Institutionalization of Succession Norms and Autocratic Survival: Evidence from Ancient China*

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Abstract

This study examines the impact of institutionalizing vertical succession norms (VSNs) on political stability in historical monarchies. We posit that VSNs, by excluding brothers from succession, narrow the candidate pool and facilitate elite coordination. Using a novel dataset of 357 monarchs across 17 states during the Spring-Autumn and Warring States eras in ancient China, we find that VSN institutionalization reduces risks of monarchs being deposed by the elite. To address endogeneity, we employ ancestral distances between states' founding fathers and past royal families as an instrument. We further demonstrate that VSN institutionalization enhances monarch survival by moderating adverse effects of elite competition.

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Introduction

What explains the survival of autocratic leaders? A strand of literature looks at external factors such as foreign interventions (e.g., Debs & Goemans, 2010). Yet as Svolik (2009) points out, among those 303 autocrats who lost their office in a nonconstitutional way from 1946 to 2008, more than two-thirds were deposed by the domestic elite. Another strand of literature resorts to domestic institutions. They find that **formal** institutions such as parties (Brownlee, 2007; Magaloni, 2008), legislatures (Gandhi & Przeworski, 2006), elections (Gandhi & Lust-Okar, 2009), and constitutions (Frantz & Stein, 2017; Meng, 2021) all contribute to authoritarian continuity. Yet it remains under-explored whether and how **informal** institutions shape autocratic survival. A burgeoning literature has pointed out that ignoring informal institutions hinders our understandings of what drives economic and political behavior (Helmke & Levitsky, 2004; North, 1993).

This paper examines the impact of the institutionalization of succession norms on political stability in historical monarchies. Following Helmke and Levitsky (2004, p. 727), we define informal institutions (and norms) as "socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels."[1] We argue that the institutionalization of vertical succession norms (VSNs) narrows the candidate pool by excluding brothers and cousins from potential rightful successors, thereby facilitating coordination among elites and increasing the likelihood of agreeing on a successor. Under VSNs, sons succeed the throne, while under horizontal succession norms (HSNs), brothers and cousins do. Throughout history, states have gradually shifted from horizontal to vertical successions. Medieval and early modern European states practicing horizontal succession were either conquered by other states or transitioned to vertical succession (Kokkonen & Sundell, 2014). Likewise, brothers and cousins gradually faded away from the candidate pool of rightful successors during the Spring-Autumn and Warring States eras of ancient China (Entian Wang, 2017). The evolution of succession norms is an intriguing topic, which we briefly discuss in the historical

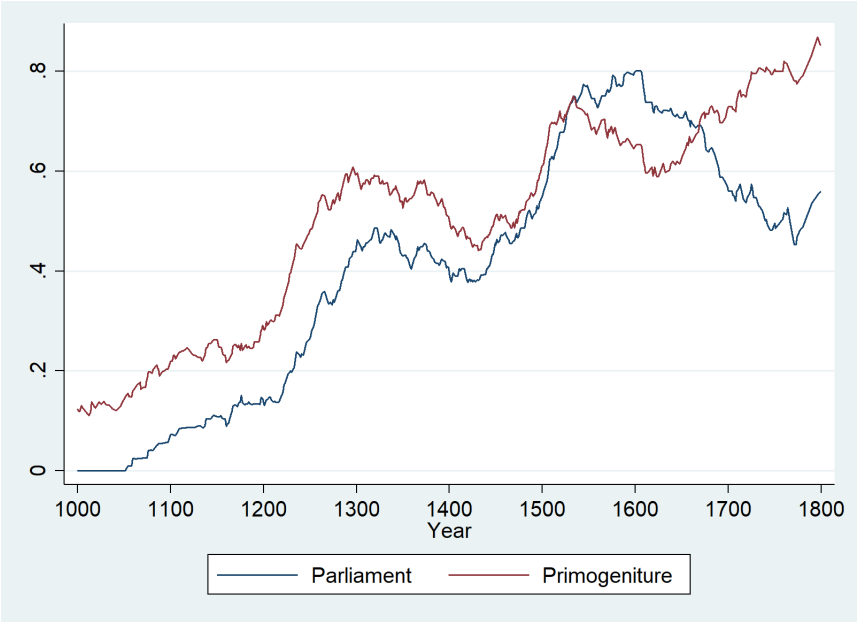
[1]Some scholars use "norms" and "informal institutions" interchangeably, but others do not. We follow the former as we focus on the lack of officially sanctioned channels, which is the key to both norms and informal institutions.

background section and hope to explore further in future research.

To test our hypothesis, we collect a new dataset on fates of the monarchs in ancient China during the Spring-Autumn and Warring States eras (771-221 BCE). We focus on the case of ancient China for several reasons. First, the international system during the period of study arguably best represents anarchy (Waltz, 1986), which provides an ideal environment for the test of theories in international relations and comparative politics. History of medieval and early modern European states featured power struggles among the Church, kings, and parliaments, and this dynamic could affect both institutions and autocratic survival (Van Zanden, Buringh, & Bosker, 2012). For example, scholars have identified an increased duration of monarchs' ruling in medieval and early modern Europe, but they disagree on its causes. While Blaydes and Chaney (2013) attribute the increase of monarchs' tenure in Europe during this period to the spread of parliaments, Kokkonen and Sundell (2014) credit the spread of primogeniture (the right of succession going to the first-born child). Using their replication data, we find that the number of parliaments and the number of states that practiced primogeniture display parallel trends (see Figure 1).[2] One possibility is that parliaments and succession institutions (such as primogeniture) affect each other (e.g., Kokkonen & Møller, 2020), but it is also likely that a third unobserved variable explains both the spread of parliaments and succession institutions. The absence of parliaments and the Church in ancient China provides opportunities for a stronger identification.

[2]Parliaments and primogeniture are not exclusive in their coding.

Figure 1: Percent of European Leaders from States with Parliament and Primogeniture, 100-Year Moving Average



Second, culture and ethnicity were potential confounders in the study of political stability in authoritarian regimes. And society in ancient China was arguably more homogeneous than that in medieval and early modern European states. Third, there was considerable variation in the succession norms during the period of study. Last, it complements current studies which heavily relies on the experience of European states.

Measuring norms is challenging. Existing best practices identify norms by 1) normative beliefs and expectations (usually in lab experiments) or 2) observable, recurrent patterns of behavior (Bicchieri, 2016; Voigt, 2018). Unfortunately, conducting experiments is not feasible given the historical context, and the closest approach to understanding the elite's beliefs and expectations is to rely on historians who examine elite debates about succession orders during the period of study, as described in primary sources.[3] Our second measure identifies the institutionalization of VSNs using observable, recurrent patterns of de facto vertical succession. Estimating survival models for 357 monarchs in 17 states in ancient China, we find that monarchs faced a lower risk of being deposed by the domestic elite following the institutionalization of VSNs, controlling for state capacity and others.

[3]There is controversy regarding the subcategory of succession norms for certain states. For example, scholars disagree on whether the state of Chu adopted a succession norm that favored the eldest son or the youngest son. However, scholars generally agree on the higher-level categorization of succession norms (VSNs vs. HSNs).

Sensitivity analysis and robustness checks suggest that the results are fairly robust.

To address endogeneity concerns, we employ an instrumental variable approach that leverages ancestral distance between each state's founding fathers and the royal families of the Shang and Zhou Dynasties. As the Shang and Zhou Dynasties featured a mixture of horizontal and vertical succession norms (Entian Wang, 2017), ancestral distance serves as a strong predictor for VSN institutionalization, with closer ties to the royal families being associated with weaker VSN institutionalization. We measure ancestral distance using biographical information of each state's founding fathers, coding the variable as 0 (short) if founding fathers were directly related to the Shang and Zhou royal families, and 1 (long) otherwise. The instrumental variable estimates are consistent with our main analysis.

