A Longevity Mechanism of Chinese Absolutism

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A counterpart of what is known as "European exceptionalism"—political stability and institutional arrangement that enabled modern economic growth and political development—is a "Chinese anomaly." This anomaly takes the form of a sharp contrast with premodern Europe: Chinese imperial rulers stayed in power longer than their European counterparts, but this political stability was accompanied by a high level of institutional stasis. In this article, we argue that a well-known Chinese institution, the civil service examination (CSE) system, contributed to China's imperial longevity. We use detailed historical data on individual CSE performance to demonstrate the longevity-contributory mechanisms of CSE—constraining access to power by aristocrats and other wealth holders. We argue that a key to unpacking the so-called Chinese anomaly is to understand the role of bureaucracy in political development in China and potentially in other regions.

Scholars have long debated about the origins of what is known as "European exceptionalism," the institutional developments in premodern Europe that gave birth to property rights protection, the Industrial Revolution, and economic growth (Jones 2003; Mokyr 2009; Pomeranz 2009, among others). A distinguished body of literature in political science emphasizes the importance of premodern political institutions—notably feudalism, representation, and parliaments—in paving the way for political stability (Blaydes and Chaney 2013), executive constraints on the crown (North and Weingast 1989), and eventually democracy and economic growth (Acemoglu and Robinson 2005; De Long and Shleifer 1993).

A more recent literature casts doubt on the exceptionality of European stability. The Chinese imperial system was established in 221 BCE, and it retained many of its founding features until it collapsed in 1911. According to Wang (2017), Chinese rulers stayed in power on average 12 years longer than their European counterparts between 1000 and 1800. The stability and longevity of Chinese absolutism is truly impressive.

However, Imperial China had none of the executive constraints that could explain this extraordinary longevity of Chinese rulers. One of the indicators that scholars used for measuring political stability is ruler duration (Blaydes and

Chaney 2013; Kokkonen and Sundell 2014; Wang 2017). In Europe, the rising ruler tenure coincided with a dynamic development and evolution of the political form, in sharp contrast to the Chinese pattern—long ruler tenure on top of an extreme stasis of the political system itself. The Chinese political development in general and regime stability in particular, thus, must be rooted in factors orthogonal to the framework developed by the early literature rooted in European experience.

Our article is an attempt to identify a potential mechanism in Imperial China that might have given rise to the longevity of the Chinese absolutist system. Worldwide, as noted by Svolik (2009), the most prevalent triggers of political instability in authoritarian regimes are intraelite conflicts (such as coup d'état) rather than popular rebellions. Historically, European rulers were frequently deposed by the nobility, and they responded by creating power-sharing arrangements, such as parliaments, to resolve conflicts (Blaydes and Chaney 2013; North and Weingast 1989). Our conjecture is that Imperial China embarked on a different path of conflict resolution, by scaling bureaucracy and institutionalizing the civil service examination (CSE) system.

This is a critical difference between premodern Europe and China. Bureaucracy only arose in Europe in the wake of

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democratic consolidation (after the late seventeenth century), while in China bureaucracy occurred early on (before the tenth century) and, as historians argue and our article shows, played a critical role of political development in China. Both regions attained regime stability—as measured by ruler tenure—but did so through dramatically different mechanisms.

The rise of bureaucracy in China, roughly concomitant with the rise of executive constraints in Europe in timing, may provide an analytically sharp perspective on the question of the political Great Divergence, a topic we will come back to in the concluding section of this article.

CSE was established in China during the Sui dynasty (580–618), expanded and was formalized during the Tang dynasty (618–907) and Song dynasty (960–1279), and continued for more than a millennium until its abolition in 1905. In the appendix (available online), we provide macrolevel evidence showing that the scale of the CSE is significantly and positively associated with stability indicators, such as ruler duration, and negatively associated with the probability of a ruler being deposed. The main purpose of our article is to explore the mechanism through which CSE could have contributed to the longevity of ruler duration and, by extension, to the longevity of Chinese absolutism.

Using detailed historical data of 12,752 exam candidates from the Ming dynasty (1368–1644), we demonstrate that the CSE extended political access to commoners, restricted political reproduction within the elites (in contrast to aristocratic inheritance), and was biased against wealth holders. We call these the control functions of CSE. There can be multiple ways by which CSE exercises these control functions, as we discuss further below. While our article does not explicitly test the logic of these control functions, we provide some evidence of their effect: CSE curbed access to power on the part of those best positioned to threaten the safety and legitimacy of the throne—wealthy aristocracy or landed gentry. We argue that understanding this effect of CSE sheds light on the important question of the longevity of Chinese absolutism.

Our article proceeds as follows. First, we review the related literature. Second, we present a quick tour of the historical background relevant to our empirical estimation and to the construction of our hypotheses. Third, we provide explanations about the data set and the variables used. Fourth, we present our regression estimates. Fifth, we conclude and present some broader implications of our findings, in particular about the path-dependency nature of political development.

