

# Blood is Thicker Than Water: Elite Kinship Networks and State Building in Imperial China

YUHUA WANG *Harvard University*

**A** long tradition in social sciences scholarship has established that kinship-based institutions undermine state building. I argue that kinship networks, when geographically dispersed, cross-cut local cleavages and align the incentives of self-interested elites in favor of building a strong state, which generates scale economies in providing protection and justice throughout a large territory. I evaluate this argument by examining elite preferences related to a state-building reform in 11th century China. I map politicians' kinship networks using their tomb epitaphs and collect data on their political allegiances from archival materials. Statistical analysis demonstrates that a politician's support for state building increases with the geographic size of his kinship network, controlling for a number of individual, family, and regional characteristics. My findings highlight the importance of elite social structure in facilitating state development and help understand state building in China – a useful, yet understudied, counterpoint to the Euro-centric literature.

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## INTRODUCTION

**S**ocial sciences scholarship has established over the last century that kinship-based institutions undermine state building. For instance, Weber (1915, 237) argues that the state needs to "shatter the fetters of the sib [the extended family]." Migdal (1988, 269) maintains that strong states emerge only when massive dislocation severely weakens traditional kinship-based institutions. Fukuyama (2011, 51) likewise contends that state building represents "a transition from kinship-based forms of organization to state-level organization." Acemoglu and Robinson (2019, 18) consider communities with strong kinship-based institutions to be trapped in a "cage of norms," which prevents

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Yuhua Wang (ORCID: 0000-0003-4311-5425) is the Frederick S. Danziger Associate Professor, Department of Government, Harvard University, 1737 Cambridge St., Cambridge, MA 02138 (yuhuaawang@fas.harvard.edu).

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the birth of a strong Leviathan. In the same vein, Henrich (2020, 159–61) argues that the rise of so-called Western Educated Industrialized Rich Democratic (WEIRD) states can be traced back to the medieval era when the Catholic Church dissolved extended family networks.

Kinship-based institutions, however, have coexisted with centralized state institutions throughout human history. A group of Norman aristocrats, bound together by kinship ties, ruled medieval England (Bates 2017, 26–7). In pre-colonial sub-Saharan Africa, kinship ties were prevalent in what Fortes and Evans-Pritchard (1950, 5–7) call "centralized" kingdoms, such as the Zulu, Ngwato, Bemba, Banyankole, and Kede. Imperial China, one of the world's earliest bureaucratic states (Stasavage 2020, 138–49), boasted strong lineage organizations (Perry 1980, 60).

This article analyzes the conditions under which kinship-based institutions are compatible with state building. I argue that *geographically dispersed* kinship networks cross-cut local cleavages and incentivize elites to unite in pursuit of national, rather than sectarian, goals. Elites embedded in such dispersed networks can benefit from a strong central state, which generates scale economies in providing protection and justice throughout a large territory. Dispersed kinship networks, therefore, transcend parochial interests to align the incentives of self-interested elites in favor of state building. It is thus the *type*, rather than the *existence*, of kinship-based institutions that matters for state building.

Systematic, individual-level data on elite views of critical state-building events are difficult to obtain. Most empirical evidence on state building comes from medieval or premodern Europe; I contribute to this literature by compiling data from imperial China. China accounts for a large share of the world's population and economy, and was a pioneer in state formation millennia ago (Hui 2005). Its well-preserved historical records enable us to analyze politician-level behavior. The Chinese state thus constitutes a useful, yet understudied, alternative to the Euro-centric literature.

I compiled an original dataset that includes individual-level information on all the major politicians during what was arguably China's most important state-building reform, which occurred during the Northern Song Dynasty (960–1127). China faced severe external threats from the nomads in the North during this time, which motivated the emperor to initiate a reform to strengthen the state's fiscal and military capacities. Politicians, however, diverged on their attitudes toward the reform: some became state builders, while others formed the opposition. The emperor's strategy to keep both camps in power to play them against each other allowed them to publicly express their policy preferences. I use archival materials, such as policy deliberations submitted to the emperor, to document the political allegiances of major central officials during this reform era.

Mapping elite kinship networks from a thousand years ago presents a formidable challenge. I use a novel archeological source: tomb epitaphs.<sup>1</sup> Tomb epitaphs included lengthy eulogies containing information on several generations of the deceased individual's kin members. I geocoded every kin member's hometown to construct an index that measures the geographic concentration of each politician's kinship network. I used a variety of approaches to address missing data problems inherent in historical research, including multiple imputation and randomly assigning a value. My statistical tests demonstrate that politicians' support for state building is positively correlated with the geographic span of their kinship networks. In other words, the more dispersed their extended family, the more likely politicians are to advocate a strong state.

This correlation is driven by what Hirschman (1958, 100) calls "forward linkage" effects. Forward linkages are created when investment in a particular activity encourages investment in subsequent activities. For instance, elites create such linkages when they build kinship networks, a form of patronage sharing and risk mitigation, to perpetuate their power and alleviate uncertainties. These networks can "lock" politicians into future state-building preferences even after the initial impetus

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<sup>1</sup>For another recent study that exploits archeological sources, see Boix and Rosenbluth (2014).

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to create the networks has passed. In imperial China, politicians' kinship networks, often handed down from earlier generations, shaped how they weighed their family's future interests vis-à-vis state interests.

Padgett and Ansell (1993, 1310) point out that to understand state building, one needs to "penetrate beneath the veneer of formal institutions and apparently clear goals, down to the relational substratum of people's actual lives." Social science research has long emphasized the impact of social networks (e.g., Putnam 1993) and "social embeddedness" (Granovetter 1985) on elite behavior. Recent works demonstrate that network structures shape political incentives (Cruz et al. 2020; Naidu et al. 2021). To the best of my knowledge, this article is the first to introduce a theoretical argument supported by quantitative evidence linking the *geography* of elites' kinship networks to their state-building preferences.

This article is related to the contribution of Jha (2015), which shows that overseas shareholding aligned the incentives of various elites during England's Civil War (1642–1648) to cobble together a pro-reform coalition in favor of parliamentary supremacy. I focus instead on kinship networks, which were prevalent in premodern societies and remain prominent in many developing countries (Tsai 2007; Xu and Yao 2015; Mattingly 2016; Cruz et al. 2017). My approach "brings people back into the state" (Levi 2002, 37) and introduces a novel logic to explain why politicians prefer different degrees of state strength.

Many previous studies assume that if politicians face common threats, they will act together to strengthen the state (Tilly 1992; Slater 2010). I show, however, that politicians vary in their state-building preferences even when they face severe external threats. This study thus advances an emerging elite-centered literature on state building that includes Blaydes and Chaney (2013), Soifer (2015), Garfias (2018), Beramendi et al. (2019), and Suryanarayan and White (2021). While most of these studies emphasize elite competition, I focus on elite *social relations*. I hence offer a nuanced view of the state–society perspective: while this approach tends to treat the state and society as separate, competing entities (Migdal 1988; Shue 1988; Acemoglu and Robinson 2019), I show that whether social institutions strengthen the state depends on state–society *linkages*.<sup>2</sup>

## THE ARGUMENT

Kinship-based institutions came before the state and have been resilient throughout human history. Individuals of common descent banded together to reduce the costs of acting alone (Greif 2006, 308). State–society scholars believe kinship-based institutions compete with the modern state to create "rules of the game" (Migdal 1988, 14). Extended families, for example, use a variety of sanctions and rewards to induce people to behave according to what Fukuyama (2011, 49) calls "the tyranny of cousins" rather than to follow state rules.

I argue that kinship institutions, *under certain conditions*, incentivize elites to strengthen the state. An important distinction is whether members of extended families (and thus kinship networks) are geographically dispersed or concentrated.

Compare the two kinship networks in Figure 1, which are drawn from real examples that I describe in more detail below. Panel (a) shows a dispersed network in which the elite, who I refer to as the ego (denoted by the large circle in the figure), has kin (small dots) located all over the country. Panel (b) depicts a relatively concentrated network in which the ego has kin mostly located in nearby provinces.

Elites form these kinship networks to mitigate costs and share risks.<sup>3</sup> These networks in turn create

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<sup>2</sup>For pioneering works that examine state–society linkages, see Evans (1995), Grzymala-Busse and Luong (2002), and Levitsky and Way (2010).

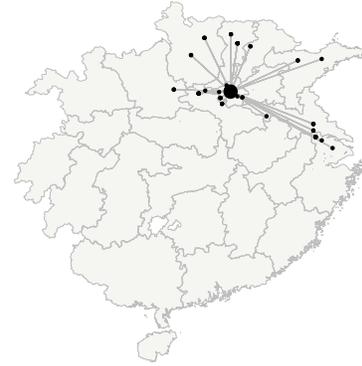
<sup>3</sup>Similar considerations motivated the kinship networks of Hanseatic merchants (Ewert and Selzer 2015, 167–70)

**FIGURE 1. Examples of Kinship Networks**

(a) A Dispersed Kinship Network



(b) A (Relatively) Concentrated Kinship Network



*Note:* The large circles represent the locations of the egos, and the small dots the locations of their kin. The lines represent kinship ties.

"forward linkages" that induce individuals to engage in activities to preserve them. I argue that the *type* of network they create (e.g., dispersed vs. concentrated) shapes elites' preferences regarding state strength because some state-building outcomes are more beneficial than others to their kinship networks. In this way, the networks can shape elites' preferences on new issues, such as state building, long after the initial impetus to create the networks has passed.