We also explore a potential mechanism of elite competition. In the context of ancient China, elite competition arises from two sources: 1) competition within royal families, primarily among potential successors such as monarchs' sons and brothers; and 2) competition between royal families and aristocratic lineages. Due to the lack of accurate information on potential successors, we focus on the second source of elite competition. Following Zhao (2015), we use the number of generations of the aristocratic lineages in a state to measure elite competition . The intuition is that the more aristocratic lineages in a state and the longer they lasted, the stronger elite competition. We interact elite competition with our key theoretical variable and estimate the same models. We find that higher levels of elite competition increase the risk of a monarch being deposed, and the effect is moderated by the institutionalization of VSNs.

For the discussion of the relative effectiveness of formal vs informal institutions, we compare monarchs in ancient China to monarchs in medieval and early modern Europe. We find no evidence that informal succession rules were less effective than their formal counterparts. We also discuss the external validity of our theory and extend the analysis to modern autocracies.

This paper contributes to the growing literature on succession arrangements and autocratic survival. The papers that are closest to ours are Kokkonen and Sundell (2014),

who show that leaders in states practicing primogeniture face lower risks of being removed from office using a dataset of 961 monarchs in 42 European states from 1000 to 1800, and Frantz and Stein (2017) who find that codified succession institutions reduce the risk of coups for modern dictators. Other similar studies include Kurrild-Klitgaard (2000) who argues that institutionalized hereditary succession limits the number of coups in Denmark during the period of 935-1849, and Acharya and Lee (2019) who find that the lack of available heirs in medieval European polities often led to succession disputes.

This paper differs from current studies on secession rules and autocratic survival in three major ways. First, although scholars have established that succession institutions provide survival benefits for dictators, this article uncovers a new mechanism. We provide the first empirical evidence that the institutionalization of succession rules contributes to authoritarian continuity by moderating the adverse effects of elite competition on monarchs' tenure. Second, current studies mostly focus on formal succession rules. However, throughout human history, informal succession rules have featured an important political landscape for various dynasties and empires.[4] We are one of the first to theorize and quantify the impact of informal succession rules on autocratic survival. Last, using a novel dataset of ancient China, this paper complements current studies that exclusively rely on the experience of European states.

More broadly, this paper speaks to the literature on informal institutions. While a burgeoning literature examines the political and economic impact of informal institutions (e.g., Jiang, 2018; Meng, 2020), they mostly adhere to the research agenda put forth by Helmke and Levitsky (2004), centering on informal institutions that emerge as a result of formal ones. In other words, they implicitly or explicitly assume that formal institutions take on a predominant role in shaping and regulating various aspects of social life, while informal institutions act as supplementary forces. However, in history, informal succession rules have preceded formal succession rules. By focusing on ancient China, where social control relied more on moralities than codified laws, this paper demonstrates that informal succession rules can effectively regulate power transitions even in contexts with minimal

[4]The Appendix provides many examples.

formal institutional structures. In essence, our paper suggests that informal institutions can take center stage in high politics, rather than merely playing a supporting role.

This paper also contributes to our understandings of a pivotal episode in Chinese history. While a growing body of research examines state formations in historical China or more broadly in East Asia (Yuhua Wang, 2022; Haggard & Kang, 2020), they often begin with the Tang Dynasty (618–907) or the Song Dynasty (960-1279). The decisions are well-warranted as more sources are available. However, we cannot understand the full picture of state formations without examining the Spring-Autumn and Warring States eras. State formations in China "set precedents in many ways for the process Europe went through nearly one thousand years later (Fukuyama, 2011, p. 105)." The taxation and mobilization capacity of Qin at the end of the Warring States period was already stronger than states like France and Spain in the late seventeenth century (Fukuyama, 2011, p. 125). Indeed, Huang (2015) argues that China's development trajectory was largely determined at the end of the Warring States period. We cannot properly understand state formations in China without looking at the period which led to the development of a centralized bureaucratic government.

The rest of the paper proceeds as follows. We first discuss why norms can shape beliefs and constrain behavior, and then develop a theory of why the institutionalization of VSNs contributes to autocratic survival. Then we provide a brief historical background of ancient China and trace the evolution of succession norms. After discussions on data and the results, we explore the potential mechanism of elite competition. Then we discuss the relative effectiveness of formal vs. informal institutions and external validity. The final section concludes.

The Power of Norms

Social norms are powerful in shaping behavior (Cialdini, Kallgren, & Reno, 1991). Prominent examples have spoken to the power of norms: the norm of self-determination helped wiped out colonialism; the nuclear taboo helped keep the spread of nuclear

weapons in check; and global human right norms helped improve domestic practice of human right in many countries (Finnemore & Sikkink, 1998; Tannenwald, 1999; Risse-Kappen, Risse, Ropp, & Sikkink, 1999).

Scholars have different explanations for why people follow norms. The first camp emphasizes the reward and punishment system. They argue that people follow norms because of potential sanctions (Coleman, 1990). In lab studies, scholars have identified conditions under which people are more likely to sanction norms violations and which person is in a better position to take actions against violations (Rauhut & Winter, 2010). In terms of succession norms, monarchs who attempted to deviate from the norm often faced strong oppositions from the elite. A prominent example is Liu Bang, the founder of the Han Dynasty, who attempted to violate the succession norm and eventually gave in under pressure from high-ranking statesmen.

Another camp emphasizes that norms work through internalization. They argue that through repeated socialization, people gradually learn and internalize the common values embedded in the norms (Finnemore & Sikkink, 1998). As Fukuyama argues, "rule following for human being is not primarily a rational process but one that is grounded in emotions (Fukuyama, 2011, p. 38)." Bicchieri (2005) also conceives an individual's conform with a norm as an automatic response to cues instead of deliberation. From this perspective, people follow succession norms because they believe in the legitimacy of the norms. In summary, studies show that norms can be powerful even if there are no officially sanctioned channels.

Succession Norms and Autocratic Survival

Leadership selection and power transitions are a perennial problem for human societies. In the Neolithic period, according to anthropologists, individuals with particular physiological or behavioral traits that increased their propensity to act first in coordination games were more likely to emerge as leaders (King, Johnson, & Van Vugt, 2009). As tribal communities transitioned from small-scale egalitarian to larger-scale hierarchical

groups, power transition became more prominent (Powers & Lehmann, 2014). Through repeated interactions, the elite realized that having rules to ease the unsettling process of leadership succession was beneficial. The Akkadian Empire of Mesopotamia (2334-2154 BCE) already practiced hereditary succession. According to the Sumerian King List, 6 of the 7 kings were sons or brothers of their predecessors (Sallaberger & Schrakamp, 2015).

The transition from meritocracy to hereditary succession essentially excluded most elites from leadership positions. The elite were willing to accept hereditary succession rules because the potential fallout from a violent power transition was not in their interests, and the danger of ending up on the losing side outweighed any substantive preferences over who prevailed (Svolik, 2012). In ancient China, the consequences of ending up on the losing side were abysmal: not only would the rebel be tortured to death, but their close and extended family members would also be executed.

