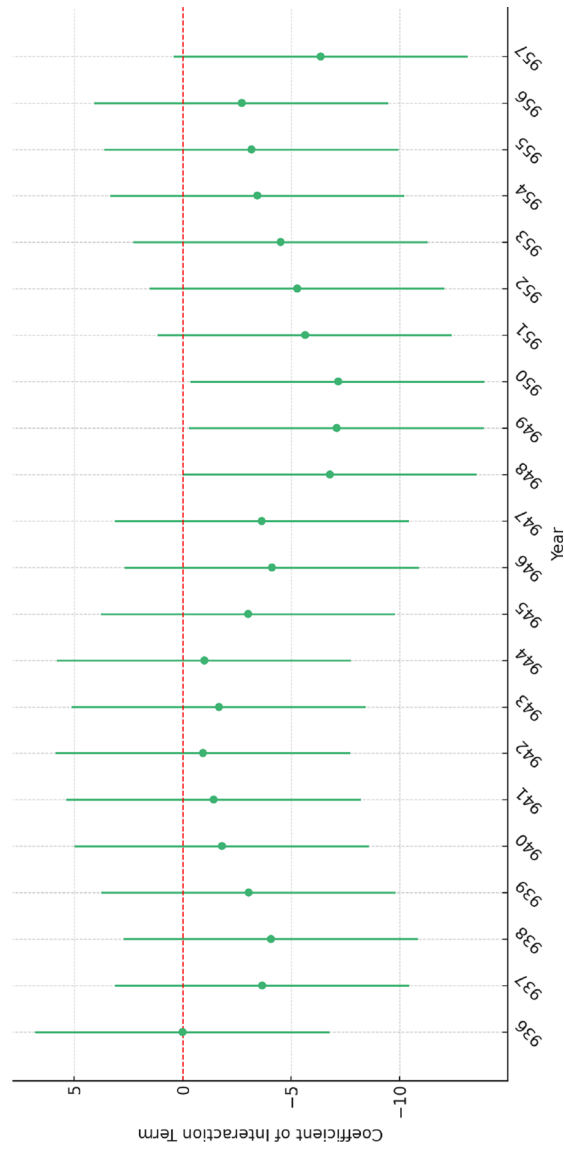
Variable	Coefficient	Std. error	t value	P value
Intercept	5.045	4.236	1.191	0.234
Reform State	-0.554	2.126	-0.260	0.795
Reform Time	0.871	4.938	0.176	0.860
Interaction (Reform State * Reform Time)	-8.075*	3.856	-2.094	0.038
Natural Disasters	0.195**	0.071	2.735	0.006
Independence Status	-0.086	0.673	-0.128	0.898
Enemy Strength	-0.051	0.551	-0.092	0.927
Legitimacy Declaration	0.425	0.590	0.720	0.472
Observations	620			
Adjusted R <sup>2</sup>	0.397			

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ 

Additionally, the different units have different cardinalities, meaning that using a binary variable in DID would yield misleading results. As shown in Fig. 4, through the preintervention regression, we find that out of the 14 years from 936 to 949 AD, the majority (80%) of the coefficients of the interaction terms with *reform\_state* are not significant. This indicates that the parallel trend is mostly satisfied. Although there are three exceptions at 944 AD, 945 AD, and 947 AD, these exceptions do not sufficiently falsify the parallel trends assumption. In other words, these three years are relatively minor outliers. Given that our panel data are at the state level, the bias caused by these outliers is not unexpected (Marcus and Sant Anna 2021; Rambachan and Roth 2023).

Furthermore, by conducting a DID analysis and controlling for both two-way fixed effects and a series of control variables, we find support for Hypothesis 3. Specifically, centralization policies have a significant effect on reducing the occurrence of state failure, with an estimated effect of  $-8.075$  ( $p = 0.038 < 0.05$ ), as shown in Table 2. The implementation of the reform led to an average reduction of approximately eight incidents per year of internal rebellions and external invasions during the Later Zhou and Northern Song. This reduction is particularly noteworthy considering that the treatment group experienced the highest number of state failures, with 39 incidents. In the case of the Later Liang, which was defeated by the Later Tang in 911 AD, continuous internal rebellions occurred. Therefore, centralization reforms arguably contribute to reducing the number of state failure events. This finding indirectly validates the notion that a state structure dominated by civilian officials is conducive to strengthening state-building, whereas a structure dominated by military officials tends to weaken it.