My argument starts with the assumption that elites are agents of their kinship groups; their objective is to influence government policies to provide the best services to their groups at the lowest possible cost. These services include defense against external and internal violence, insurance against uncertainties, and justice in dispute resolution (North 1981, 23). Two governance structures, public-order institutions (such as the state) and private-order institutions (such as kinship organizations), are the leading alternatives for providing such services.<sup>4</sup>

Elites embedded in dispersed kinship networks have a strong incentive to use the state to provide these types of services to their kinship groups. Two considerations drive elites' choices. The first is economic: it is more efficient to rely on the central state to provide services because the state enjoys economies of scale and scope (Alesina and Wacziarg 1998; Ferejohn and Rosenbluth 2010).<sup>5</sup> Where the central state is strong, it is much cheaper to cover an additional territory in which a connected kinship group is located than to rely on the group to provide its own security and justice.

and the cross-Atlantic kinship networks of English and Dutch merchants during the late Middle Ages (Hatfield 2004, Chapter 4).

<sup>4</sup>For discussions of private-order institutions, see Greif (2006). In Hobsbawm's (2016, 235–6) study of Latin America, elites from strong local families do not need government power or political parties because they can obtain "armed support" from their family patrons.

<sup>5</sup>The state exhibits economies of scale and scope for two reasons. First, there are fixed costs associated with establishing a set of facilities, such as warehouses, arsenals, roads, and communication infrastructures. Up to a point, the costs increase less than proportionally to the geographic span. To the extent that public services are non-rival and non-excludable, scale economies are achieved by exploiting these decreasing marginal costs. Second, establishing central institutions may facilitate the specialization of labor and capital, which increases efficiency.

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The second consideration that motivates elites' decisions is social. Kinship groups that are concentrated in a certain locality often care a lot about their local interests but little about national matters. They oppose paying taxes to the central state, for example, because the state will deliver services to all parts of the country, and these kinship groups would end up paying for services provided to others. These geographically defined kinship groups hence create regional cleavages that produce distributive conflicts. Nevertheless, if elites can connect multiple geographically dispersed kinship groups, this social network will *cross-cut* regional cleavages.<sup>6</sup> These cross-cutting cleavages incentivize elites to aggregate the interests of multiple localities and groups and scale them up to the national level. Dispersed kinship networks therefore transcend parochial interests and foster a broad state-building coalition.

Geographically concentrated networks, however, *reinforce* existing regional cleavages. In this case, it is more efficient for members of local kinship groups to rely on private-order institutions for protection and justice, because the marginal costs of funding kinship organizations to service a local area are relatively low compared to taxes paid to support the central state. Elites embedded in concentrated networks would therefore oppose strengthening the central state because such policies would divert resources from kinship groups to the state and weaken their local power bases.

Elites embedded in dispersed vs. concentrated networks follow patterns that are similar to those that Olson (1982, 48) describes as encompassing vs. narrow interest groups. Elites in a dispersed network have encompassing interests as they represent multiple localities, while those in a concentrated network become a narrow interest group representing a small number of areas.

Cross-pressures arising from encompassing networks incentivize elites to form a coalition that pursues national, rather than sectarian, goals. Elites in this situation do not create private-order institutions, because it is redundant for each kinship group to set up its own local defense and provide its own public goods. Elites embedded in dispersed networks therefore prefer to strike a Hobbesian deal with the ruler to pay taxes in exchange for centralized protection.

Such a deal provides two credible commitments: (1) between the ruler and the elites and (2) between the elites and their kin. In the first, dispersed networks strengthen elites' bargaining power vis-à-vis the ruler. The elites are embedded in a centralized social structure in which they can use their cross-cutting ties to mobilize social forces across regions. The ruler, facing a nationally connected elite, must commit to use the state to provide public goods rather than to prey on members of society.<sup>7</sup> Since elites embedded in geographically concentrated networks have only regional bases of power, they can mobilize some (regionally based) social groups to capture a region or threaten secession. But it is easier for the ruler to quell challenges that are concentrated in certain areas. Second, the central state, represented by the ruler, provides an institutional commitment device between the elites and their kin. Supporting state building allows the elites to credibly commit to protecting their kin because it is harder for the central state than for kinship institutions to exclude specific group members as beneficiaries from a distance.

The state and kinship networks in this refined notion of state–society relations complement, rather than undermine, each other. Politicians, i.e. elites who represent the interests of their kin, build a strong state and use it to provide protection and justice for their kinship networks. The key insight is that elites' incentives to support state building increase with the geographic size of their kinship networks. This generates a testable hypothesis:<sup>8</sup>

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<sup>6</sup>For a discussion of cross-cutting versus reinforcing social cleavages, see Lipset and Rokkan (1967).

<sup>7</sup>As Scott (2017, 153) argues, the state is inherently predatory: in order to extract resources, it can take away residents' freedoms and create "institutions of bondage" to control the means of production.

<sup>8</sup>In pursuit of parsimony and due to data limitations, I focus on this one hypothesis that I can systematically evaluate using the available data.

***Hypothesis 1: A politician's support for state building increases with the geographic size of his or her kinship network, ceteris paribus.***

## **HISTORICAL BACKGROUND**

The Northern Song Dynasty faced existential threats from the Khitan and Tangut nomadic tribes in the North; war appeared to be imminent.<sup>9</sup> In 1065, the state spent more than 80% of its income on defense, which created the dynasty's first financial deficit (Smith 2009, 349). Due to a shortage of able-bodied men, aged and inexperienced soldiers were hired from the flotsam of the marketplace and were unfit for combat.

To address these external threats and the resulting deficit, in 1069 Emperor Shenzong introduced the New Policies. These policies, which were later known as the Wang Anshi Reform after the cabinet member who created them, established the goal of "enriching the nation and strengthening its military power" (Liang 1908, 165). The New Policies were designed to expand the scope of state power to intensify state participation in the market economy in order to generate a surplus that the state could then extract to fulfill its fiscal and military needs (Deng 1997, 48). The major reform policies included:<sup>10</sup>

- *Cadastral Surveys and Equitable Tax* (方田均税法). This measure sought to equalize the tax burden across localities and landowners by instituting a series of cadastral surveys. Many localities and powerful families had historically underreported their landholdings to avoid taxes (Liu 1959, 39). The surveys revealed 34.7 million additional acres of land – 54% of the national total (Smith 2009, 393). The discovery of this previously untaxed land shifted some of the tax burden away from politically powerless landowners to official families with large landholdings.
- *Military Conscription* (保甲法). Before the reform, the state relied on an inefficient and ineffective mercenary army. At the local level, villages formed a variety of voluntary defense organizations to foster security. Over time, some of these private associations became private armies controlled by local elites. The reform created a formal grassroots military organization (*baojia*) that all households were required to participate in. The emperor intended to eventually rotate *baojia* troops into the national army (Williamson 1935, 181). In 1075, a central bureaucratic agency started to exert control over the *baojia*. As of 1076, there were 6.9 million men on the *baojia* rosters, which represented almost half of the empire's households (Smith 2009, 414).
- *Rural Credit* (青苗法). This policy created a state-run rural credit system designed to break the private credit monopoly. Previously, rural landlords had a monopoly over agricultural credit and charged high interest rates (Deng 1997, 88). The reformers used state-run granaries to buy grains when prices were low and to resell when prices rose, or in times of natural disaster. They also converted the reserves into a liquid loan fund that was to be made in the spring and repaid in the summer and fall. The government also established rules to protect borrowers from unfair official manipulation. By supplanting landlords and private moneylenders as the principal source of rural credit, the state extracted the interest that previously enriched local elites and gave peasants access to low-interest loans (Williamson 1935, 142–3).
- *Labor Service* (募役法). This policy imposed a tax, called a "service assistance fee," on all households with property that wanted to avoid government labor service (Deng 1997, 88). Before the policy, every household was obliged to undertake government service, for example as office messengers, bookkeepers, granary laborers, or local police officers. Many families

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<sup>9</sup>See Appendix Figure A1-1.

<sup>10</sup>The New Policies also encompassed a state trade policy and irrigation and drainage policies (Deng 1997, 88).

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were exempt by law, such as officials and town dwellers, or by practice, such as powerful local families whose influence over government clerks gave them *de facto* immunity (Smith 2009, 400). The reform required all households eligible for drafted service to pay a tax, graduated according to their assessed wealth.

These policies successfully increased the revenues of the Song government (Smith 2009, 434). Government revenue constituted 17.5% of the Song economy in the late 11th century, which was unparalleled elsewhere in the world (Guo 2019; Stasavage 2020, 160). The entire population was organized into *baojia* security units, which gave the state a relatively cheap conscription system that reversed the trend toward entrusting local elites with village-level security (Williamson 1935, 197; Smith 2009, 427).

The reformers supported the policies because strengthening the state was aligned with their family interests. For example, the reform leader, Wang Anshi, wrote in a letter to the transportation officer Ma: "It is necessary that an individual who is desirous of increasing his family resources, should be dependent for so doing upon the particular state in which he resides. It is necessary also that he who wishes to increase the financial resources of his state should depend upon the empire in order to achieve his object" (Wang 1086, 75: 22).