The candidate pool for royal succession narrowed over time. History has witnessed a general convergence toward vertical succession rules across empires in Africa (Vansina, 1990), Asia (Guowei Wang, 1959), and Europe (Kokkonen & Sundell, 2014). While specific reasons for this convergence may differ across regions, one possible explanation is that VSNs provide clearer expectations about the successor compared to HSNs. As generations pass, the number of lines of descent increases, making it difficult to track the eldest brother among all lines. Additionally, different branches may have differing records and beliefs about their place in the line of succession, leading to disputes and conflict over who the rightful heir is (Kurrild-Klitgaard, 2000).

In historical China, succession rules gradually shifted from a mixture of VSNs and HSNs to VSNs (Guowei Wang, 1959; Entian Wang, 2017). In the Shang Dynasty of ancient China (1600-1045 BCE), 13 of 29 kings were succeeded by brothers and 16 by sons. During the Zhou Dynasty (1046-256 BCE), 10 of 36 Kings were succeeded by brothers. Since the Han Dynasty (206 BCE-220 CE), brothers were essentially excluded from potential rightful successors.[5]

Scholars have developed three socio-economic explanations for this transition. The

[5]The historical background section provides more details on the evolution of succession norms in China.

first one focuses on changes in marriage customs. Prior to the establishment of monogamy in the late Spring and Autumn period, ancient Chinese society tolerated a high degree of sexual freedom, and premarital sex was not uncommon (Entian Wang, 2017).[6] A high degree of sexual freedom and the prevalence of premarital sex contributed to monarchs' concern that their sons might not share their own blood (Entian Wang, 2017, p. 56-57). However, in the late Spring and Autumn period, women lost a significant degree of freedom, and eunuchs began to be widely used in imperial service, which allowed monarchs to spy on their wives and concubines (Lv, 2020). These measures ensured monarchs that their sons shared their own blood and contributed to the institutionalization of VSNs.

Another explanation for the transition to VSNs is economic development. Before the late Spring and Autumn period, private property was limited (Entian Wang, 2017). As wealth increased, competition for inheritance became fiercer. Since the bond between fathers and sons is stronger than that among brothers, it is natural for parents to desire to pass their possessions to their children rather than their siblings (Guowei Wang, 1959). However, the economic development explanation does not clearly specify whether this effect took place from top-down or bottom-up.

The third explanation relates to state capacity (Zhang, 1998). States experienced a wave of bureaucratization during the transition from the Spring and Autumn period to the Warring States period (Zhao, 2004). As the level of bureaucratization increased, states could afford less competent rulers, making both the rulers and the elite more comfortable with narrowing down the candidate pool (Zhang, 1998; Qian, 1991).[7]

We argue that the institutionalization of VSNs narrows down the candidate pool by excluding the rulers' brothers from potential rightful successors, which provides clearer expectations for the elite and increases the likelihood of agreeing on a successor. Admittedly, in the absence of democracy, no rules can completely solve the succession problem. However, on average, the institutionalization of VSNs should alleviate the succession problem by narrowing the candidate pool and facilitating coordination among the elite.

[6]This is corroborated by archaeological discoveries showing that, in most cases, husbands and wives were buried separately during that era (Lv, 2020).

[7]We are able to control for state capacity in our analysis.

We also expect the effect of the institutionalization of VSNs to be stronger in situations where elite competition is more intense.

Hypothesis 1: The institutionalization of VSNs reduces the likelihood of a monarch being removed from office by the domestic elite.

Hypothesis 2: The institutionalization of VSNs works through moderating the adverse impact of elite competition on monarchs' tenure.

Historical Background

The Feudal System and its Dissolution

The Zhou Dynasty is divided into two periods: the Western Zhou Period (1046-772 BCE) and the Eastern Zhou Period (771-256 BCE). The political and economic system of the Western Zhou is similar to that of the medieval Europe's feudalism.[8] When the Western Zhou overthrew the Shang Dynasty, its rulers were beset by the question of how to govern such a vast territory. The solution, known as "fenfeng zhi," was for the king of Zhou to keep the capital and its surrounding areas under direct control and then donated territory across the country to the relatives and statesmen who served the King as vassals (Loewe & Shaughnessy, 1999). The vassals further donated their land to their relatives. The vassals exercised hereditary succession and collected taxes within their states and built their own armies. However, they were obliged to pay regular tributes to the king of Zhou and supply manpower during military operations (Loewe & Shaughnessy, 1999).

The decentralized system began to disintegrate gradually in the late Western Zhou as the familial relationship between the king of Zhou and the vassals thinned over generations. In 771 BC, the Quanrong barbarians sacked the capital of Western Zhou and the King of Zhou moved the capital eastward. Hence started the Eastern Zhou period, which is divided into the Spring-Autumn and Warring States eras.

During the Spring and Autumn period, feudal lords developed power and prestige on par with the king of Zhou. As the king of Zhou lost political hold on the feudal lords, the

[8]We acknowledge that there is a debate on using the term "feudalism" to describe the political system of the Western Zhou. Please see the Appendix (page 6) for more discussions.

feudal system was gradually transformed into an international system (Hui, 2004). States waged war against each other, and the scale and severity of warfare increased during the Warring States period (Zhao, 2004), which ended by Qin's unification of China in 221 BCE.

Evolution of Succession Norms in Ancient China

A challenge facing studies of social norms is that it is difficult to explain how informal institutions changed over time (Helmke & Levitsky, 2004). In this section, we first provide an overview of the evolution of succession norms in ancient China during the period of study. Then we discuss three possible explanations for why VSNs gradually replaced HSNs in ancient China.

Different from monarchies in medieval Europe and early modern Europe, the rules of royal succession were never codified in ancient China. Figure 2 illustrates the evolution of succession norms in ancient China.[9] Before the Western Zhou Dynasty, agnatic seniority was the dominant norm governing royal succession (Guowei Wang, 1959). Most historians believe that the norm of primogeniture originated from "lineage law" (aka the zongfa system) set up by Duke Wen of Zhou in order to control his vassals (Guowei Wang, 1959; Zhao, 2015). It is a system of "ranked authorities based on patriarchal principles" (Zhao, 2015, p. 59).[10]

During the Spring and Autumn period, states gradually shifted from agnatic seniority to vertical succession (Entian Wang, 1980). The lack of a dominant succession norm was evident in the debates among the elite on how to interpret lineage law and what succession rules to apply. For example, the Gongyang Commentary on the Spring and Autumn Annals said that "The heir should be chosen based on age, not merit; the heir should be chosen based on the status of his mother (legal wife versus concubine), not age."[11] According to this interpretation, the eldest son of a monarch's legal wife had the

[9]Sometimes it is controversial to pinpoint the sub-category of succession norms in some states during the period of study. For example, it is controversial whether the state of Chu embraced the norm of primogeniture or ultimogeniture. However, it is uncontroversial to say Chu adopted VSNs rather than HSNs.

[10]For more details about the lineage law, please see the Appendix.