LITERATURE REVIEW

Our article touches on four areas of literature. The most relevant literature is on the political development of historical states (Blaydes and Chaney 2013; Dincecco and Wang 2018;

Hariri 2012; Ko, Koyama, and Sng 2018; Kokkonen and Sundell 2014; Wang 2017). An important theory in the literature is that aristocracy played a critical role in the political transition of the West. Herein lies a crucial difference between premodern Europe and China: Chinese aristocracy was thoroughly broken by the crown. According to Elman (1991), before 750 China was similar to Europe, with a strong landed aristocracy. The conflicts between the aristocracy and the emperor, as well as among the aristocrats, led to numerous civil wars and rapid dynastic transitions between the third and the seventh centuries.[1] However, around the eighth century onward, we witness a diminution of the aristocracy and the rise of centralized absolutism. This is what we aim to explain in this article.

Second, our article revisits a seminal idea first proposed by Huntington (1968) and succinctly summarized by Fukuyama (1997, 215): "Order itself was an important goal of developing societies, independent of the question of whether that order was democratic, authoritarian, socialist, or free-market." The great divergence between Europe and China between the eighth and eleventh centuries illustrates this Huntingtonian conjecture. Both Europe and China attained "order"—defined as political stability—but through diametrically opposite routes. Europe achieved democratic order on the basis of a power balance between the aristocrats and the crown, whereas China achieved autocratic order through a gravitation of power to the crown at the expense of the aristocracy. Regime types, which are arguably a second-order feature of a political system, have received a lion's share of empirical attention in political science. By highlighting the role of bureaucracy in political development, our article revisits this historical development of regime order.

Less directly our article is also related to the workings and mechanisms of authoritarian systems, with a focus on regime and leadership dynamics. Modern game theorists, most notably Acemoglu, Verdier, and Robinson (2004), De Mesquita et al. (2005), and Svolik (2009), examine strategies that autocrats use to maximize their survival odds. Our article borrows insights from this literature on power dynamics in authoritarian regimes and argues that CSE served the equivalent function of a power consolidation mechanism.

A fourth area of literature is China specific. The question why the Chinese political system was so durable has a very long pedigree. A dominant perspective in this genre emphasizes the ideological monopoly of Confucianism, which,

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1. Conflicts among the aristocracy led to the transition from the Northern Zhou dynasty to the Sui dynasty (AD 581), the transition from the Sui dynasty to the Tang dynasty (AD 618), and several dynastic transitions during the decentralized Jin period and the Northern and Southern dynasties.

some argue, was formalized by CSE.[2] This political culture perspective, however, is often formulated in the form of qualitative ruminations. As such, this perspective is not conducive to falsifications and empirical examinations.

Partially inspired by the Great Divergence debate, modern researchers have become increasingly interested in the potential impact of China's historical political institutions on its developmental trajectory.[3] A distinctive feature of Chinese political history is the early rise of a centralized and bureaucratic state ruled by an absolutist ruler. A burgeoning branch of this literature seeks to understand the implications of this feature, with specific emphasis on centralization (Ko et al. 2018; Rosenthal and Wong 2011), bureaucracy (Fukuyama 2011), state capacity (Ma 2013; Sng 2014; Sng and Moriguchi 2014), and conflicts and political stability (Bai and Kung 2011; Dincecco and Wang 2018; Wang 2017). In this article, using detailed microdata on CSE, we aim to make contributions to the growing quantitative literature on Chinese history and historical political development.[4]

Our article also builds on prior research on CSE (Bai and Jia 2016; Elman 2000; Ho 1962; Jiang and Kung 2015). The recruitment function of CSE has been well documented (Fukuyama 2011; Ho 1962; Jiang and Kung 2015, among others). However, our focal point is different. Much of the existing literature emphasizes the meritocracy and social mobility aspect of CSE. We accept as an established fact that social mobility contributed to regime stability, and our empirics corroborate this line of reasoning. Hypothesizing and empirically demonstrating how CSE performed the political control function of pacifying intraelite conflicts is arguably an innovation in our article.

POLITICAL STABILITY IN HISTORICAL CHINA

Two indicators are widely used by scholars to measure political stability of historical states (Blaydes and Chaney 2013; Kokkonen and Sundell 2014; Wang 2017). One is to examine ruler duration: the number of years that a ruler stayed in power. The second is to compare the odds of the different channels for rulers to exit power, whether deposed or on natural death. Political instability is presumed to have

arisen when the rulers stay in power for shorter periods of time and when the chances of deposed exits rise relative to the natural exits of rulers or emperors.

We collect data on ruler duration and exits in China, from 221 BCE to 1911. The various measures are broadly consistent in highlighting the following pattern, as shown in figure 1: political stability in Imperial China, similar to that in Western Europe, has been largely increasing over the past millennium, despite the fact that the two regions diverged greatly in the development of the form of governance.

This pattern is consistent with a near-consensus finding among China historians. Fu (1993) documented many cases of court officials unseating emperors before the Song dynasty (960–1279) but only one case—that of Chengzu (reigning from 1403 to 1424) successfully deposing another emperor—since the Song dynasty. He remarked, after Song, "there was no case of a powerful minister or general usurping the imperial throne, no case of an assassination or deposition of an emperor, engineered by a palace eunuch, and only one case of usurpation of imperial authority by an empress dowager, involving Empress Cixi in 1861, which might have contributed to the ultimate fall of the last imperial dynasty" (122).