Many politicians, however, opposed the reform. For example, Sima Guang, Su Xun, Su Zhe, and Zheng Xia insisted that the wealthy served as the pillars of local society and the providers of capital (land and credit) and security to the people, and that the society and economy functioned best when they were least burdened by the state (Qi 1987, 1163–8). As for who should provide security, the censor Wang Yansou maintained that the pre-reform system was built on a solid communal foundation, in which "households on duty with propertied roots in the community" were kept afloat during their period of service by local elites who came to their aid with labor and material assistance. Under the new reform measure, however, state employees replaced "well-established local families" (Li 1177, 364: 8703–6). For Wang Yansou, as for Sima Guang, Zhang Fangping, Liu Zhi, and Yang Hui, only local men with property in the region could be trusted (Sima 1086, 49: 626–8; Li 1177, 224: 5444–6, 6787–91). In the same vein, the censor Deng Runpu charged that replacing private militias with *baojia* guardsmen had shattered a natural defense and surveillance network built on personal relationships, leaving local communities powerless (Li 1177, 279: 6834–5). They also contended that a stronger state threatened their family's interests because the taxation associated with state strengthening increased their household expenses. Sima Guang made the point forcefully in a debate with Wang Anshi before the emperor: "The output of the world in money and goods is of a fixed and definite amount. If it is in the hands of the state then it is not in the hands of the people" (Sima 1086, 42: 543–5). Fan Zhen similarly argued in a memorial to the emperor: "The policy of creating and maintaining a standing army . . . involves the people in heavier taxation and an increase of the burden of public services. . . . On the contrary, the policy of raising Private Militia or People's Corps . . . tends to eliminate these evils . . . Taxation is lighter, and the loyalty of the people remains staunch and true" (Li 1177, 179: 48).

To maintain the balance of power between the supporters and opponents of the reform, the emperor kept both camps in court to play factions of elites against each other (Liu 1959, 60). As the personnel minister Zeng Gongliang advised the emperor: "it is important to have people of different opinions stirring each other up, so that no one will dare to do wrong" (Li 1177, 213: 5169). While this might have empowered the monarch, it jeopardized the fate of the reform. After the retirement of the reform's architect, Wang Anshi, and the emperor's death in 1085, the anti-reform dowager empress took power and coalesced with the opposition to gradually abolish the New Policies (Deng 1997, 254).

## POLITICIANS WITH DISPERSED VS. CONCENTRATED NETWORKS

Consistent with prior historical research (Ebrey 1993; Bossler 1998), in this section I show that the migration history of politicians' families significantly affected the geographic span of their kinship networks.

### Sample of Politicians

I used two main criteria to create my sample of observations.<sup>11</sup> First, I focus on the major politicians who had a say in the reform process, which I define as those who held positions in the national government at the vice-ministerial level or above.<sup>12</sup> Second, I limit my data collection to the reign of Emperor Shenzong (1067–1085) – the period in which the Wang Anshi Reform was proposed, implemented, and debated – which allows me to examine a sample of comparable contemporaries.

Using these criteria, I identify 137 major politicians from Li's (2003) list of Shenzong officials. These politicians include chief councilors, central secretariats, leaders of various ministries, and the emperor's main advisors.<sup>13</sup> They were all male, Han Chinese, and from landowning elite families. They were, on average, 51 years old in 1067.<sup>14</sup> On average, they started their political careers in 1047 – 20 years before Shenzong came to power. Their average bureaucratic rank was ministerial.

### Mapping Kinship Networks

I construct a variable – *Local concentration of kin* – to measure the geographic concentration of each politician's kinship network. Each network consists of two components – the politician's nuclear family and all in-laws who were connected by marriage to his son(s) or daughter(s). Figure 2 presents an example of a kinship network. Including both blood and marriage ties in the kinship network follows from a reasonable assumption. Marriages in imperial China, especially among elites, were transactional and arranged to maximize power and mitigate risks. These marriage ties required effort and attention to garner favor, foster trust, and negotiate mutually beneficial action plans for specific political agendas that would likely expand family fortunes in the long term. Marriage ties hence mattered as much, if not more, than blood ties.

I focus on marriage ties built via son(s) or daughter(s) because these connections best represent politicians' "forward linkages." Song-era politicians made political alliances by intermarrying. According to Bossler (1998, 78), "the majority of connections" between high-level politicians "consisted of marriages between their descendants, especially their children." The politicians' families arranged these marriages before the reform started. Given that males typically married and had their first child in their late teens during the Song era (Ebrey 1993, 75), by the time the reform was introduced, the children of most politicians in the sample were already married. Engagements occurred even earlier, when children were infants or even before they were born (Ebrey 1993, 63). While the marriage ties were formed before the reform, after it started, politicians calculated which state-building outcomes would best serve their kinship networks. Since there is generally a lag between a policy's implementation and its effects, politicians at time  $t$  calculated how their kin would benefit from the policies at time  $t + 1$ , which coincided with their children's generation.<sup>15</sup>

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<sup>11</sup>The data and replication files are available at Wang (2021).

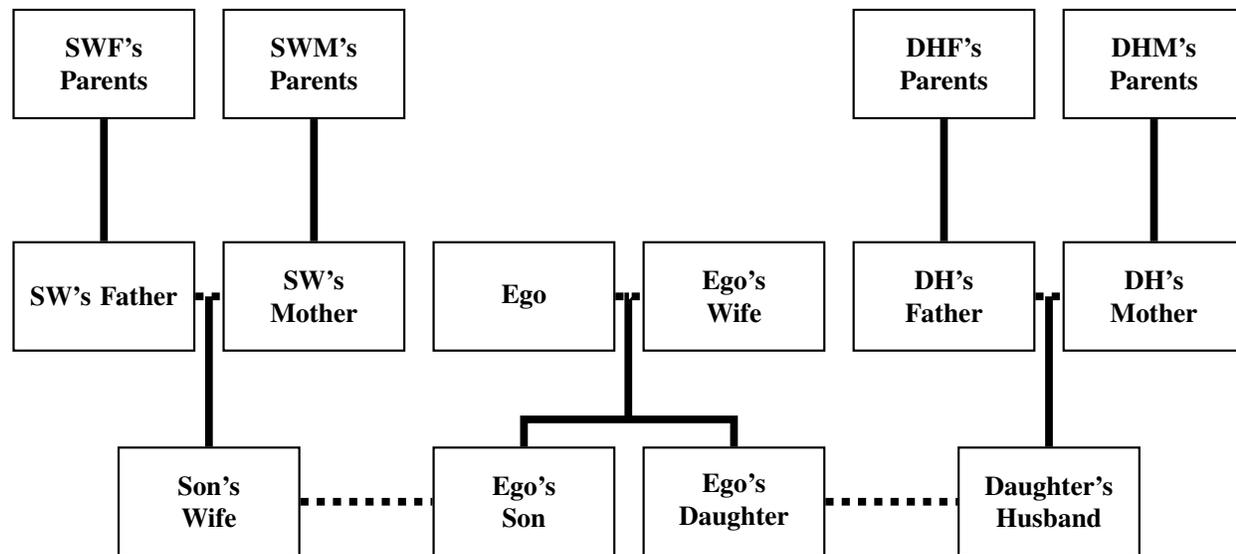
<sup>12</sup>Song emperors designated these individuals as *major advisory officials* who could wear purple (a symbol of prestige) and appear in court to discuss policy issues with the emperor (Gong 1990, 20).

<sup>13</sup>Li (2013, 16–7, 47–8, 62–70) provides a full list of these positions.

<sup>14</sup>I obtained their biographical information from CBDB (2018).

<sup>15</sup>I also construct the politicians' personal kinship networks through their own marriages (using the same sources

**FIGURE 2. Example of a Kinship Network**



Note: SW = son's wife; SWF = son's wife's father; SWM = son's wife's mother; DH = daughter's husband; DHF = daughter's husband's father; DHM = daughter's husband's mother. Solid lines represent blood relations, and dashed lines denote marriage ties.

I use the detailed information provided on tomb epitaphs to map elite kinship networks. Tomb epitaphs in the Song period consisted of square slabs of limestone, on which biographies of the deceased were inscribed. Because the epitaphs were deemed a literary genre, the texts of hundreds of them survive in the collected works of Song-era writers and are included in *The Complete Prose of Song* (全宋文) edited by Zeng and Liu (2006). Tomb inscriptions are rich with information of interest to historians (Tackett 2014, 13). They contain lengthy eulogistic passages, which almost always include the surnames of their wives and generally provide the names (and ranks, if applicable) of their sons and sons-in-law. These conventions – especially where more than one member of the network is eulogized – allow researchers to reconstruct descent lines and affinal connections over several generations (Bossler 1998, 11). Figure 3 shows the tomb epitaph of Fu Bi – a chief counselor under Shenzong.

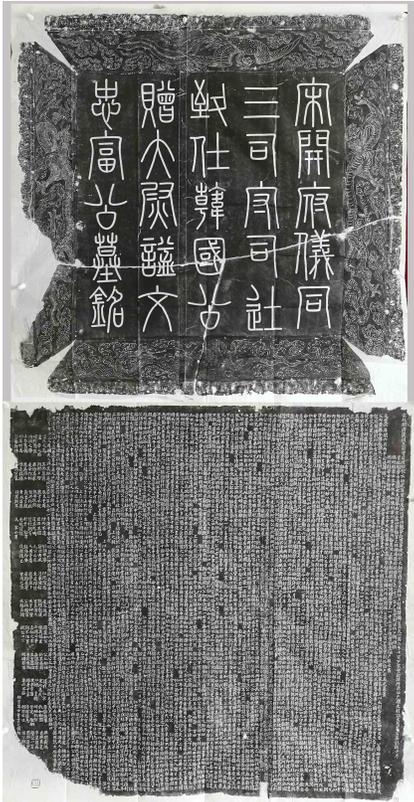
My research team first found all available tomb epitaphs of the major politicians from *The Complete Prose of Song* and manually identified each politician's wife, son(s), daughter(s), and son(s)-in-law. We then searched in *The Complete Prose of Song* to determine whether the family members' epitaphs were preserved. We used this snowball approach and consulted CBDB (2018) to collect information on 68 politicians' kinship networks.<sup>16</sup> Due to cost limitations, we stopped after three generations – the politician's parents' generation, the politician's generation, and the politician's children's generation. I control for the number of recorded kin in regressions to deal with the possibility that some politicians' networks were better documented than others. For the remainder of the sample that has missing kinship

and procedures). I was able to collect this data for 59 politicians from the full sample (or 30 of the 40 politicians in the main analysis). As robustness checks, I obtain similar results using this alternative measure as either: (1) an independent variable (Appendix Table A1-11) or (2) an instrument for kinship network built via children's marriages (Appendix Table A1-12).