[11] 《Gongyang Zhuan.First Year of Duke Yin》

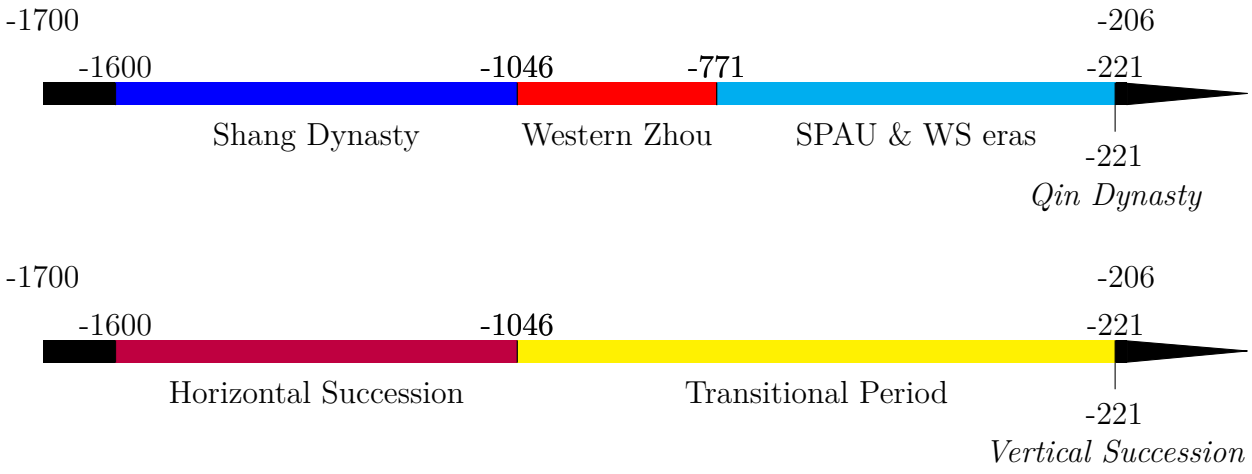


Figure 2: Evolution of Succession Norms in Ancient China

right to succeed the throne. However, the Zuozhuan maintained that "When an heir passed away, the younger brother of the monarch should be chosen as the new heir; in the absence of a younger brother, the heir should be chosen based on age (among the monarch's sons); if two sons are in the same age, the more virtuous one should be chosen; if they are equally virtuous, it should be resolved by divination (through rituals)."[12] The discussions among the elite suggests that in general the shift to VSNs was not complete during the Spring-Autumn period.

States gradually established VSNs during the transition from the Spring and Autumn period to the Warring States period (Entian Wang, 1980, 2017; Li, 1987; Wei & Wang, 2010). Recent historical studies provide two justifications for this claim. First, shortly before or after 476 BCE, a new pattern of royal succession emerged in most states. For instance, in the state of Qi, starting from the Duke Tai of Tian Qi, seven consecutive monarchs were inherited by sons; In the state of Han, starting from the Marquess Jing of Han, ten consecutive monarchs were inherited by sons; In the state of Wei, starting from Wei Huanzi, nine consecutive monarchs were inherited by sons (Li, 1987, p. 68). Second, starting around the end of the Spring and Autumn period, quite a few monarchs' sons inherited the throne at a very young age, which was extremely rare in previous eras whose succession rules featured agnatic seniority (Entian Wang, 1980, p. 80).

Measuring norms is not easy. Norms are unwritten rules understood by members in a

[12] 《Zuozhuan.Thirty-first Year of Duke Xiang》

group, and changes of norms are usually gradual. Sociologists measure norms using either 1) normative beliefs and expectations (usually in lab experiments) or 2) observation, recurrent patterns of behavior (Bicchieri, 2016). Here we follow the best practices in sociology and measure the institutionalization of VSNs in two ways. The first measure is more subjective and is based on historians' account. It is coded as 1 ever since VSNs became a dominant succession rule according to historians, and 0 otherwise. Information of the coding is from Entian Wang (1980, p. 79) and Li (1987, p. 68). The second measure is objective and is inferred from recurrent patterns of de facto succession. The institutionalization of VSNs is coded as 1 if five consecutive monarchs were succeeded by their sons, and 0 otherwise.[13]

The two measures display both consistency and differences. The correlation between the two measures is moderately strong (0.55). However, while the first measure (based on historians' account) suggests that states on average transitioned to VSNs in 471 BCE, the second measure (inferred from data) suggests that the transition occurred much earlier in 585 BCE.

Compared to Kokkonen and Sundell (2014), our coding makes it less likely to observe a positive relationship between succession rules and political stability. The coding in Kokkonen and Sundell (2014) allows a state switch in and out of primogeniture. For example, according to Kokkonen and Sundell (2014), Bohemia adopted primogeniture in 1230, abandoned it in 1305, readopted it in 1346, and abandoned it in 1419 (Acharya & Lee, 2019, p. 2197). In our coding, once VSNs were institutionalized in a state, it would not switch back to HSNs regardless of the succession outcome.

Table 1 provides descriptive statistics of the measures. It shows that as VSNs became the dominant succession rule, a higher percentage of monarchs were succeeded by their sons. These numbers are relatively higher than that in medieval and early modern European states (Kokkonen & Sundell, 2014).[14]

[13]For robustness checks, we also use other thresholds.

[14]One possible explanation is that ancient China practiced polyamory and its monarchs usually had more sons than European monarchs.

Table 1: Institutionalization of VSNs and de facto succession

	Measure I		Measure II	
Institutionalization	**Weak**	**Strong**	**Weak**	**Strong**
Numbers succeeded by sons	156	91	90	157
Number of monarchs	239	118	165	192
Percent succeeded by sons	**65%**	**77%**	**55%**	**82%**

Data

To test the hypotheses, we construct a dataset of monarchs in ancient China during the Spring and Autumn and Warring States eras with information about their tenure, exit modes, relationship to their predecessors, and others. We primarily rely on two sources for data collection. The first one is the Spring and Autumn Annals, as well as the Zuo Commentary on the Spring and Autumn Annals (aka Zuozhuan). The second one is the Records of the Grand Historian.

The Spring and Autumn Annals was likely compiled in the 5th century BC and is the earliest surviving Chinese historical text organized in annals form. It is the official chronicle of the State of Lu, covering various events during the period from 722 to 481 BC. The astronomical observations in the Spring and Autumn Annals has been confirmed as accurate (Stephenson & Yau, 1992) and archaeological evidence corroborates the reliability of its entries for many events (Von Falkenhausen, 2006).

The Records of the Grand Historian was compiled around 94 BC. It covers a wide range of periods—from the legendary Yellow Emperor to the author's own time. While it is questionable whether Sima Qian had adequate historical materials for his account of what happened before the Shang Dynasty, his records of events after the Shang Dynasty are generally considered as accurate and reliable (Lewis, 2011).

The Spring and Autumn Annals and the Records of the Grand Historian display high degree of consistency. When the two sources conflict, we follow two principles. First, we cross-reference other sources such as the Shiben. Second, when cross-reference is not

available, we follow the rule of thumb in historiography and weigh the Spring and Autumn Annals over the Records of the Grand Historian because the former was written when the actual event occurred or shortly after.

Of all the 357 monarchs in the dataset, only 59 of them have reliable information on their date of birth. Thus we cannot control for the age of the monarchs. One particular concern is that those who took power at a very young age may face greater risks of being deposed. As a remedy, we control for the length of tenure of a monarch's immediate predecessor. In general, the longer a monarch's predecessor stayed in power, the older the monarch would be when he assumed power. Admittedly, this is not a perfect way to control for the effect of age, but it is the best available option. The findings that age does not have a significant effect on the likelihood of deposition in Kokkonen and Sundell (2014) also provide some assurance.

Eventually, the data covers 357 unique monarchs in 17 states during the Spring and Autumn period and Warring States period in ancient China. Among them, 240 monarchs died naturally while in office, 71 were deposed by coups, 41 were removed from office by foreign force or died in battles, and the rest 5 either abdicated or were killed by bandits or thugs.[15] The median length of ruling is 16 years, with the maximum being 66 years. Figure 4 and 5 visualize the percent of monarchs removed by coups in each state during the Spring-Autumn and Warring States eras respectively.[16]

Methodology

The Cox proportional hazards model is a natural choice to model the risk of monarchs being deposed, especially when we do not have a strong expectation about the survival distribution (Box-Steffensmeier, Box-Steffensmeier, & Jones, 2004). The Cox proportional hazards model is a semi-parametric model that estimates a baseline hazard without as-

[15] 10 out of 357 monarchs experienced a second failure event. We focus on the first failure event here. See more details in the methodology section.