Fu's observation is fully corroborated by data shown in figure A1 (figs. A1 and A3 are available online). There was a pronounced decline of the frequencies with which rulers were forcibly deposed, and much of this decline was due to the declining occurrences of intraelite conflicts. (The appendix goes into detail about measures and definitions of intraelite conflicts.) The transition toward ruler stability after the Song dynasty also helps rule out a number of factors sometimes speculated to have affected the Chinese imperial longevity, such as hereditary rule and the power of eunuchs. Hereditary rule is a fixed feature of Imperial China, and it does not differentiate between pre- and post-Song China. The power of eunuchs waxed and waned during the entire lifetime of Imperial China, and there is no prima facie evidence that Chinese ruler stability is systematically correlated with the power and fortunes of eunuchs.

We argue that CSE contributed to the aforementioned decline in intraelite conflicts in Imperial China by inducing a relatively high level of political mobility and thus preventing the rise of an aristocracy who derived power from a source independent of the crown, such as land or inheritable positions.[5] In the next section, we provide microlevel evidence that CSE fulfilled this political control function mainly in two ways: it implemented strict anonymity at the lower level to minimize the impact of family background on political access, and it

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2. Much of the previous research on the longevity of Chinese absolutism can be described as "speculative hypotheses," such as those about the roles of political culture, geography, idiosyncratic decisions by particular emperors (such as the banning of overseas voyages), or the weaknesses of the bourgeoisie. For a literature survey, see Zhao (2015).

3. As one of the classic questions in the field of economic history, the vast literature on the Great Divergence includes many classic texts, such as Jones (2003), Landes (1998), and Pomeranz (2009), among others.

4. For a survey of quantitative studies on Chinese economic history, see Mitchener and Ma (2016).

5. Fu and many other historians also attributed this effect to CSE (although without much statistical proof or discussion about the mechanism).
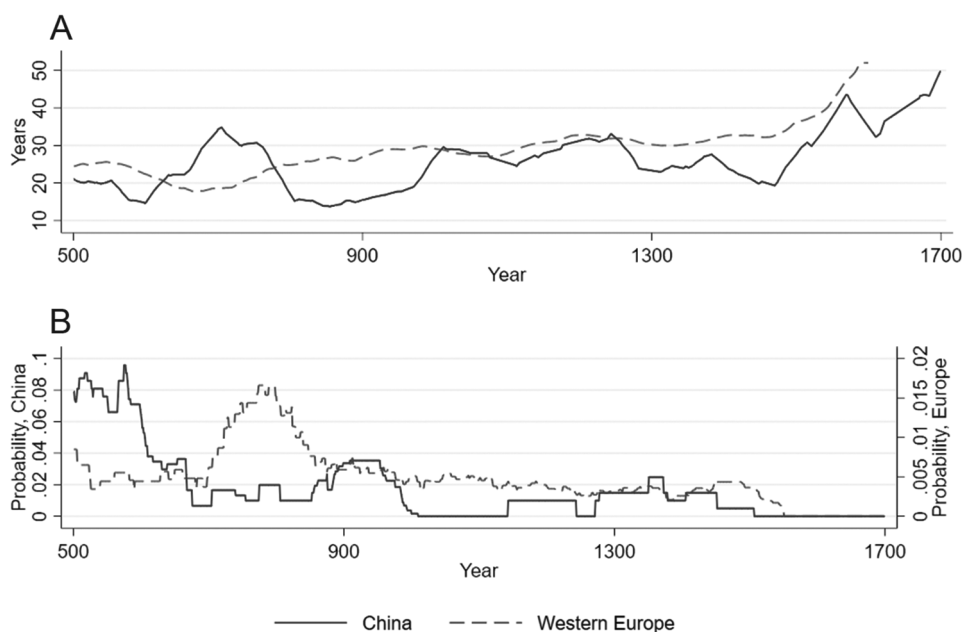
Figure 1. Political stability of China versus Europe: 100-year moving average of ruler duration (*A*) and annual probability of ruler being deposed (*B*). Data on European monarchs are from Blaydes and Chaney (2013), and data on Chinese rulers were collected by the author from Du (1995) and other supporting sources.

discriminated against wealthy families at the higher level when determining power allocation at the top of the political hierarchy.

THE POLITICAL FUNCTIONS OF CSE
Historical background

Similar to the rise of executive constraints around the ninth or tenth centuries in Europe, China in the eighth century went through a profound transformation. China historians believe that the most important development during this period was the establishment, formalization, and expansion of the CSE system.[6]

The dating of the establishment of CSE may not be precise. (More details on CSE are presented in the appendix.) As early as the Western Han dynasty (206–9 BCE), a version of CSE already existed, but it was small in scale and informal in operation. Before the Sui dynasty (580–618), candidates were first recommended and then tested. By necessity, recommendations relied on personal connections and family backgrounds, and this practice led to a ruling elite dominated by aristocrats (Elman 1991).