<sup>16</sup>Where the tomb epitaphs and CBDB (2018) are inconsistent, we rely on the latter because it uses a more diverse set of sources.

FIGURE 3. Tomb Epitaph Example

(a) Chief Councilor Fu Bi's Tombstone



(b) Chinese Transcription of Fu Bi's Tomb Epitaph

夫，盡誠以有禮，雖布衣必與之亢。不妄笑語以下賓客，為聲名，嘉善嫉邪，出於天性。居間，猶詢問當世人物，以知其賢不肖，尤慎許與，未嘗輕以加人。出入尊寵垂四十年，而服用素約，無聲色之玩。雖高年，未嘗一日廢書不觀，以至釋氏、老莊方外之說，莫不究極精致。有文集八十卷，藏於家。公嘗語人曰：「吾才學非能過人，但有不欺耳。」蓋公之所以自養者如此，故其行己也，外如其中，其事君也，終如其初，久而益見信於天下，雖窮閭遠國，莫不知公之姓與官號。北虜使每至，必候公出處，問其安否。公雖退居，明詔之所咨訪，密章之所啓告，蓋不乏矣。至其將沒，猶以遺稿一通付其子之上，然其詳莫得而知也。推公之意，苟可以益君上，厚民人者，蓋忘其身之老且死而言之也。嗚呼，可謂忠已！初，公之將生，秦國太夫人夢幡旗鶴鷄甚衆，降集其家，云天有赦，瘡而生公。其將薨，有大星殞於所居遷政堂之後二四。噫！天之生大賢不數，生則必福其國，澤其民。如公之為相，則首定儲位，以啓神聖，為社稷無疆之休；其奉使，則辨折強虜，攘其奸萌，易干戈為和好；其撫東夏，則安輯流冗，以食以處，續將絕之命者數十萬人。則其兆神靈之應，錫壽寵之享，固其理然，惡足怪哉！公之配曰周國夫人，晏氏元獻公之女也。賢靜有法度，公以為「真吾匹」。男子三人：曰紹庭，朝奉郎；曰紹京二五，供備庫副使，後公一月卒；曰紹隆，光祿寺丞，早卒。女子四人：長適觀文殿學士馮京，卒；又以其次繼室，封延安郡夫人；次適宣德郎范大宗，次適霍邱縣令范大珪。孫男女各三人。周國夫人與其孤遂以公薨之年冬十一月庚申，奉公之柩葬於河南府河南縣金谷鄉南張里二六，從秦國公之兆也。謂某辱公之知實厚且久，以銘見屬，義不得辭。銘曰：

全宋文卷一〇七〇 韓 維 一五

一三七

*Note: English Translation:* His excellency (Fu Bi) married the daughter of **Yan Shu**. She was virtuous, calm, and restrained. They had three sons: **Fu Shaoting**, Gentleman for Court Service; **Fu Shaojing**, Deputy Commissioner of Storehouse; **Fu Shaolong**, Aid in the Court of Imperial Entertainments. They had four daughters: the first married **Feng Jing**, Scholar in the Institute for the Extension of Literary Arts; after she died, the second daughter married Feng Jing; the third daughter married **Fan Dazong**, Court Gentleman for Instruction; the fourth daughter married **Fan Dagui**, County Magistrate of Huoqiu.

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information, I use listwise deletion in the main analysis and multiple imputation in the robustness checks.<sup>17</sup>

The tomb epitaphs and CBDB (2018) also specified each individual's hometown. I geocoded each kin member using CHGIS (2018), which provides the latitudes and longitudes of Song localities.

Recall Figure 1, which illustrates two real examples of kinship networks. Panel (a) shows that the relatives of the reform leader Wang Anshi were scattered all over the country, while Panel (b) indicates that those of Lü Gongzhu – an opposition leader – were located mostly in nearby provinces.

I then constructed an index using the "market potential" approach, which the economic geography literature employs to measure market localization (Harris 1954). *Local concentration of kin* for politician  $i$  is defined as  $\sum_{k \in K} (1 + \text{distance}_{i,k})^{-1}$ , where  $\text{distance}_{i,k}$  is the "as the crow flies" distance (in kilometers) from politician  $i$  to his kin  $k$ . The set  $K$  includes all kin members of  $i$ . The underlying logic is that this index of local concentration increases for politicians whose kin live closer to them. The index does not rely on administrative units, which are different sizes and often determined by time-variant, arbitrarily drawn borders.<sup>18</sup> I show in the robustness checks that my results do not depend on this measure: a weighted Herfindahl index – which relies on administrative units – obtained similar results.<sup>19</sup> I also obtained the same results by transforming the index using its inverse hyperbolic sine or square root,<sup>20</sup> weighting the index by the number of children a politician had,<sup>21</sup> giving different weights to different kin members, and considering the ruggedness of the terrain where the kinship network is located.

## Dispersed vs. Concentrated Networks

Chinese elites had a strong incentive to marry locally in the Song era. China began using civil service examinations to recruit bureaucrats during this time.<sup>22</sup> To screen out men who had a bad reputation, Song emperors asked prominent local elites to vouch for prospective candidates before they could sit the initial exam (Hartwell 1982, 419). The exam system therefore created strong incentives for local landowning elites to contract marriage alliances with notable local neighbors (Hymes 1986, 103) and brought many locally marrying elites into the central government.<sup>23</sup>

Song elites made local marriage alliances with families of at least roughly equal standing – marriages of "matching gates" in Chinese parlance (Bossler 1998, 82). As a family's political status rose, however, affines of similar rank became rarer in the neighborhood, so the family had to look further afield to find an appropriate match.

Relatives' migration provided opportunities to connect families of equal status in distant areas.

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<sup>17</sup>Appendix Table A1-20 reports the multiple imputation results.

<sup>18</sup>Appendix Figure A1-2 displays the histogram of the index on the estimating sample.

<sup>19</sup>Appendix Table A1-16 presents how the index is constructed and the estimates. Note that the specifications with controls yield insignificant results, but the signs stay correct.

<sup>20</sup>Appendix Table A1-13.

<sup>21</sup>Appendix Table A1-14.

<sup>22</sup>While the exams were introduced in the 7th century, before the Song era few bureaucrats came to office via this route. Beginning in 977, the Song government began conferring examination degrees in large numbers (Chaffee 1995, 16).

<sup>23</sup>As Skinner (1964, 20) argues for late imperial China, rural residents congregated in monthly market towns and socialized in the teahouses; matchmaking soon followed. According to Skinner (1964, 36), "Daughters-in-law tend to be taken from within the marketing community," and marriage brokers who operated in certain teahouses of the market town were able to "scan the entire standard marketing community for potential daughters-in-law." This market town matchmaking created an endogamy within the marketing community, and families rarely found candidates from households outside the system.

Song politicians rotated among localities other than their hometowns (Smith 2009, 357–8). Even after serving in the capital, many politicians retired in the provinces (See, e.g., Deng 1997, 239). Several politicians spent a long time in a province far from home and made it their permanent residence (Ebrey 1993, 66). Their marriage alliances with the local families enabled them to build local political networks, gain social support, and mitigate risks (Bossler 1998, 170). Bossler (1998, 160) remarks that when a crisis occurred, nearby affinal relatives (those linked through marriage) may have been more able to help than remote agnates (those related by blood).

I therefore expect a politician's family migration patterns to be associated with the geographic span of his kinship networks. I trace family migration patterns using information from the tomb epitaphs and CBDB (2018). I focus on the politician's father, because he would have played an important role in matchmaking for his grandchildren (Ebrey 1993, 69), which formed the politician's kinship network. *Father migration* is the "as the crow flies" distance (in kilometers) from the father's final residence to the grandfather's hometown.

Table 1 shows the ordinary least squares (OLS) estimates of the correlation between *Father migration* and the politician's *Local concentration of kin*. I restrict the sample to the 40 politicians included in the main analysis. If a politician's father migrated great distances, the politician was more likely to have a dispersed kinship network. The results are stronger when the politician's hometown prefecture fixed effects are included, which control for hometown-level covariates such as geography, history, and local culture.<sup>24</sup>

## KINSHIP NETWORK AND STATE-BUILDING PREFERENCES

In this section, I test the hypothesis that politicians' support for state building is positively correlated with the geographic span of their kinship networks.