[16] States' borders changed frequently during this period. The shape-files are digitized from historical maps obtained from the website http://www.txlzp.com using GIS. Zhou was the royal family and distinct from other states, and thus we do not include Zhou in the sample. Ju is left out because of limited reliable sources.

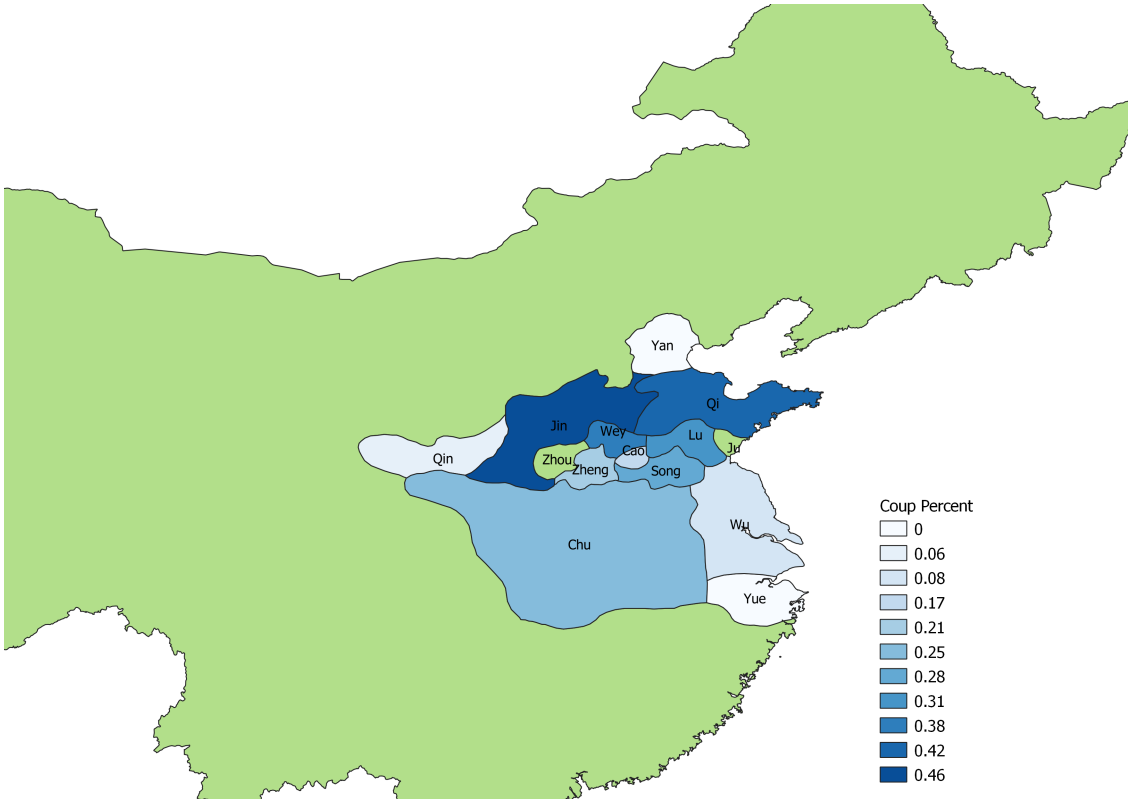


Figure 3: Spring and Autumn period

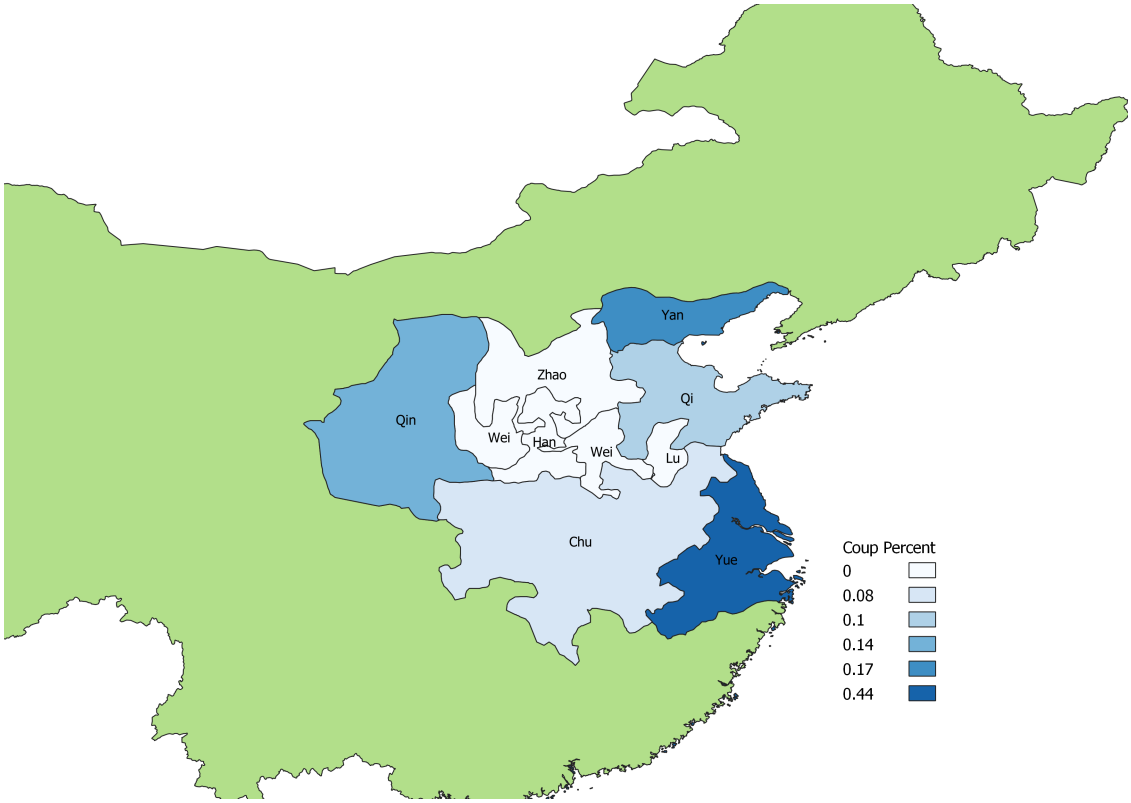


Figure 4: Waring States Period

suming a distribution. Here survival time is measured as the number of years a monarch was in office,[17] and a "failure" occurs when a monarch was removed from office by coups. Observations are right-censored, but censored observations still contribute to the likelihood. Because monarchs are nested in states and they are not truly independent, we estimate the Cox model with a shared frailty, which is analogous to random effect models for panel data. Noticeably, 10 out of 357 monarchs experienced a second failure event.[18] Since less than 3 percent of monarchs experienced a second failure event, we focus on their first failure event here.[19] There is no sign of violations of the assumption that the hazard ratio is constant overtime when looking at the Schoenfeld residuals. The model we estimate is as follows:

$$h_{ij}(t) = h_0(t)\,\alpha_i\,exp(x_{ij}\beta) \tag{1}$$

where h_{ij} represents the hazard function for monarch j in state i, and α_i is the state-level frailty.