The consensus among historians is that CSE was formally inaugurated during the Sui dynasty, around 605. At the time

of its establishment, most of the candidates were drawn from the capital city and nearby regions, such as Chang'an and Luoyang, and from elite aristocratic families. The person who broke the aristocratic capture of the CSE and of the bureaucracy as a whole, according to Elman (1991), was Wu Zetian. Wu was the only female emperor in all of Chinese history, and her rise to power faced fierce resistance from incumbent nobility. As an ultimate outsider, a woman, Empress Wu, reigning between 690 and 705, needed an instrument to break the power of the entrenched interests who were hostile to her. That instrument was CSE.

Empress Wu expanded both the scale and the scope of CSE in order to curb the power of Chinese aristocracy. She moved the capital from Chang'an to Luoyang, thus moving the center of political gravity from the aristocratically strong northwest to the north, which was populated by commoners at the time. She actively recruited people from northern China to participate in CSE at the expense of the aristocratic incumbents from the northwest. Empress Wu also removed many restriction on CSE and changed it from a conditional open-access system to one that was nearly universally open to all male citizens.

CSE acquired its widely known format—held triennially and comprising three tournament tiers—starting in the Northern Song dynasty (960–1125), and it prevailed throughout the Ming and the Qing dynasties until it was abolished in 1905. During the Ming dynasty, a CSE event consisted of three separate examinations held between August of the exam year and March of the following year. The first stage of CSE was known

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6. This is known as the "Tang-Song transition" hypothesis that posits that following the establishment of CSE China entered into an impersonal, modern era. Others argue that CSE led to a homogenization of Chinese ideological norms and that CSE led to a demolition of the power of Chinese aristocracy.

as a Provincial Examination (PRE), which took place in the provincial capitals. Those who succeeded on the PRE then continued on to the next stage of the examination, known as the Metropolitan Examination (ME). The ME was held in the national capital, typically during February of the following year. An important operational detail is that both the PRE and the ME were anonymized; that is, the candidates and examiners had no identifying information about each other.[7]

Those candidates who successfully passed the ME then proceeded to the third stage to take the Palace Examination (PLE), usually held in March. Like the ME, the PLE was held in the national capital. A typical PLE lasted one day and was administered in the palace court (hence, the name "Palace Examination"). The PLE was often presided over by an emperor, a practice that Empress Wu institutionalized and subsequent emperors continued.[8]

The personal supervision of PLE by the crown was explicitly justified by a rationale we tested in our article—to ensure that aristocracy would not monopolize the pipeline to the imperial bureaucracy. Emperor Taizong (939–97), the second emperor of the Song dynasty, made the following statement in a royal decree, "In the past, most of the people who passed the Imperial Examinations were descents of those aristocratic families. This blocked the path towards serving the court for those people with humble backgrounds. [The old imperial examination system] is thus meaningless and worthless. Nowadays, I personally preside over the exam, and decide who can pass the exam. This can completely eliminate the ills of the old system."[9]

The PLE was not anonymized and, unlike the ME, the PLE did not eliminate any of the examinees. It conferred the highest imperial academic honor, called the *Jinshi* (i.e., PLE degree holders or distinguished scholars), on all the PLE candidates. Each PLE candidate was ranked according to his exam performance, and in addition to the numerical exam rankings, the PLE candidates were also awarded three classes of honors,

similar to summa, magna, and cum laude at some American universities today.

By the tenth century, CSE had emerged as the most important path to political power. During the Song dynasty, about 90% of ministers were selected by the CSE (Zhang 2015). During the Ming dynasty, it produced about 50% to 70% of government officials depending on the year (Ho 1962). The composition of CSE candidates accurately represented the composition of political elites during Imperial China.

CSE and political control: Hypotheses

The purpose of our article is to show how CSE performed the political functions of diluting and marginalizing the power of the wealth holders (such as the aristocracy). CSE did so by "democratizing" access to political power, broadening the pipeline to bureaucracy to the commoners, and diluting the aristocratic access to political power in the process. In addition, CSE imposed procedures that further limited access to the highest echelons of power on the part of the wealth-holding class. These two functions together, the access and control functions, might have contributed to the aforementioned long and rising duration of rulers and to the stability of the imperial system as a whole.

CSE lowered the entry barrier through meritocracy. Chinese imperial regimes were able to recruit human capital into their bureaucracy with less regard to the lineage, family background, and economic status of individuals, all of which were heavily hereditary in premodern Europe. This famous, if sometimes exaggerated, meritocratic function earned CSE admiration from many European enlightenment thinkers such as Montesquieu and Rousseau. Our claim is that this meritocracy also performed a political function.

One way to conceptualize CSE's political function is to view it in light of the selectorate theory developed by De Mesquita et al. (2005). According to the theory, a rational autocrat is motivated to increase the size of the nominal selectorate— defined as those who are potentially eligible to join the political establishment. In our setting, CSE enlarged the nominal selectorate from the aristocratic class to the general male population, which in turn increased the cost of defection for the incumbent elites. In economics terminology, lower entry barriers to the bureaucracy lead to perfect competition among bureaucrats and make each bureaucrat perfectly substitutable. Another channel CSE could have contributed to enhanced stability is in introducing newcomers to the system who have interests different from the aristocrats, which makes collective action against the crown more difficult.[10] Either way, the result is enhanced loyalty to the ruler and increased stability.

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7. Historians have debated the true extent of anonymization. Our findings seem to suggest that anonymization was adhered to.