### The Outcome Variable

The outcome variable – *Support for reform* – is a politician's attitude toward the reform. I collected this information from three primary sources. The first is the *The History of Song* (宋史) edited by Toghtō (1343), a biographical history of the Song Dynasty compiled by historians in the Yuan Dynasty (1279–1368). The second, *The Extended Continuation to Comprehensive Mirror in Aid of Governance* (续资治通鉴长编), edited by Li (1177), is a chronological history of the Northern Song era compiled by historians in the Southern Song Dynasty (1127–1279). These books are the most authoritative sources of Song history, and both were written by relative contemporaries, based on official court records (Wilkinson 2000, 501). Yet it is possible that contemporaries might have had political and personal biases. For example, a Southern Song historian descended from a Northern Song politician might have had an incentive to embellish his ancestor's account, depending on how the reform was perceived at the time. To overcome such potential biases, I triangulate this information with a third

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<sup>24</sup>I also explored the possibility that the trading interests of politicians' families motivated their kinship networks. I collected data on politicians' senior male family members' occupations, including those of their fathers, grandfathers, and uncles. Although traders were not well documented, I can indirectly measure a family's trading interest by examining whether anyone in the family was a government official, which was a full-time career in imperial China. Appendix Table A1-6 shows that for politicians who had a father, grandfather, or (at least one) uncle who was an official, this connection had an insignificant effect on their kinship network, indicating that trade interests were unlikely to be an important factor determining kinship networks in this sample. However, I acknowledge that these results are only suggestive because I do not have a direct measure of the families' trading interests, nor do I have information on every family member's occupation.

**TABLE 1. OLS Estimates of the Correlation between *Father Migration* and Geography of Kinship Network**

<i>Dependent variable:</i>	Local concentration of kin	
	(1)	(2)
Father migration	-0.078** (0.033)	-0.270*** (0.000)
Prefecture FE		√
Outcome mean	0.000	0.000
Outcome std.dev.	1.000	1.000
Observations	40	40
$R^2$	0.006	0.433

*Note:* This table reports the results for the 40 politicians included in the main analysis. The dependent variable is an index of the local concentration of kin (higher values indicate more localized networks). The variable of interest is the distance between the politician's father's final residence and the politician's grandfather's hometown (*Father migration*). All variables are standardized. Column (2) includes politicians' hometown prefecture fixed effects. Robust standard errors clustered at the prefectural level are in parentheses. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

source, *The Complete Prose of Song* edited by Zeng and Liu (2006). This source is a 360-volume, 100-million-word collection of Song-era writings compiled by Chinese literature researchers using literary criteria in the 21st century. Instead of summarizing and interpreting what the politicians said, as in Toghtō (1343) and Li (1177), Zeng and Liu (2006) record all the writings, such as memorials to the emperor, in their original form.

My research team read these books and identified every mention involving at least one of the 137 major politicians. We then selected all their activities related to the Wang Anshi Reform, such as writing to the emperor or participating in public discussion, and manually coded every politician according to his attitude toward the reform. For example, a politician who wrote to the emperor to denounce the reform was considered an opponent, while one who championed it in court discussions was coded as a supporter.

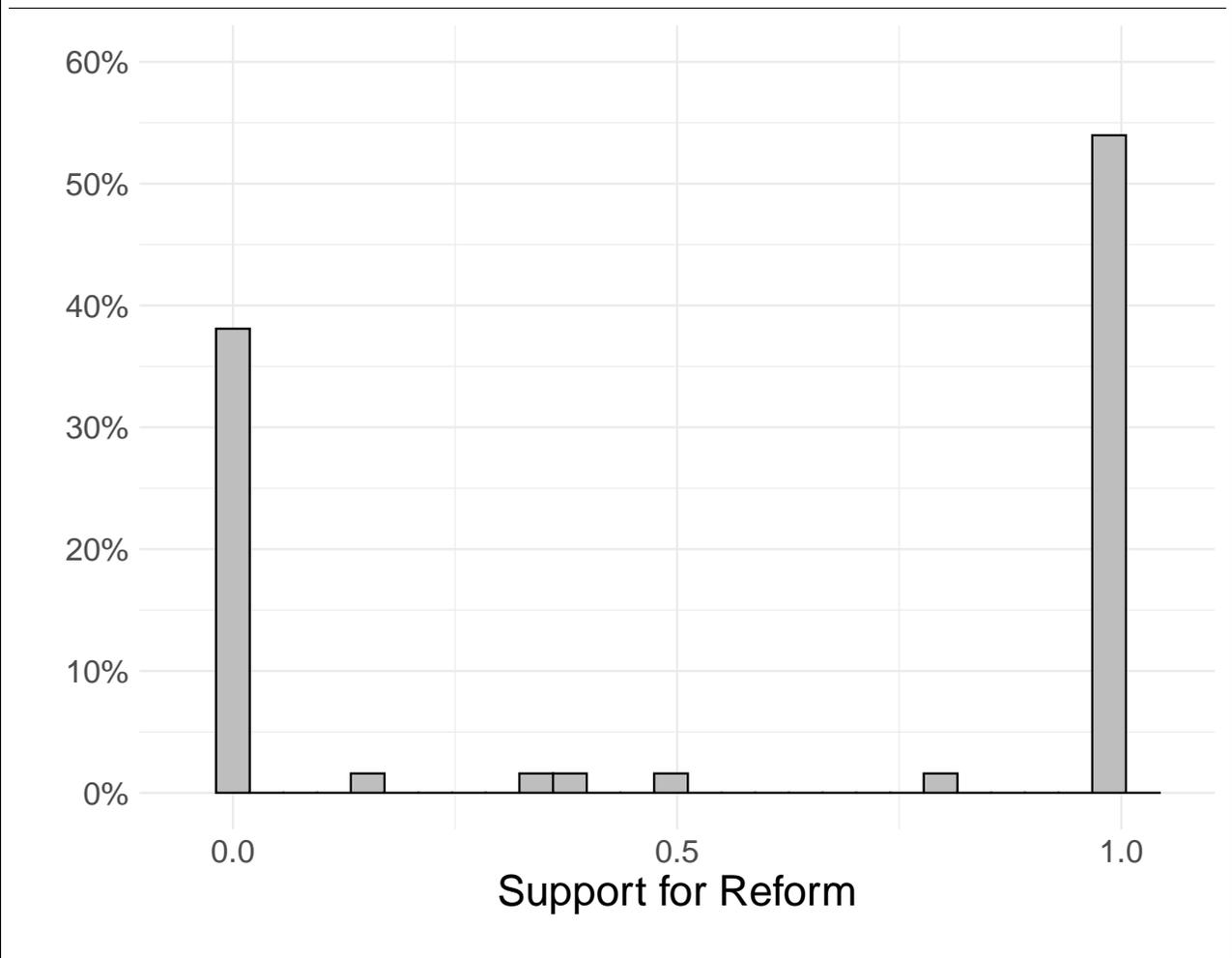
The politicians were polarized. As Figure 4 illustrates, of the 63 politicians who expressed an opinion about the reform, 34 (54%) consistently (across policies and over time) supported it (coded as 1), while 24 (38%) consistently opposed it (coded as 0).<sup>25</sup> The remaining five politicians supported some of the reform policies but opposed others; their scores are averaged across all policies in the main analysis.<sup>26</sup> I obtained the same results when rounding their scores up or down in a robustness check.<sup>27</sup>

Over half of the politicians (74, or 54%) did not explicitly express an attitude toward the reform. Most of these (49) were in ceremonial positions, such as in the Ministry of Rites, which was in charge of religious rituals and court ceremonies. So, a simple explanation is that these 74 politicians were not in policy-relevant positions and thus did not exhibit any policy preferences. In the main analysis, I use

<sup>25</sup>Appendix Figure A1-3 shows the histogram of politicians' attitudes, restricting the sample to the 40 politicians included in the main analysis.

<sup>26</sup>For example, if politician A supported equitable tax and military conscription but opposed rural credit and government service, his score would be  $(1 + 1 + 0 + 0)/4 = 0.5$ .

<sup>27</sup>Appendix Table A1-8.

**FIGURE 4. Major Politicians' Attitudes toward the State-Building Reform**

Note: The figure includes the 63 politicians who expressed an opinion about the reform (1 = support; 0 = oppose; non-integer = mean of mixed attitudes).

listwise deletion, without making any assumptions about their implicit attitudes. In the robustness checks, I employ three alternative approaches to handle these politicians. First, I code them as neutral and create a trichotomous dependent variable – support (1), neutral (0), and oppose (-1).<sup>28</sup> Second, I restrict the sample to the subset of politicians who held policy-relevant positions (defined as generalist positions such as chief councilor, and positions in the fiscal or military sectors, following Li (2013, 16–7, 47–8, 62–70)).<sup>29</sup> Third, I randomly assign a value to these politicians by flipping a coin (i.e., drawing from the Bernoulli distribution).<sup>30</sup> All three of these approaches produce the same results.

Politicians' career trajectories indicate that Emperor Shenzong tried to balance the two camps. The correlation coefficient between *Support for reform* and rank change under Shenzong, calculated by subtracting the rank of an official's first position from that of his last, is quite small (0.066) and not statistically significant ( $p = 0.688$ ). This suggests that the emperor treated supporters and opponents roughly equally in their career advancement. This partly eases concerns about selection bias in the

<sup>28</sup> Appendix Table A1-9.

<sup>29</sup> Appendix Table A1-10.

<sup>30</sup> Appendix Figure A1-11 illustrates the estimates from 100 trials in which the politicians with unknown attitudes are randomly assigned a policy preference via a coin toss.

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sample, which might be nontrivial if Shenzong overwhelmingly promoted one group over the other.