We include a set of control variables that may be correlated with both VSNs and monarchs' fate. To account for the possibility that a monarch's fate is correlated with his predecessor's, we include the exit mode of a predecessor. Abramson and Rivera (2016) find that monarchs with a longer tenure can better accumulate and pass their power to successors. To control for this, we include the length of time a predecessor was in office. Though imperfect, this variable also indirectly controls for a monarch's age since in general, the longer a monarch stayed in power, the older his successor would be.

Another confounder is state capacity. Leaders in states with a centralized bureaucracy may better respond to internal threat and enjoy greater political stability. To control for state capacity, we use two different measures. The first measure is the total number of newly created counties. The county (xian) as a unit of administration first appeared in a few states during the Spring and Autumn period, and was gradually adopted by all states

[17]The survival time of a monarch is calculated as following: the year of exit - the year of entry + 1.

[18]The reason is that some monarchs were first deposed by the elite but were able to reclaim their throne afterwards with the help of a foreign state.

[19]Results remain consistent if we estimate multi-failure survival models.

during the Warring States period. Counties were created in two ways. The first method is through conquest of small neighboring states, and the second way is by grouping nearby villages together (Zhou & Li, 2009). County magistrates were appointed by monarchs directly and their office was not hereditary. Also, counties' tax revenues were handed to the monarchs directly for military use (Yang, 1981). Thus, the accumulated number of newly created counties is a useful indicator for bureaucratic centralization (Chen, 2021). Zhou and Li (2009) have a thorough discussion on the names, locations, and dates of establishment for all counties during the period of study. However, some counties do not have exact dates of establishment. Therefore, we calculate the total number of newly created counties for each state during the Spring and Autumn period and Warring States period separately. The second measure of state capacity builds on the idea that "the number of official titles existing in a state often indicates the level of bureaucracy of that state (Zhao, 2004, p. 604)." Following Zhao (2004), we calculated the number of official titles in a state before and after its bureaucratic reforms based on the work of Dong (1998).[20] Because both the number of newly created counties and the number of official titles have a skewed distribution, we log and normalize the variables when including them in the regressions.[21] The correlation between these two measures of state capacity is 0.66, which provides some assurance to the consistency of the measures.

To control for the level of external threat, we calculate the number of times a state was attacked by other states or nomad groups in each century. The source of the data is the first volume of the *Chronology of Wars in China Through Successive Dynasties*, which is widely used by scholars who study conflict in ancient and imperial China (Kang, Shaw, & Fu, 2016). We do not count the number of times a state initiated a war because it also measures aggressiveness and state capacity. We use the log of the variable in the regression models.

Table 2 provides the summary statistics of the variables.

[20]For some states not covered by Dong Yue, we reference an online dictionary of ancient Chinese studies: http://www.guoxuedashi.com/.

[21]Results remain consistent without normalization. Normalization ensures convergence for all model specifications.

Table 2: Summary statistics

	mean	sd	min	max	count
Institutionalization of VSN I	0.33	0.47	0	1	357
Institutionalization of VSN II	0.54	0.50	0	1	357
Number of counties	10.2	17.3	0	75	357
Number of titles	14.3	20.7	5	91	357
External threat	8.48	7.52	0	27	357
Length of ruling (t-1)	18.9	14.2	1	66	340
Exit mode (t-1)	0.21	0.41	0	1	340
Son of predecessor	0.69	0.46	0	1	357

Results and Discussions

Table 3 presents results of the Cox Models with shared frailty at the state level.[22] Both measures of the institutionalization of VSNs are negative and statistically significant across all models, which strongly supports the hypothesis that the institutionalization of VSNs reduces the risk of monarchs being deposed by the domestic elite. The impact is also sizeable. The coefficients of the institutionalization of VSNs range from -0.64 to -1.1, which indicates that the hazard rate decreases by 64 percent to 110 percent when the institutionalization of VSNs changes from 0 to 1, holding other variables constant.

Table 3: Cox Models with Shared Frailty

	(1) Model 1	(2) Model 2	(3) Model 3	(4) Model 4	(5) Model 5	(6) Model 6	(7) Model 7	(8) Model 8
Institutionalization of VSN I	-0.638^{*}		-0.742^{*}		-0.716^{*}		-0.698^{*}	
	(0.293)		(0.294)		(0.304)		(0.296)	
Institutionalization of VSN II		-1.074^{***}		-1.096^{***}		-1.129^{***}		-1.060^{***}
		(0.269)		(0.268)		(0.282)		(0.275)
Length of ruling (t-1)			0.003	0.004	0.004	0.005	0.004	0.005
			(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Exit mode (t-1)			0.395	0.387	0.421	0.402	0.412	0.395
			(0.292)	(0.288)	(0.291)	(0.288)	(0.292)	(0.288)
External threat					0.098	0.092	0.108	0.112
					(0.144)	(0.132)	(0.141)	(0.131)
Number of counties					−0.002	0.081		
					(0.169)	(0.135)		
Number of titles							−0.146	−0.027
							(0.168)	(0.139)
Observations	357	357	340	340	340	340	340	340

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Surprisingly, the length of ruling and exit mode of the previous monarch do not have

[22] We present coefficients instead of hazard ratios throughout the paper.

a significant impact on the fate of the current monarch. This may due to a special feature of the history in ancient China: states rarely experienced long-term political instability during the Spring and Autumn period and Warring States period. In our dataset, only 20 percent of monarchs were deposed by the domestic elite. In comparison, this number rose to 35 percent for European monarchs between 1000 to 1800 BC (Kokkonen & Sundell, 2014). Also, there is no strong evidence that fates of the monarchs are associated with the level of external threat a state faces. State capacity, measured as the number of newly created counties and the number of official titles, appears to have no effect on monarchs' survival, which is consistent with (Kokkonen & Sundell, 2014). Our interpretation is that random measurement errors bias down the coefficients of state capacity toward zero.

Sensitivity Analysis

How strong an unmeasured confounder must be to fully explain away the estimated treatment effect? To answer this question, we conduct sensitivity analysis using the **evalue** package (Linden, Mathur, & VanderWeele, 2020). Figure A1 (see the Appendix) visualizes the results. [23] The results can be interpreted as the following: an unmeasured confounder that is associated with both the institutionalization of VSNs and monarchs' survival through pathways independent of the controls by a hazard ratio of 2.97-fold each can explain away the treatment effect, but a weaker confounder cannot do so. To put it into context, the estimated relationship is 1.5 times as robust as that between a mother's smoking status during pregnancy and infant birth weight (Linden et al., 2020, p. 170).

Robustness Checks

While sensitivity analysis shows that the estimated relationship is robust, there are still some concerns. First, one may worry that the transition to VSNs was a larger trend toward greater political stability. In this regard, both the institutionalization of VSNs

[23] We use the estimates from model 5 in Table A2 in the Appendix, which includes both country and year fixed effects.

and political stability increased over time, but it does not constitute a causal relationship. We address this concern in two ways. First, it can be conceived as omitted variable bias. Thus we estimate stratified Cox models which only utilize within-country variations. The results remain consistent (See Table A1 in the Appendix). Second, to address the concern of time trend, we include century fixed effects and estimate stratified Cox models, which is analogous to two-way fixed effects regression for panel data. The results still hold (See Table A2 in the Appendix).

One may say the threshold we choose to measure the institutionalization of VSNs is arbitrary. To address this concern, we create measures of the institutionalization of VSNs using different thresholds and estimate the same models. Results are reported in Table A3 in the Appendix. We can see that the results still hold using four consecutive monarchs as the threshold. The coefficients of the institutionalization of VSNs are still negative but become statistically insignificant using six consecutive monarchs as the threshold. This is because rarely did states during the period of study witness six consecutive monarchs being succeeded by their sons.[24] And the lack of variations (especially the lack of within-state variations) largely contributes to the insignificant results.