8. The practice of the emperor presiding over PLEs is extensively documented by Chinese historians. For a sample, see Li (2004) and Ma (2011). The PLE was not anonymized, and calligraphy was also taken into account during the PLE evaluations to give the emperor more flexibility in controlling the final outcome (Elman 2013). Also, the number of PLE examinees was much smaller, an average of 400 persons during the Ming dynasty compared with thousands or tens of thousands during the previous two rounds of the CSE.

9. This is translated from classical Chinese. The original Chinese is 向者登科名级，多为世家所取，致塞孤寒之路，甚无谓也。今朕躬亲临试，以可否进退，尽革除昔之弊矣 (quoted from Li 2004, 16:15).

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10. We thank an anonymous reviewer for pointing out this channel.

CSE "democratized" access to bureaucratic recruitment and, hence, strengthened political control over the members of the bureaucracy. The access function of CSE not only altered the incentives of the masses away from resorting to violence, as shown by Bai and Jia (2016), but also altered the incentives of the political elites away from challenging and defecting from the emperor. The political incentive effect modeled by us and the social mobility effects modeled by other scholars reinforced one another.

DATA AND VARIABLES

We used a comprehensive data set on individual CSE performances from the Ming dynasty. In this section, we provide details on this data set and explain our variable construction.

Data

The bulk of our data come from the China Biographical Database (CBDB) maintained at Harvard University. The CBDB data set covers biographical information on historical individuals in China. Specifically, for the Ming dynasty period, it has information on the names of the CSE examinees, their birth years, their birth places, their examination years, and their rankings during the three stages of the CSE (i.e., the PREs, MEs, and PLEs). The data set also contains relatively complete information on the families of the CSE examinees, such as the names of their fathers and ancestors, whether the father was an official, and the names of the candidates' wives.[11] This information was compiled from official archives of the Ming dynasty.

We have information on 14,116 CSE examinees and on 51 rounds of the CSE. However, five of the rounds of the CSE are missing important information, such as the age, home provinces, or CSE rankings of the exam candidates. Hence, we removed these five CSE rounds from the data set, leaving us with 46 CSE rounds and 12,752 CSE examinees. These CSE rounds took place from 1400 to 1580.

We supplemented the CBDB data set with a variety of other sources to capture the characteristics of the candidates' hometowns, including county-level tax revenue around 1460 during the reign of Emperor Tianshun of the Ming dynasty and prefecture-level number of households around 1565 during the reign of Emperor Jiajing of the Ming dynasty. The data are from Liang (1980).

Variable explanation

Dependent variable.   Our dependent variable is a numeric performance ranking of the CSE candidates on either one of the three CSE rounds. We reversed the original order in the CBDB so that higher values of Ranking represent superior CSE performance.

Wealth variable.   A difficult challenge in any quantitative analysis of a premodern economy is the lack of data on important economic variables, such as income or wealth. We developed a proxy variable for household wealth. We used one variable in the CBDB—a variable indicated by the Harvard researchers as representing "multiple wives"—as the basis to construct a wealth proxy. We interpret this variable as representing the widely practiced tradition among wealthy Chinese families of keeping concubines.[12] On the basis of the historical research, we judged that concubinage is a reasonable proxy for wealth. Our variable, Wealth, is a count of the number of wives recorded in the CBDB database. For a robustness check, we created an alternative proxy, Wealth1, a dummy variable for whether a candidate keeps concubines.

We should note and emphasize that the information on multiple wives was recorded at the time when a candidate took the CSE. It is not a lifelong attribute of a candidate. This detail is important because our wealth proxy is unlikely to be subject to a potential endogeneity bias in which a candidate succeeded at a CSE and acquired wealth subsequently on account of his bureaucratic position. It is thus unlikely that this variable is influenced by corruption and rent flows to official positions.[13]

Family political background.   In the Ming dynasty, the imperial bureaucracy had nine tiers. The top three tiers were the most senior bureaucrats. They could, for example, communicate directly with the emperor (Hucker 1958). Using the information provided in CBDB (the candidates' fathers' positions), we constructed a household political background variable, Father_Rank. We assigned a value of 5 to the top officials (tiers 1–3), a value of 4 to the midlevel officials between tiers 4 and 7, and a value of 3 to those between tiers 8 and 9. We assigned a value of 2 to those officials deemed "minor" (i.e., officials without a tier), and we assigned a value of 1 to commoners and other nongovernmental categories.

Other control variables.   We include a number of controls in our regressions. For individual characteristics, we control for the candidates' age at the time of the examination and the level of their preparatory schools (imperial academy, prefecture

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11. The data set provides the surnames of the wives from which the number of wives can be calculated.

12. Other researchers have used similar approaches, such as Jiang and Kung (2015) and Zheng et al. (2017). For more details on historical research on the subject of concubinage, see the appendix.

13. We thank a reviewer for raising this question.

school, or county school). We control for four categories of their household registration status: officials, military, artisan, and commoner.[14] These are the professional status classifications the Ming court assigned to households for tax collection purpose and for the enlistment of corvée labor. We also control for CSE subject domains. These subject domains were drawn from different texts of the Confucian classics. To the extent that these subject domains may vary in difficulty and to the extent that there might be some self-selection biases, we include dummy variables for these domain subjects in all regressions. We also include county-level tax revenue (in *shi* of wheat or rice) or the number of households in the prefecture, to control for the levels of regional development. To account for other regional factors, we include county fixed effects in all regressions, unless noted otherwise.