Finally, to address concerns about endogeneity caused by potential selection biases in policy implementation, we conducted a placebo test. By altering the implementation timing of the policy and artificially constructing a "false" policy implementation period, we tested the robustness of our DID result. The results, as shown in Fig. 5, indicate that, overall, the policy effects during the "false" implementation period before or after 950 AD are not statistically significant. Although the policy effects were negative and significant in the years 948 AD and 949 AD, it cannot be directly inferred from their proximity to the actual policy implementation that the conclusion of the policy's robustness was undermined. It is possible that there was sufficient political preparation by Guo Wei before the reform was implemented.



**Fig. 5** Placebo Test for All Years from 935 to 960 AD

## Conclusion

Previous academic views generally agreed that war is crucial for state-building, forming a cyclic pattern: A state enhances its military capabilities through the establishment of bureaucratic and tax systems and wins wars. The spoils of war, such as territory, population, and interstate advantages, in turn, feed back into the states internal building. Therefore, territorial powers have a significant competitive advantage in wars and are more likely to stand out in frequent and increasingly expensive wars (Tilly 1990; Dincecco 2011; Karaman and Pamuk 2013). However, this concept of "war-making states" is largely based on the evidence of European states. Although some studies have examined the military competition of major powers during Chinas Spring and Autumn and Warring States periods, seemingly confirming the applicability of "war-making states" in China (Kiser and Cai 2003; Hui 2005; Zhao 2015), there has been little research on state-building during other periods of disintegration in Chinese history.

This paper explores the applicability of the "war-making states" hypothesis during the Five Dynasties and Ten Kingdoms period. We show that the size of a state did not gradually expand due to continuous wars. Although victory in war was achieved, state failure often followed in subsequent years. In other words, during the Five Dynasties and Ten Kingdoms period, states could not be "made" purely through military competition, and wars (even victories) could lead to state collapse. We argue that the real reason for the success of state-building during this period was the reform of power centralization in the hands of civilian bureaucracy. Through the replacement of the military officer system with the civilian system, the Later Zhou Dynasty and the Northern Song Dynasty after 950 AD gradually realized strong state control throughout the country and gradually unified China. Our study does not seek to draw a clear line between the "war-making state" and other forms of state-building but rather aims to highlight the institutional metaphor of state-building: if, in the process of state-building in a medieval country, local warlords control civilian bureaucracy, more victories in wars could strengthen only local warlords. This would not only fail to contribute to state-building but also act as an obstacle to it.

Decades of social science research have concluded that a strong state is crucial for winning interstate wars (Tang 2010), promoting economic development (Dincecco 2017; North 1981), and preventing political violence and civil wars (Fearon and Laitin 2003). However, in major countries typified by the Five Dynasties and Ten Kingdoms, strong states seem capable of winning wars but cannot promote state-building and suppress civil wars. Our research supplements the traditional Europe-centric literature on state-building. We posit that for the "war-making states" hypothesis to hold true, it must be realized within a specific political structure. In mature bureaucratic states of the Middle Ages, the core mechanism of state-building was not necessarily warfare but rather whether the bureaucratic forces within the state could control the military forces. If they could, the hypothesis holds true; otherwise, it does not.

This leads us to question whether the states during the Five Dynasties and Ten Kingdoms period were typical "Weberian" states and whether the form of domination within the state was a typical "Weberian" bureaucracy. During this period, the balance between civilian and military officials was lost; local warlords became monarchs, dominated the civilian system, and distributed power through informal relationships rather than formal

relationships through the civilian system, which is very similar to the contemporary military dictatorship system (Geddes et al. 2018). Therefore, in contemporary military dictatorships, is there a lack of applicability for the "war-making states" hypothesis? Is the bureaucratic system, as a form of state domination, a systemic condition for the "war-making states" hypothesis? Perhaps state-building may be a systemic issue that cannot be simply resolved through the "war-driven theory," and a state may not achieve state-building due to one or several victories in war. Therefore, state-building projects should emphasize bureaucratic reform and achieve internal system construction that aligns with a strong state.