One may doubt that the relationship between monarchs' survival and our second measure of the institutionalization of VSNs is an artifact of the way we operationalize it. One may say the first few monarchs with a coding of VSNs as 1 must have experienced peaceful power transition in order to satisfy the threshold, and what we capture here is stability causes stability. This is not true. Our measures do not use any information of the way a monarch exits office. To address this concern, we exclude the first, first two, first three, and first four monarchs with a coding of VSNs as 1 and re-estimate the models. As the coefficient plots show (Appendix Figure A2), the results remain consistent.[25]

Besides these primary concerns, we further perform other robustness checks including 1) exclude short-lived monarchs; 2) include a dummy variable for the Warring States

[24]Only 9 out of 17 states transition to VSNs during the period of study using the threshold of 6. In contrast, 15 states transitioned to VSNs during the period of study using the threshold of 5. The latter is closer to historians' accounts.

[25]The 95 percent confidence interval includes zero when we exclude the first four monarchs with a VSNs coding of 1, which is not a surprise given a much smaller sample size.

period;[26] 3) include a dummy variable for being the son of his immediate predecessor; and 4) estimate competing risk models. All the results still hold.[27]

Instrumental Variables Approach

While sensitivity analysis and robustness checks alleviate the concern of endogeneity, they still fall short of identifying a causal relationship. One particular concern is that monarchs who already had a firm grip on power might be in a better position to institutionalize succession rules. In this regard, one may question whether the institutionalization of succession rules was a cause or a phenomenon of political stability (Pepinsky, 2014; Frantz & Stein, 2017).

To address endogeneity concerns, we employ an instrumental variable (IV) approach, utilizing the ancestral distance of each state's founding fathers to the royal families of the Shang and Zhou Dynasties as our instrument. The rationale behind this is that founding fathers with closer ties to the previous dynasties' royal families were more likely to adopt succession rules similar to those of the Shang and Zhou Dynasties. Both the Shang and Zhou Dynasties featured a mixture of horizontal and vertical succession norms (Entian Wang, 2017), and the closer a state's founding fathers were to the Shang and Zhou royal families, the weaker the institutionalization level of VSNs would be. For example, the states of "Song" and "Lu" were descendants of the Shang and Zhou Dynasties, respectively (Loewe & Shaughnessy, 1999), and they embraced a succession norm called "Yi Ji Yi Ji," which combined HSNs and VSNs: the monarch passed his throne to his son, then to his son's brother, then to his son's brother's son, and so on. Indeed, cultural similarities between Lu and the Zhou Dynasty extended beyond succession norms. Upon visiting Lu, a diplomat could not help but exclaim, "the rituals of the Zhou Dynasty are fully embodied in the state of Lu."[28] In contrast, the founding father of Qin had no direct ties to the royal families of previous dynasties, and its transition to VSNs occurred more rapidly than in other states such as Song and Lu.

[26]We also interact this dummy variable with our key independent variable, and the interaction term is not significant.

[27]Results are available upon request.

[28] 《Zuo Commentary. Second Year of Duke Zhao of Lu》

We operationalize ancestral distance using the biographical information of each state's founding fathers. In 1046 BCE, Wu from the House of Zhou rebelled against the last king of the Shang Dynasty and established the Zhou Dynasty. To govern the vast territory, he assigned lands to his relatives and statesmen, who served as vassals and founded the states in our sample (Loewe & Shaughnessy, 1999). Yang (2003, p. 386) provides detailed information on their family histories. We code ancestral distance as 0 (short) if the founding fathers were directly related to the Shang and Zhou royal families, and 1 (long) otherwise. For example, the founder of Jin was King Wu of Zhou's son and has an ancestral distance of 0, while Qin's founder had no direct connection to the Shang and Zhou royal families, resulting in an ancestral distance of 1. In total, 12 of 17 states have a short ancestral distance.[29]

A good instrument must satisfy two conditions. First, it must be a strong predictor of the endogenous variable. A rule of thumb is that the F-statistic in the first-stage regression should be larger than 10 (Angrist & Pischke, 2009). In the full specifications (Model 2 and Model 3 in Table 4), the F-statistics are 40 and 23, respectively, surpassing this threshold. Second, the exclusion restriction requires that the instrument affects the dependent variable only through its effect on the endogenous variable. A potential concern is that vassals closer to the royal families were assigned larger and more fertile territories. While the territory designation process may not be random, it produced over 100 vassal states, with many migrating hundreds or thousands of miles from their initial designated areas (Yang, 2003, p. 154).[30] Therefore, when controlling for variables like state capacity and external threat level, it is plausible that ancestral distance around 1000 BCE influences autocratic survival three centuries later solely through its effect on VSN institutionalization.

Following the best practices of instrumental variable models, we use linear estimation methods even with dichotomous endogenous dependent variables (Angrist & Pischke, 2009).[31] Specifically, we employ two-stage least squares (2SLS) estimation. We first

[29]Table A6 in the Appendix provides detailed information.

[30]Most of them were conquered by other states during the period of study.

[31]Instrumental variables in survival analysis are a recent invention, but there are many limitations (Tchetgen, Walter, Vansteelandt, Martinussen, & Glymour, 2015). We choose linear estimation methods

estimate a barebone model without control variables to ensure our results are not driven by the inclusion of controls. As shown in Table 4,[32] the coefficients of ancestral distance is positive and significant across all models, suggesting that a greater ancestral distance from the Shang and Zhou royal families corresponds to higher VSN institutionalization levels. The coefficients of VSN institutionalization level are negative and statistically significant across all models, consistent with our hypothesis that VSN institutionalization reduces the risk of monarchs being removed from office.

Table 4: IV Two-Stage Least Squares Regressions

	Model 1		Model 2		Model 3	
	First Stage	2SLS	First Stage	2SLS	First Stage	2SLS
Ancestor Distance	0.368*		0.263*		0.200^{+}	
	(0.133)		(0.103)		(0.104)	
Institutionalization of VSN		-0.384**		-0.751*		-0.854*
		(0.140)		(0.382)		(0.436)
Length of ruling (t-1)			0.002	0.001	0.002	0.001
			(0.002)	(0.001)	(0.001)	(0.001)
Exit mode (t-1)			-0.106^{+}	-0.042	-0.111^{+}	-0.055
			(0.059)	(0.086)	(0.061)	(0.100)
External threat			-0.227***	-0.097	-0.255***	-0.151
			(0.043)	(0.089)	(0.042)	(0.113)
Number of titles			0.019	0.050		
			(0.041)	(0.040)		
Number of counties					0.093	0.115^{+}
					(0.064)	(0.068)
Century FE	NO	NO	YES	YES	YES	YES
Observations	357	357	340	340	340	340
F-statistic	7.65		40.43		23.32	

Robust standard errors in parentheses, clustered by states.
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

to facilitate comparison with previous studies.

[32]We use the second measure of the institutionalization level of VSNs. Results are consistent but slightly weaker using the first measure, which is available upon request.

Mechanism of Elite Competition

The results above provide strong evidence that the institutionalization of VSNs reduces the likelihood of a monarch being removed from office by the domestic elite. This section examines a potential mechanism: elite competition.

Elite competition is difficult to measure. We conceptualize elites as a privileged group of people who are influential in policy-making. In the context of ancient China, elite competition arises from two sources: 1) competition within the royal families, and 2) competition between the royal families and the aristocratic lineages (Dashizu).