We present summary statistics on the variables in the appendix. We have a total of 11,706 individuals from 1,622 counties who took the CSE during the period between 1400 and 1580. The average age of the candidates is 33, and the father's average ranking is 1.8, equivalent to a low-level government official.

RESULTS

As discussed above, the CSE consisted of three stages of the examinations. Examination performance during the first two stages, the PRE and the ME, determines entrance into the bureaucracy, whereas the ranking in the third stage, the PLE, determines the political and bureaucratic assignments at the highest level of the imperial system. These assignments reflect the revealed or explicit preferences of the emperor.

Our empirical strategy exploits this institutional setting. We hypothesize that the CSE advances two goals of the imperial system. One is to recruit talent into the bureaucracy regardless of the socioeconomic and political backgrounds of the CSE candidates. We examine this hypothesis using the following regression model:

$$\text{Ranking\_}Y_{it} = \theta_1 \text{Wealth}_{it} + \theta_2 \text{Father\_Rank}_{it} + \theta_3 X_{it} \\ + \alpha_t + \omega_j + \varepsilon_{it}, \quad (1)$$

where i indicates the individual, t indicates the examination year, j indicates the province or county that the individual came from, and Y indicates the examination stage ($Y \in \{\text{PRE}, \text{ME}\}$), and X_{it} includes a number of controls.

The other half of our hypothesis is that CSE restricted the potential of power sharing. We argue that during the non-

anonymized PLE, the final stage of the CSE that determined the assignments at the pyramid of the imperial system, the emperor was motivated to keep wealth holders at some arm's length from the throne. Thus, the PLE rankings should correlate negatively with the household wealth of the CSE candidates, ceteris paribus. This is the political control goal of the CSE. We examine this political control goal using the following regression:

$$\text{Ranking\_PLE}_{it} = \gamma_1 \text{Wealth}_{it} + \gamma_2 \text{Father\_Rank}_{it} \\ + \alpha_t + \omega_j + \varepsilon_{it}, \quad (2)$$

where, similarly, i indicates the individual, t indicates the exam year, j indicates the county that the individual came from, and PLE indicates that this is the ranking in the final stage.

Table 1 presents the regression results for equation (1) on the first two stages of the examinations, with Ranking_PRE

Table 1. Rankings on the Provincial Examination (Stage 1) and Metropolitan Examination (Stage 2)

Variable	Ranking_PRE		Ranking_ME	
	(1)	(1)	(2)	(3)
Family economic background:				
Wealth	.0911	.334	−3.333	.234
	(.956)	(.765)	(2.451)	(3.081)
Family political background:				
Father_Rank	1.092**	.943***	1.632	1.493
	(.363)	(.280)	(.974)	(1.053)
Regional controls:				
Tax_1460	1.099***		1.292	
	(.351)		(1.066)	
Household_1565	.921		−.640	
	(.701)		(1.889)	
Other controls	Yes	Yes	Yes	Yes
Fixed effect	Prov-Yr	County-Yr	Prov-Yr	County-Yr
Observations	7,335	9,534	7,381	9,604
R^2	.592	.627	.167	.249

Note. All errors (in parentheses) are clustered at the provincial level. Prov-Yr stands for province and year two-way fixed effects, while County-Yr stands for county and year fixed effects. Other controls include age, family registration type (official, military, artisan, or commoner), dummy for imperial academy, dummy for prefecture school, and four exam subjects (Rites, Poetry, Book of Documents, and Book of Changes). For the full regression table, see the appendix.

* $p < .1$.

** $p < .05$.

*** $p < .01$.

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14. The CBDB contains more detailed information than these categories of household status. For example, commoners can be further divided into physician or fisherman, and artisans can be further divided into cook, tailor, armorer, or stonemason. We aggregated these subcategories into four major categories.

and Ranking_ME as the dependent variables. Throughout the various specifications, none of the coefficients on the Wealth variable are statistically significant. The effect of Father_Rank is somewhat mixed. It is positive and statistically significant in the first PRE stage but not in the second ME stage of the CSE. Overall, the effect of Father_Rank on the PRE rankings is at best modest. Measurement of Father_Rank is an ordinal scale, from 1 to 5. As shown in columns 1 and 2, a one-level increase in the father's rank out of five potential levels only leads to a one-unit increase in the candidate's ranking out of nearly 300 candidates. Keep in mind that an appropriate benchmarked institution for comparison here should be the feudal rule of strict inheritance practiced in many parts of the world at the time. As a whole, the regressions in table 1 show that during the anonymized entrance level of the CSE stages, the socioeconomic and political backgrounds of the candidates had limited impact on the CSE rankings.