Another concern is that a politician might take a particular stance on the reform as a political favor for a colleague of equal or higher rank with the expectation that the colleague would reciprocate in kind at a future date. To examine this possibility, I assess the correlations between politicians' attitudes and their political ranks. Because the politicians expressed their attitudes at different points in time and their ranks changed during Shenzong's reign, I use their average ranks (mean of the ranks of all positions) and find the correlations small and statistically insignificant.<sup>31</sup> In the regressions, I will also control for a politician's rank to take into account power dynamics.

## Results

I estimate the following benchmark OLS specification:

$$\text{Support for reform}_i = \alpha + \beta \text{Local concentration of kin}_i + \mu_j + \mathbf{XB} + \epsilon_j. \quad (1)$$

The dependent variable *Support for reform*<sub>*i*</sub> is a continuous variable that measures politician *i*'s degree of support for the reform. The variable of interest, *Local concentration of kin*<sub>*i*</sub>, is an index that measures the geographic concentration of politician *i*'s kinship network. Hypothesis 1 predicts that  $\beta$ , the quantity of interest, will be negative.  $\mu_j$  includes politicians' hometown prefecture fixed effects. All standard errors are robust, clustered at the prefectural level *j* to account for any within-prefecture correlation in the error term. I standardize all variables to have a mean of zero and a standard deviation of one to facilitate interpretation.<sup>32</sup>

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<sup>31</sup>Appendix Figure A1-4 shows the correlation plot. The results are similar when I use their first ranks or highest ranks.

<sup>32</sup>Appendix Tables A1-1 and A1-2 show the summary statistics of all the variables on the whole sample and the estimating sample, respectively, before they are standardized.

**TABLE 2. OLS Estimates of the Correlation between Geography of Kinship Network and *Support for Reform***

<i>Dependent variable:</i>	Support for reform (continuous)			
	(1) Bivariate	(2) Fixed Effects	(3) All Controls	(4) LASSO
Local concentration of kin	-0.250*** (0.068)	-0.394*** (0.110)	-0.433* (0.220)	-0.394*** (0.108)
Betweenness centrality			-0.142 (1.590)	
N of kin			0.243 (1.787)	
N of children			0.055 (1.232)	
Factional tie with reform leader			0.173 (0.317)	
Politician's average rank			-0.332 (1.242)	
Kin centroid exposure to external wars			-0.368 (1.771)	
Kin centroid exposure to mass rebellions			0.074 (0.817)	
Ruggedness Index			-0.546 (1.389)	
Father exam			0.368 (0.344)	
Father migration			-0.261 (0.444)	-0.127*** (0.029)
Prefecture FE		√	√	√
Outcome mean	0.000	0.000	0.000	0.000
Outcome std.dev.	1.000	1.000	1.000	1.000
Observations	40	40	40	40
$R^2$	0.062	0.732	0.869	

*Note:* The unit of analysis is an individual politician. The variable of interest is an index that measures the local concentration of kin (higher values indicate more localized networks). All variables are standardized. Robust standard errors clustered at the prefectural level are in parentheses. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10% level, respectively.

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Table 2 presents the estimates of the benchmark model. I use listwise deletion so the estimates are based on the 40 politicians for whom I have full information on all the variables.<sup>33</sup> Column (1) shows the bivariate relationship between *Local concentration of kin* and *Support for reform*. Column (2) adds politicians' hometown prefecture fixed effects. Column (3) includes additional control variables, which I discuss below.<sup>34</sup> Column (4) includes only the covariates selected through the "post-double-selection" method using least absolute shrinkage and selection operator (LASSO) regressions (Belloni et al. 2014).

I consider eight alternative explanations. First, a politician's individual characteristics, such as family wealth, might influence their calculations. For example, those from wealthier families had more resources to support kinship organizations, and hence were less likely to support the state-building reform. Hometown characteristics such as geography, history, culture, and cropping patterns also affected politicians' attitudes. For example, those from regions that were vulnerable to nomadic invasions or domestic rebellions might have had a stronger incentive to strengthen the state (Tilly 1992; Slater 2010). Moreover, a redistributive logic would predict that politicians from regions with good-quality soil and high agricultural yields would be more likely to oppose state building because they must pay disproportionately more taxes because of higher incomes (Meltzer and Richard 1981). There is, unfortunately, scarce data on politicians' family wealth. However, there is a consensus among historians that Song-era high-ranking officials were a relatively homogenous group from wealthy landowning families (Liu 1959, 16). To control for their hometown characteristics, I include prefecture fixed effects, which consider the features of each politician's hometown at the prefectural level (the level at which Song government institutions (such as taxation and security) were clustered (Smith 2009, 407)).<sup>35</sup>

Second, recent work using social network analysis shows that the more central an actor is in a network, the more impact his or her actions have on the actions of others, and the more likely he or she is to take action (Naidu et al. 2021). Appendix Figure A1-5 illustrates the network of the 137 politicians; edges indicate marriage ties.<sup>36</sup> I then control for each politician's *Betweenness centrality* – a measure of a node's influence over the flow of resources in a network (Padgett and Ansell 1993, 1278). I use *Degree centrality* and *Bonacich power* as robustness checks and obtain the same results.<sup>37</sup>

Third, one might suggest that it is the number of kin members or children, rather than their location, that matters. Holding geographic distribution constant, a coordination logic might predict that having a large number of relatives would increase the transaction costs of coordination at the local level, which could induce politicians to buy services from the state – a "focal point" (Schelling 1960, 57). I hence control for the total number of kin (*N of kin*) and the total number of children (*N of children*).

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<sup>33</sup>Appendix Table A1-3 compares the estimating sample with the excluded sample on the key variables. While most variables are balanced between these two samples, politicians in the excluded sample are more likely to support the reform. As a robustness check, I use multiple imputation to impute the missing data on the dependent variable and obtain similar results (Appendix Table A1-20). There are also a few covariates, including *Betweenness centrality*, *Factional tie with reform leader*, and *Politician's average rank*, that are not balanced. I will control for these covariates in the regressions.

<sup>34</sup>Although some of the covariates might be posttreatment, since they are also important cofounders I include them to test the robustness of the estimates.

<sup>35</sup>Appendix Table A1-4 shows the distribution of politicians across prefectures. Appendix Table A1-5 contains the distribution of politicians across provinces – one level above prefectures. Appendix Table A1-21 reports the results including province fixed effects as a robustness check, with standard errors clustered at the provincial level.

<sup>36</sup>Politicians A and B are connected if A is in B's kinship network, or vice versa.

<sup>37</sup>Appendix Table A1-17.

These covariates also deal with the problem that some politicians' networks were better recorded than others'.<sup>38</sup>

Fourth, the Song era was characterized by the rise of factional politics and divergent philosophical schools (Bol 2008). To code each politician's factional ties, I first identified the reform leaders; these were Wang Anshi, Lü Huiqing, and Cai Que.<sup>39</sup> I then follow historians' work to define each politician as having a factional tie with a reform leader if at least one of the following conditions is met: (1) he was in an examiner–examinee relationship with a reform leader, (2) he passed the civil service exam in the same year as a reform leader, or (3) he was in the same philosophical school, as defined by Bol (2008, 61–5), as a reform leader.<sup>40</sup> The indicator *Factional tie with reform leaders* measures each politician's relationship with the reform leaders.

Fifth, power dynamics might have influenced politicians' expressed attitudes toward the reform. For example, a politician of lower rank might support or oppose the reform to exchange political favors with a colleague of higher rank. Works on modern authoritarian regimes show that politicians with a lower rank have a stronger incentive to conform to the leader's agenda in order to signal loyalty (e.g., Kung and Chen 2011). To account for this possibility, I control for a politician's average rank throughout the Shenzong reign.<sup>41</sup>

Sixth, politicians whose kin were more exposed to nomadic invasions or domestic rebellions might prefer a stronger state. To measure external threats to kin, I constructed an index using the "market potential" approach to measure their relatives' exposure to all external war battles fought in the 50-year period prior to Shenzong's reign. *Kin centroid exposure to external wars* is thus  $\sum_{w \in W} (1 + distance_{k_c, w})^{-1}$ , where  $distance_{k_c, w}$  is the "as the crow flies" distance (in kilometers) from the centroid of the kinship network  $k_c$  to an external war battle  $w$ . The set  $W$  includes all external war battles fought between the Song and a non-Song regime, such as Xixia or Liao, from 1016 to 1065.<sup>42</sup> This index increases as external war battles moved closer to the centroid of the kinship network. Similarly, I construct an index *Kin centroid exposure to mass rebellions*:  $\sum_{r \in R} (1 + distance_{k_c, r})^{-1}$ , where  $distance_{k_c, r}$  denotes the distance from the centroid of the kinship network  $k_c$  to a mass rebellion battle  $r$ . The set  $R$  includes all mass rebellion battles fought between the Song government and a mass rebel group (e.g., peasants, artisans) from 1016 to 1065.<sup>43</sup> This index increases as mass rebellion battles moved closer to the kinship network's centroid.<sup>44</sup>

Seventh, all my distance measures use "as the crow flies" distances, which do not consider terrain conditions. One might argue that a politician who has kin living in mountainous areas can depend on natural barriers for defense, and therefore rely less on the state. I hence control for *Ruggedness Index*,

<sup>38</sup>In a robustness check, I also try flexibly controlling for *N of children* by creating indicators for each category (1, 2–3, and over 3) of the number of children and obtain similar results (Appendix Table A1-18). Note that the coefficient of *Local concentration of kin* is insignificant with controls, but the sign stays correct.