## Appendix

1. We employed a binary variable (variable *legitimacy* in the dataset) to record whether a state leader or a local warlord declared themselves a king or an emperor or independently declared a reign title in a given year, serving as a measure of the political legitimacy of the regime within its territorial jurisdiction. If a state or local warlord did not do so, it is marked as 0. In the political context of ancient China, declaring a state to be a kingdom or empire carried considerable political "legitimacy" (Lewis 2007). We use this binary variable to measure the political legitimacy of a state during this period.
2. We used a binary variable to record the independent status of a state or a local warlord (variable *independence* in the dataset). If, in a given year, a state is nominally subordinate to another state, such as the Southern Tang regime, which was nominally subordinate to the Northern Song dynasty after 960 AD, it is marked as 0; otherwise, it is marked as 1. Diplomatically submitting to a more powerful state may reduce the likelihood of military threats from other states toward the submitting state (Schweller 1994; Lake 2009).
3. We employed the variable "external military pressure (variable *enemy\_strength* in the dataset)" to measure the military and political pressure faced by a state in a given year. A value of 1 indicates that the military threat from the enemy is stronger than the state's military strength, 0.5 indicates balanced power, and 0 indicates that the state is stronger than the enemy. The situations marked as 1 include (a) when the regime faces military threats or attacks from nomadic tribes such as the Khitan in the north; (b) when the regime is one of the "Ten Kingdoms" in the south but faces military threats or attacks from the "Five Dynasties" in the central plains; and (c) when the regime faces joint attacks from at least three different enemies within six months.
4. We have compiled the number of major natural disasters, referred to as "natural disasters" (variable *disaster* in the dataset), that various political regimes have encountered over the years. The occurrence of these calamities had fatal ramifications for ancient agricultural regimes.
5. We collected natural-environment-related data by interacting two different geographical factors (variable *env* in the dataset). One factor is the average temperature in the Central Plains region each year. These data were sourced from Chu Kochens *Preliminary Study on Climate Change in China over the Past Five Thousand Years*

(Chu 1973; Zhang and Crowley 1989; Liu et al. 2020). The average temperature for a given year was estimated on the basis of geological survey data of the snow line in the mountains. However, since these data represent the average for the entire Central Plains region, they have granularity limitations. To address this, we also collected the shortest distance from the capital city center to the Yangtze River. For regimes located near the Yangtze River, such as Wu, we uniformly considered their distance to the Yangtze River as 10 km. We subsequently converted all distances to logarithmic values and multiplied them by the average temperature to obtain the natural environmental variable. This variable serves as a measure of the states environmental conditions for a given year. The reason we chose the Yangtze River instead of the Yellow River or Pearl River is twofold. First, from the "War of the Eight Princes" (291 AD-306 AD) until the Song Dynasty, Chinas economic center continuously shifted from the Yellow River Basin to the Yangtze River Basin (Wang et al. 2023; Zhang et al. 2006). Compared with the frequently troubled Yellow River Basin, the Yangtze River Basin offers greater social stability, a denser water system, more abundant rainfall, more comfortable temperatures, fewer floods, and more efficient agricultural soil resources. Second, we did not choose the Pearl River Basin because although it is the third-largest water system within China south of the Great Wall, the Pearl River region was not extensively developed by Han Chinese regimes at that time. It was not until the mid-fourteenth century AD that many immigrants from northern China migrated to and developed the Pearl River Basin (Lai 2020).

#### Abbreviations

AD Anno domini  
CBDB China biographical database

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#### Author contributions

Li Li was responsible for methodology, outline and first draft writing; Shengyu He was responsible for methodology and data analysis; Ruixin Ji was responsible for data collection.

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#### Availability of data and materials

Data and materials are available on request from the corresponding author.

#### Declarations

##### Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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