The first source of elite competition primarily stems from competition among potential successors, such as monarchs' sons and brothers. Unfortunately, accurate information on the number of sons and brothers is not available because only those who made a mark in history were documented. Additionally, using the number of sons to approximate elite competition raises concerns of reverse causality, as monarchs who lived longer typically had more sons. Indeed, tenure length significantly predicts the number of sons in regressions. Theoretically, the gender of the first-born may be a good instrument for competition among potential successors. If a monarch's first-born child is male, the number of sons should be higher in general, thus increasing the level of competition among throne contenders. The sex of the first-born child is determined by nature and should only affect a monarch's tenure through its effects on the number of throne contenders. Unfortunately, female family members were poorly documented during the period of study, and we lack reliable information on the gender of the first-born.

We, therefore, focus on the second source of elite competition: competition between the royal families and the aristocratic lineages. Aristocratic lineages were powerful and influential families in ancient China that held significant political and economic sway within their respective states. Most members of these lineages occupied high-ranking positions in government or the military, playing a crucial role in determining state policies (Qian, 1991). An example of such lineages is the "Three Huan" (Jisun, Mengsun, and Shusun) in the state of Lu. These powerful families generally preferred to exert power behind the scenes. One reason is that overthrowing the monarch could potentially

destabilize the state and undermine their own positions. Another explanation is that cultural and social norms at the time emphasized respect for tradition and loyalty to the ruling family, which may have discouraged them from overtly seizing power (Zhao, 2015). Disagreements among the aristocratic lineages also played a role. When Duke Zhuang of Lu was seriously ill, he wanted to pass the throne to his son. The Mengsun family conspired with the Shusun family and attempted to seize power, but the Jisun family insisted on upholding the will of the ruler. After a series of violent struggles, the Jisun family prevailed, and the succession order was restored (Entian Wang, 2017, p. 7).

Data on the aristocratic lineages are from He (1996, p. 202-203). Following Zhao (2015), we calculate the total number of generations of the aristocratic lineages in a state in the Spring and Autumn period and the Warring States period, respectively, to approximate the level of elite competition. To illustrate, if a state had three aristocratic lineages in the Spring and Autumn period, one lasting for nine generations and the other two lasting for five generations, then the total number of generations of the aristocratic lineages in that state is 19. The intuition is that the more aristocratic lineages in a state and the longer they lasted, the stronger the elite competition. Three states do not have data on aristocratic lineages and are left out in the analysis.[33] Since the variable is right-skewed, we log and normalize it in the regressions.[34]

To explore this mechanism, we include an interaction term between elite competition and the institutionalization of VSNs and estimate the same models with stratification and century fixed effects. Results are reported in Table 5. The coefficients of elite competition are mostly positive and slightly significant in one model, and the coefficients of the interaction terms are always negative and statistically significant in two of the four models. While the statistical significance is not very strong, it provides some evidence that the institutionalization of VSNs works through moderating the adverse effect of elite competition on monarchs' tenure.

[33]The three states are Wu and Yue in the southeast and Yan in the north. For more details, please see the Appendix.

[34]Results do not change without normalization, but normalization ensures that all models converge computationally.

Table 5: Testing the Elite Competition Mechanism

	Model 1		Model 2		Model 3		Model 4	
Institutionalization I	-1.786^{*}	0.426			-1.966^{*}	0.112		
	(0.755)	(1.505)			(0.770)	(1.303)		
Institutionalization II			-1.104^{*}	-1.016^{+}			-1.170^{*}	-1.032^{+}
			(0.523)	(0.561)			(0.520)	(0.563)
Elite Competition	0.061	2.208	0.480	0.527	-0.192	1.906^{+}	0.310	0.420
	(0.476)	(1.350)	(0.417)	(0.433)	(0.455)	(1.142)	(0.382)	(0.423)
Interaction I		-2.537^{+}				-2.177^{*}		
		(1.464)				(1.079)		
Interaction II				-0.239				-0.346
				(0.495)				(0.483)
Length of ruling (t-1)	0.002	0.001	0.005	0.006	0.002	0.002	0.005	0.006
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Exit mode (t-1)	0.156	0.118	0.184	0.184	0.179	0.118	0.199	0.196
	(0.331)	(0.331)	(0.332)	(0.332)	(0.332)	(0.335)	(0.331)	(0.333)
External threat	0.057	0.050	0.184	0.177	0.144	-0.141	0.306	0.263
	(0.404)	(0.412)	(0.397)	(0.397)	(0.386)	(0.413)	(0.373)	(0.375)
Number of counties	0.342	-0.256	0.302	0.256				
	(0.336)	(0.455)	(0.345)	(0.357)				
Number of titles					-0.286	-0.402	-0.112	-0.120
					(0.328)	(0.329)	(0.340)	(0.332)
Century FE	*YES*	*YES*	*YES*	*YES*	*YES*	*YES*	*YES*	*YES*
Observations	287	287	287	287	287	287	287	287

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Discussions

Formal vs. Informal Succession Institutions

There is a debate in the literature about the effectiveness of formal versus informal institutions (Lauth, 2015). To entertain this idea, we can compare monarchs in ancient China to monarchs in medieval and early modern European states with vertical succession laws.[35] Results and discussions are presented in the Appendix (Table A4 on page 4 and discussions on pages 9-10). In a nutshell, we find no evidence that formal laws of vertical succession rules outperform their informal counterparts. Future studies should explore the pros and cons of formal vs. informal institutions, which likely depends on historical contexts.

External Validity

To explore external validity, we extend our analysis to modern autocracies. Data, methods, and results are presented in the Appendix (Table A5). In a nutshell, we find that autocrats who came to power right after their fathers are less likely to be deposed by domestic actors compared to autocrats in party regimes, which are considered as the most stable ones among authoritarian regimes. While this result is merely correlational, it gives us some confidence that our theory may travel to other regions and time periods.

Conclusions

As a pivotal episode in Chinese history, the Spring-Autumn and Warring States eras are crucial to our understandings of state formations in China and the origins of different development trajectories between Europe and Asia. By constructing a dataset that combines various primary and secondary sources and using multiple empirical strategies, we shed light on the succession problems and sources of authoritarian stability in ancient China. We show that the institutionalization of VSNs reduces monarchs' risk of being

[35]Primogeniture is the only vertical succession rules in Kokkonen and Sundell (2014).

deposed by the domestic elite, and we provide the first empirical evidence that this effect partially works through moderating the adverse effects of elite competition.

Our findings offer a fresh perspective on the relationship between succession rules and autocratic survival. By revealing that succession rules can be effective without being explicitly documented in a constitution or party platform, our paper contributes to the growing body of literature on the significance of informal institutions——a subject often overlooked in the study of autocratic survival.

Our paper suggests that we may underestimate authoritarian resilience if we ignore informal institutions. Authoritarian regimes such as North Korea and Syria may not have clear and transparent rules for leadership succession; however, the elite in these countries likely harbor strong expectations that the next leader will emerge from within the Kim and al-Assad families, respectively. These expectations facilitate coordination among the elite and promote peaceful power transitions, ultimately contributing to the stability of these regimes.

Finally, our findings have broader implications for understanding political stability, governance, and institutional development in general. By examining the role of informal institutions in shaping succession dynamics, we can better appreciate the complexity of political systems and the diverse mechanisms that contribute to their resilience or vulnerability. This understanding can inspire future research to develop more nuanced theories of institutional change and political continuity in both autocratic and democratic contexts.

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