Table 2 presents the regression results for equation (2), and the dependent variable here is ranking during the third-

stage PLE, Ranking_PLE. There are two noteworthy changes from table 1 to table 2. First, as shown in columns 1–3, the variable Wealth is consistently negative and statistically significant. Second, the variable Father_Rank is consistently positive and statistically significant. Column 3 shows the results for our preferred specification. On average, every one-level increase (out of five levels) in the father's rank is associated with an increase of 5.1 positions in the candidate's exam ranking (usually out of 300 to 400 candidates), whereas a one-unit increase in the number of wives, our wealth measure, is associated with a decrease of 6.2 positions in the candidate's exam ranking on the PLE. The socioeconomic and political backgrounds of the candidates are shown to have a material impact on their rankings on the PLE.

The negative effect of Wealth stands out as counterintuitive and warrants some further discussion. There is a large literature documenting a positive effect of family wealth on educational attainment and examination performance in various settings and countries (see, e.g., Björklund and Salvanes 2011, for a survey). Furthermore, preparing for the CSE was a

Table 2. Rankings on the Palace Examination: Stage 3

	Ranking				Ranking_Class
Variable	(1)	(2)	(3)	(4)	(5)
Family economic background:					
Wealth (Num_Wife)	−5.862*	−6.002**	−6.213**	−1.524	.00117
	(3.253)	(2.445)	(2.464)	(3.129)	(−.0223)
Family political background:					
Father_Rank			5.099***	7.453***	.0450***
			(1.017)	(2.250)	(−.00984)
Interaction:					
Father_Rank × Wealth				−2.428*	−.0177**
				(1.296)	(−.0061)
Regional controls:					
Tax_1460	8.54e−06***			2.371	.0109
	(2.33e−06)			(1.610)	(.00656)
Household_1565	4.37e−05			2.140	.0137**
	(4.18e−05)			(1.637)	(.00596)
Other controls	Yes	Yes	Yes	Yes	Yes
Fixed effect	Prov-Yr	County-Yr	County-Yr	Prov-Yr	Prov-Yr
Observations	7,440	9,676	9,676	7,440	7,440
R^2	.168	.246	.250	.171	.057

Note. All errors (in parentheses) are clustered at the provincial level. Prov-Yr stands for province and year two-way fixed effects, while County-Yr stands for county and year fixed effects. Other controls include candidate age, family registration type (official, military, artisan, or commoner), dummy for imperial academy, dummy for prefecture school, and four exam subjects (Rites, Poetry, Book of Documents, and Book of Changes). For the full regression table, see the appendix.

* $p < .1$.

** $p < .05$.

*** $p < .01$.

lifelong affair and was costly in terms of time, attention, and both expended and forgone financial resources. All else being equal, wealthy families should command an advantage on the CSE. But as shown in table 2, our Wealth variable operates in the opposite direction from the normal economic effect of wealth in the literature. Thus, the political countervailing effect of wealth has to be large enough to more than offset the economic effect of wealth on individual capabilities and preparations. If anything, our Wealth coefficient is an underestimate of the political effect of wealth.

We next look at the interactions between the replication effect through Father_Rank and the wealth effect through Wealth. The usual assumption is that power and wealth should reinforce each other. Wealth begets power, and power begets wealth. This logic predicts that wealthy political insiders (i.e., those with high values of Father_Rank) should command an advantage over those less well-off candidates but endowed with a similar status as political insiders. The regression results invalidate this prior. The interaction term between Father_Rank and Wealth in columns 4 and 5 in table 2 is negative and statistically significant. The variable Father_Rank itself retains its statistical significance, and Wealth is no longer significant. What these results suggest, collectively, is that the CSE was especially biased against candidates endowed with both a political-insider status and wealth. (Further discussion about the results can be found in the appendix.)

One possible explanation is that the CSE was designed to disadvantage candidates from wealthy regions rather than candidates from wealthy households.[15] Although potential concern about overrepresentation from the wealthier south is not inconsistent with our hypothesis, it is still meaningful to distinguish between an antiwealth effect at the regional level and an antiwealth effect at the household level.

We used historical data on prefecture-level tax revenue and county-level number of households as a proxy measure of regional wealth. There is evidence in table 1 columns 1 and 3 that the PRE rankings show an advantage on the part of wealthy prefectures. We repeat these variables in some of the specifications in table 2 (cols. 1, 4, and 5). Regional wealth also favors those candidates in the PLE rankings, in striking contrast to the estimates we generated for Wealth (i.e., our wealth proxy at the household level). Most importantly, the negative coefficients for Wealth remain stable throughout various permutations. Controlling for regional wealth or county

fixed effects does not change the sign of the coefficient or the level of its statistical significance.

In summary, a battery of household socioeconomic and political variables (such as Wealth and Father_Rank) was shown to have limited impact on the rankings during the PRE and the ME, the two anonymized entrance stages of the CSE. This lends support to the widely held idea that the CSE promoted social mobility compared to strict inheritance and was effective in recruiting talent into the imperial bureaucracy. However, these household variables are found to have a statistically significant effect on the rankings during the PLE, the non-anonymized and assignment stage of the CSE. The variable Father_Rank has a positive effect, and, most interestingly, Wealth is found to have a negative effect on a candidate's ranking on the PLE. This supports our hypothesis that CSE, especially the final-stage PLE, limited power sharing with the wealthy families.