<sup>39</sup>See Liang (1908), Williamson (1935), Liu (1959), Deng (1997), and Smith (2009).

<sup>40</sup>I collected the information on politicians' exam history from CBDB (2018) and philosophical schools from Liu (2006, 62–98) and Zhang (2008, 2–3, 124, 161–5, 414).

<sup>41</sup>I use their highest or first ranks during the Shenzong reign in a robustness check and obtain the same results. See Appendix Table A1-19.

<sup>42</sup>The locations of external war battles are from Dincecco and Wang (2018).

<sup>43</sup>The locations of mass rebellion battles are from Dincecco and Wang (2018). Appendix Figure A1-6 illustrates the locations of all external war and mass rebellion battles in 1016–1065.

<sup>44</sup>I also test whether the marginal effect of *Local concentration of kin* on *Support for reform* is conditional on the kin's exposure to external wars or mass rebellions. Appendix Figures A1-7 and A1-8 show the marginal effect plots, which are consistent with my argument that the effect should be stronger when the politician's relatives are more directly exposed to violence. Note, however, that due to a lack of data support at the higher values of the mediating variable, the confidence intervals are large and include zero, but the linear extrapolations are correct.

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which uses the grid-cell-level data provided by Nunn and Puga (2012) to calculate the average Terrain Ruggedness Index across all the grid cells covered by the politician's kinship network.

Lastly, the politician's family history is important. I control for *Father exam* to measure whether the politician's father entered officialdom by taking the exam (as opposed to inheriting his position). This variable also proxies for the politician's father's political orientation because the Confucian exam should have shaped the father's political views, which might in turn have influenced his strategies in shaping his son's (i.e., the politician's) kinship network. I also control for *Father migration* to measure how far the politician's father migrated away from his original hometown. As demonstrated above, *Father migration* is strongly associated with how dispersed the politician's network is. It is also the only covariate selected by LASSO.

In all specifications, there is a negative correlation between *Local concentration of kin* and *Support for reform*, and the coefficient is statistically significant at the 0.1 level. The magnitude of the standardized coefficients ranges from -0.250 to -0.433, suggesting that a one-standard-deviation increase in *Local concentration of kin* is associated with a 25–43% decrease in the standard deviation of support for the reform.

These results are highly robust, as shown in a wide range of robustness checks (Appendix Section Robustness Checks). For example, the original measure of the independent variable makes the heroic assumption that every kin member matters equally to the politician. I relax this assumption in two ways. First, in a patriarchal society such as imperial China, a politician might attach more importance to the son's side of the kinship network than to the daughter's side because the son will inherit the family property (Ebrey 1993, 235). I therefore assign each kin member on the daughter's side a "matrilineal discount," so they contribute less to the index than kin members on the son's side.<sup>45</sup> Second, I discount a kin member depending on how distant he or she is from the politician, based on the intuition that he would attach more importance to immediate family members, such as sons and daughters, than to remote relatives.<sup>46</sup> Both of these alternative measures produce similar results. I also try dropping one politician at a time to see if one observation is driving the results and find that the results are largely stable.<sup>47</sup>

Although I control for a long list of observables, the omission of unobservables might bias my estimates. I therefore conduct a formal sensitivity analysis, as proposed by Altonji et al. (2005) (AET), to determine how much stronger selection on unobservables would have to be, *relative to selection on observables*, to fully explain away my result. Appendix Table A1-22 shows "AET ratios" that range from 13.650 to 15.328. These ratios suggest that the marginal effect of unobservables would have to be at least 13 times as large as the marginal effect of observables to invalidate my findings. This far exceeds the benchmark value of 3 used in previous studies to identify selection on unobservables (e.g., Nunn and Wantchekon 2011, 3238).

In sum, I find strong support for Hypothesis 1 that politicians' support for state building is positively correlated with the geographic span of their kinship networks.

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<sup>45</sup>To avoid designating an arbitrary number, I create "discount rates" ranging from 0.1 to 0.9. Appendix Figure A1-9 shows the estimates using different discount rates. Note that when the "discount rate" takes the value of 0.1, the estimate is not significant at the 0.1 level; all other "discount rates" generate significant results.

<sup>46</sup>A "relational distance discount" is hence calculated as the inverse of the number of ties from the politician to the kin member. Appendix Table A1-15 reports the results.

<sup>47</sup>Appendix Figure A1-10.

## CONCLUSION

Previous scholarship views state building as a state–society competition in which the state gradually achieves predominance over social organizations. In this competition, extended kinship groups are the state’s major rivals. This notion of state–kinship competition, however, is largely based on the European experience of state development, where the medieval church’s prohibitions on endogamy, adoption, polygyny, concubinage, divorce, and remarriage undermined the strength of kinship groups (Henrich 2020, 159–61). Meanwhile, frequent and increasingly expensive wars created a comparative advantage for territorial states over smaller social units, such as manors, in mobilizing resources (Tilly 1992). The state ultimately replaced its social rivals and became a monopolist (Weber 1918, 78).

Yet complex kinship institutions have dominated premodern societies outside Europe (e.g., Evans-Pritchard 1940). The Chinese state bureaucratized more than a thousand years before European countries (Hui 2005). In the 11th century, the Chinese state (under the Song Dynasty) taxed over 15% of its economy – a level that England did not reach until the 18th century (Guo 2019; Stasavage 2020, 160). China achieved these state-building milestones while maintaining strong kinship institutions.

This article examines how kinship networks can align elite incentives in favor of state building. I show that geographically dispersed kinship networks cross-cut local cleavages, align elites’ family interests with state interests, and foster a state-building coalition. By examining one of China’s most important state-building reforms, I contribute to the previously Euro-centric literature by highlighting an alternative driving force of state development.

Decades of social science research have concluded that a strong state is important for promoting economic development (North 1981; Dincecco 2017), preventing political violence and civil war (Fearon and Laitin 2003), and delivering basic goods and services (Rothstein 2011). Fukuyama (2004, 17) argues that state building should be at the top of the global agenda. Many developing countries, however, have failed to build a strong state because elites often have conflicting interests and cannot form a broad coalition to support state-building reforms (See, e.g., Geddes 1994).

Many of the policy interventions carried out by the international community, such as the World Bank and the International Monetary Fund, focus on strengthening state bureaucracies and building "Weberian" states (Evans and Rauch 1999). But the Chinese case emphasizes the importance of understanding how a country’s social structure affects its state-building trajectory. When elites are embedded in local social relations, they are more likely to rely on local, private organizations to provide services and protection and less likely to support a strong central state. The lesson is that state weakness is a social problem that cannot be resolved with a purely bureaucratic solution. State-building projects should thus extend beyond a narrow focus on reforming the bureaucracy to include efforts to make incentives related to the social structure compatible with a strong state.

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## REFERENCES

- Acemoglu, Daron and James A Robinson (2019). *The Narrow Corridor*. Penguin Press.
- Alesina, Alberto and Romain Wacziarg (1998). Openness, country size and government. *Journal of Public Economics* 69(3), 305–321.
- Altonji, Joseph G , Todd E Elder, and Christopher R Taber (2005). Selection on observed and unobserved variables: Assessing the effectiveness of catholic schools. *Journal of Political Economy* 113(1), 151–184.
- Bates, Robert H (2017). *The Development Dilemma*. Princeton University Press.
- Belloni, Alexandre , Victor Chernozhukov, and Christian Hansen (2014). Inference on treatment effects after selection among high-dimensional controls. *The Review of Economic Studies* 81(2), 608–650.
- Beramendi, Pablo , Mark Dincecco, and Melissa Rogers (2019). Intra-elite competition and long-run fiscal development. *The Journal of Politics* 81(1), 49–65.
- Blaydes, Lisa and Eric Chaney (2013). The feudal revolution and europe’s rise: Political divergence of the christian west and the muslim world before 1500 ce. *American Political Science Review* 107(1), 16–34.
- Boix, Carles and Frances Rosenbluth (2014). Bones of contention: The political economy of height inequality. *American Political Science Review* 108(1), 1–22.
- Bol, Peter Kees (2008). *Neo-Confucianism in History*. Harvard University Press.
- Bossler, Beverly Jo (1998). *Powerful Relations*. Harvard University Press.
- CBDB (2018). China biographical database.
- Chaffee, John W (1995). *The Thorny Gates of Learning in Sung China*. State University of New York Press.
- CHGIS (2018). China historical geographic information system.
- Cruz, Cesi , Julien Labonne, and Pablo Querubin (2017). Politician family networks and electoral outcomes: Evidence from the philippines. *American Economic Review* 107(10), 3006–3037.
- Cruz, Cesi , Julien Labonne, and Pablo Querubin (2020). Social network structures and the politics of public goods provision: Evidence from the philippines. *American Political Science Review* 114(2), 486–501.
- Deng, Guangming (1997). *Northern Song Reformist Wang Anshi (Beisong zhengzhi gaigejia wang anshi)*. Hebei Education Press (Hebei jiaoyu chubanshe).
- Dincecco, Mark (2017). *State Capacity and Economic Development*. Cambridge University Press.
- Dincecco, Mark and Yuhua Wang (2018). Violent conflict and political development over the long run: China versus europe. *Annual Review of Political Science* 21, 341–358.
- Ebrey, Patricia Buckley (1993). *The Inner Quarters*. University of California Press.
- Evans, Peter. (1995). *Embedded Autonomy*. Princeton University Press.
- Evans, Peter and James E Rauch (1999). Bureaucracy and growth: A cross-national analysis of the effects of "weberian" state structures on economic growth. *American Sociological Review* 64(5), 748–765.
- Evans-Pritchard, Edward Evan (1940). *The Nuer*. Oxford University Press.

- Ewert, Ulf Christian and Stephan Selzer (2015). Social networks. In D. J. Harreld (Ed.), *A Companion to the Hanseatic League*, Chapter 5, pp. 162–193. Brill.
- Fearon, James D and David D Laitin (2003). Ethnicity, insurgency, and civil war. *American Political Science Review* 97(1), 75–90.
- Ferejohn, John A and Frances McCall Rosenbluth (2010). *War and State Building in Medieval Japan*. Stanford University Press.
- Fortes, Meyer and Edward Evan Evans-Pritchard (1950). *African Political Systems*. Oxford University Press.
- Fukuyama, Francis (2004). The imperative of state-building. *Journal of Democracy* 15(2), 17–31.
- Fukuyama, Francis (2011). *The Origins of Political Order*. Farrar, Straus and Giroux.
- Garfias, Francisco (2018). Elite competition and state capacity development: Theory and evidence from post-revolutionary Mexico. *American Political Science Review* 112(2), 339–357.
- Geddes, Barbara (1994). *Politician's Dilemma*. University of California Press.
- Gong, Yanming (1990). On the Bureaucratic System in Song Dynasty and Its Significance (*Lun songdai guanpin zhidu jiqi yiyi*). *The Journal of Southwestern Normal University (Xinan shifan daxue xuebao)* 1, 13–23.
- Granovetter, Mark (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology* 91(3), 481–510.
- Greif, Avner (2006). Family structure, institutions, and growth: The origins and implications of western corporations. *American Economic Review* 96(2), 308–312.
- Grzymala-Busse, Anna and Pauline Jones Luong (2002). Reconceptualizing the state: Lessons from post-communism. *Political & Society* 30(4), 529–554.
- Guo, Jason Qiang (2019). A quantification of fiscal capacity of Chinese government in the long run. *New York University Ph.D. Dissertation*.
- Harris, Chauncy D. (1954). The market as a factor in the localization of industry in the United States. *Annals of the Association of American Geographers* 44(4), 315–348.
- Hartwell, Robert M (1982). Demographic, political, and social transformations of China, 750–1550. *Harvard Journal of Asiatic Studies* 42(2), 365–442.
- Hatfield, April Lee (2004). *Atlantic Virginia*. University of Pennsylvania Press.
- Henrich, Joseph (2020). *The WEIRdest People in the World*. Farrar, Straus and Giroux.
- Hirschman, Albert O (1958). *The Strategy of Economic Development*. Yale University Press.
- Hobsbawm, Eric J (2016). *Viva la revolución*. Abacus.
- Hui, Victoria Tin-bor (2005). *War and State Formation in Ancient China and Early Modern Europe*. Cambridge University Press.
- Hymes, Robert (1986). *Statesmen and Gentlemen*. Cambridge University Press.
- Jha, Saumitra (2015). Financial asset holdings and political attitudes: Evidence from revolutionary England. *Quarterly Journal of Economics* 130(3), 1485–1545.

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- Kung, James and Shuo Chen (2011). The tragedy of the nomenklatura: Career incentives and political radicalism during china's great leap famine. *American Political Science Review* 105(1), 27–45.
- Levi, Margaret (2002). The state of the study of the state. In I. Katznelson and H. Milner (Eds.), *Political Science: The State of the Discipline*, pp. 33–55. Washington DC: American Political Science Association.
- Levitsky, Steven and Lucan A Way (2010). *Competitive Authoritarianism*. Cambridge University Press.
- Li, Changxian (2013). *A Study of Song Bureaucracy (Songchao guanpinling yu hebanzhizhi fuyuan yanjiu)*. Shanghai Ancient Works Publishing House (Shanghai guji chubanshe).
- Li, Tao (1979 [1177]). *The Extended Continuation to Comprehensive Mirror in Aid of Governance (Xu zizhitongjian changbian)*. Zhonghua Book Company (Zhonghua shuju).
- Li, Zhiliang (2003). *A Complete Study of Song National Officials (Songdai jingchaoguan tongkao)*. Bashu Press (Bashu shushe).
- Liang, Qichao (2009 [1908]). *Biography of Wang Anshi (Wang Anshi zhuan)*. Oriental Publishing House (Dongfang chubanshe).
- Lipset, Seymour Martin and Stein Rokkan (1967). *Party Systems and Voter Alignments*. Free Press.
- Liu, Chengguo (2006). *A Study of Wang Anshi's New School (Jingong xinxe yanjiu)*. Shanghai Chinese Classics Publishing House (Shanghai guji chubanshe).
- Liu, James (1959). *Reform in Sung China*. Harvard University Press.
- Mattingly, Daniel C. (2016). Elite capture: How decentralization and informal institutions weaken property rights in China. *World Politics* 68(3), 383–412.
- Meltzer, Allan H and Scott F Richard (1981). A rational theory of the size of government. *Journal of Political Economy* 89(5), 914–927.
- Migdal, Joel S (1988). *Strong Societies and Weak States*. Princeton University Press.
- Naidu, Suresh , James A Robinson, and Lauren E. Young (2021). Social origins of dictatorships: Elite networks and political transitions in haiti. *American Political Science Review* 115(3), 900–916.
- North, Douglass (1981). *Structure and Change in Economic History*. Norton.
- Nunn, Nathan and Diego Puga (2012). Ruggedness: The blessing of bad geography in africa. *Review of Economics and Statistics* 94(1), 20–36.
- Nunn, Nathan and Leonard Wantchekon (2011). The slave trade and the origins of mistrust in africa. *American Economic Review* 101(7), 3221–3252.
- Olson, Mancur (1982). *The Rise and Decline of Nations*. Yale University Press.
- Padgett, John F and Christopher K Ansell (1993). Robust action and the rise of the medici, 1400–1434. *American Journal of Sociology* 98(6), 1259–1319.
- Perry, Elizabeth J (1980). *Rebels and Revolutionaries in North China, 1845–1945*. Stanford University Press.
- Putnam, Robert. (1993). *Making Democracy Work*. Princeton University Press.

- Qi, Xia (1987). *Economic History of the Song Dynasty (Songdai jingjishi)*. Shanghai People's Press (Shanghai renmin chubanshe).
- Rothstein, Bo (2011). *The Quality of Government*. University of Chicago Press.
- Schelling, Thomas C (1960). *The Strategy of Conflict*. Harvard University Press.
- Scott, James C (2017). *Against the Grain*. Yale University Press.
- Shue, Vivienne (1988). *The Reach of the State*. Stanford University Press.
- Sima, Guang (1937 [1086]). *Collected Works of Sima Guang (Sima wenzhengong chuanjia ji)*. Commercial Press (Shangwu yinshuguan).
- Skinner, G William (1964). Marketing and social structure in rural china: Part i. *The Journal of Asian Studies* 24(1), 3–43.
- Slater, Dan (2010). *Ordering Power*. Cambridge University Press.
- Smith, Paul Jakov (2009). Shen-tsung's reign and the new policies of wang an-shih, 1067–1085. In D. Twitchett and P. J. Smith (Eds.), *The Cambridge History of China. Volume 5, Part 1, The Sung Dynasty and Its Precursors, 907–1279*, Chapter 5, pp. 347–483. Cambridge University Press.
- Soifer, Hillel David (2015). *State Building in Latin America*. Cambridge University Press.
- Stasavage, David (2020). *The Decline and Rise of Democracy*. Princeton University Press.
- Suryanarayan, Pavithra and Steven White (2021). Slavery, reconstruction, and bureaucratic capacity in the american south. *American Political Science Review* 115(2), 568–584.
- Tackett, Nicolas (2014). *The Destruction of the Medieval Chinese Aristocracy*. Harvard University Press.
- Tilly, Charles (1992). *Coercion, Capital and European States*. Wiley-Blackwell.
- Toghtō (1985 [1343]). *History of Song (Song shi)*. Zhonghua Book Company (Zhonghua shuju).
- Tsai, Lily L (2007). *Accountability without Democracy*. Cambridge University Press.
- Wang, Anshi (2017 [1086]). *Collected Works of Wang Anshi (Linchuan xiansheng wenji)*. Commercial Press (Shangwu yinshuguan).
- Wang, Yuhua (2021). Replication Data for: Blood is Thicker Than Water: Elite Kinship Networks and State Building in Imperial China.
- Weber, Max (1946 [1918]). *Essays in Sociology*. Oxford University Press.
- Weber, Max (1951 [1915]). *The Religion of China*. Free Press.
- Wilkinson, Endymion (2000). *Chinese History*. Harvard University Asia Center.
- Williamson, Henry Raymond (1935). *Wang An Shih*, Volume 1. Arthur Probsthain.
- Xu, Yiqing and Yang Yao (2015). Informal institutions, collective action, and public investment in rural china. *American Political Science Review* 109(2), 371–391.
- Zeng, Zaozhuang and Lin Liu (2006). *Complete Prose of Song (Quansongwen)*. Shanghai Lexicographical Publishing House (Shanghai cishu chubanshe).
- Zhang, Kaizhi (2008). *History of Chinese Philosophical Thoughts and Academic Traditions (Zhongguo sixiang xueshuo shi)*. Guangxi Normal University Press (Guangxi shifan daxue chubanshe).