ROBUSTNESS CHECKS

We also performed robustness checks on (1) an alternative specification of the wealth variable that distinguishes the impact of marriage from that of concubinage, (2) the possibility of a nonlinear impact of family background variables, (3) a logarithm regression, and (4) a rank-ordered logistic regression. The results are described in the appendix. None of these checks affected our main results.

Additionally, we test our proposed mechanism by examining the interaction effect of our wealth variable with indicators of internal and external threats. We use the age of the emperor and other indicators as proxies for the emperor's political experience and capability and the annual number of wars with foreign entities as a proxy for external threat. Results show that our hypothesized control function of the CSE strengthened when an emperor is more experienced and when foreign threat is more urgent, consistent with the prediction of our hypothesis. Details about the interaction results are provided in the appendix.

CONCLUSION

The meritocracy of China's imperial system was widely celebrated by some of the most luminous Western enlightenment thinkers such as Montesquieu, Rousseau, and others for its purported effect of curbing the power of the crown. Our findings cast substantial doubt on this view of CSE. The CSE is shown to strengthen the power of the emperor, not to constrain him. In this article, we also provide a mechanism-based account of how CSE could have contributed to the longevity of Chinese absolutism. Our article unpacks the black box of the Chinese imperial system and delves into the mechanisms of the CSE to a far deeper extent than previous research.

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15. The founding emperor of the Ming dynasty, Zhu Yuanzhang, famously executed the head examiner of the CSE when an overwhelming number of successful PLE candidates were selected from the wealthy southern provinces of China. He ordered another ME with more candidates from the north. This episode is known as the South-North List event in Chinese history.

CSE contributed to Chinese imperial longevity by performing two political functions—the access function that diluted the power of wealth holders and the control function that restricted power sharing. Our article goes some way toward both resolving the Chinese anomaly and highlighting the European exceptionalism. Our results are potentially explanatory of a well-documented conjunction of the long ruler duration and institutional stasis of China and of why power sharing—so instrumental to political development in Europe—failed to emerge in China.

We do not claim CSE to be the sole mechanism at work. The political development of China over the past two millennia was subject to numerous factors, including geography, culture, external shocks, and so on. Our findings should be interpreted as demonstrating the effect of CSE on top of many other variables. Our focus on bureaucracy as a focal force in political development joins others (Fukuyama 2011, 2014) in identifying a fundamental difference in political development between premodern China and premodern Europe that has received less empirical and theoretical attention in the political science literature. And that difference is the role of bureaucracy in political development.[16]

The mainstream political development literature is heavily anchored on the experiences of Western Europe, and it is not surprising that much of the empirical treatment focuses on power sharing and rule of law as the canonical features of political development. Among others, Fukuyama pointed out that it was China that invented "political modernity," defined as Weberian impersonalization and meritocracy, almost a millennium ahead of Europe (Fukuyama 2011, 2014).

Our article—together with others—shows that CSE had an important effect on China's political development, possibly in a sharp contrast to a lack of a similar effect of bureaucracy in Europe. Two lags might have explained this difference. One is the timing issue. Europe imported the idea of a civil service exam from China in the eighteenth century, more than 1,000 years after China had invented it (Creel 1974; Teng 1943). More importantly, there was an institutional lag. CSE was implemented in China before the materialization of Chinese autocracy, whereas bureaucracy was introduced to Europe at a time when Europe was already well on its way toward democratic consolidation.[17] In figure A3, we show that European parliaments began to convene regular meetings long before the civil service exam was first introduced to Europe (in Prussia in 1693; Creel 1974). Bureaucracy in Europe became a technocratic, domain-specific instrument operating in an entrenched system already endowed with features associated with democracy. Our conjecture, although much beyond the scope of the current article, is that the so-called Great Divergence between premodern China and premodern Europe might have been rooted in this path-dependent dynamics.[18] We hope our research, by contributing to historical research on China and to theoretical and empirical studies of bureaucracy, regime stability and duration, and long-run political development, may open up a promising future research agenda.

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16. There is an extensive literature examining the relationship between bureaucratic organization and political development. Edward Weidner, a pioneer in the field of comparative administrations, once argued that "the outstanding priority for research from a policy point of view is to discover relationships between various aspects of the administrative process and the acceleration of national development. . . . There is an urgent policy need to focus on how national development can be accelerated by administrative means" (quoted in Savage 1964, 112). Today, the field of political science has yet to come to an agreement on the development implications of bureaucracies. Some scholars believe that effective bureaucracies are important for state development, particularly when political elites are shortsighted and even irrational (Amsden 1992; Evans 2012), while others believe that bureaucratic organization can be self-interested. Particularly in developing countries, when political organs and institutions are weak, bureaucrats have the opportunity to hijack and exploit the system (Huber and Shipan 2002; Riggs 1961).

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17. An interesting exception to this European pattern is Prussia. The Great Elector Frederick William (1620–88) was a huge fan of the Chinese system, and he implemented bureaucracy first in Europe and before democracy took root. The effect, according to Fukuyama (2014), was quite similar in Prussia to what we showed in Imperial China. The great estates were stripped of power.

18. One might ask a further question, "Why did Europe develop bureaucracy later than China?" Fukuyama believes that it was because of differences in war intensities. Wittfogel (1957) argues it was the difference in ecology. A further discussion on this issue is beyond the scope of our article.

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