

State capacity and great divergence, the case of Qing China (1644–1911)

Debin Ma

To cite this article: Debin Ma (2013) State capacity and great divergence, the case of Qing China (1644–1911), *Eurasian Geography and Economics*, 54:5-6, 484-499

To link to this article: <http://dx.doi.org/10.1080/15387216.2014.907530>



Published online: 22 Apr 2014.



Submit your article to this journal [↗](#)



Article views: 540



View related articles [↗](#)

State capacity and great divergence, the case of Qing China (1644–1911)

Debin Ma*

Department of Economic History, London School of Economics, London, WC2A 2AE, UK

(Received 18 March 2014; accepted 18 March 2014)

This article posits that the political institution of imperial China – its unitary and centralized ruling structure – is an essential determinant to China’s long-run economic trajectory and its early modern divergence from Western Europe. Drawing on institutional economics, I demonstrate that monopoly rule, a long time-horizon, and the large size of the empire could give rise to a path of low-taxation and dynastic stability in imperial China. But fundamental incentive misalignment and information asymmetry problems embedded within its centralized and hierarchical political structure also constrained the development of the fiscal and financial capacity of the Chinese state. This paper develops several sets of unique data series on warfare, central government revenue, and governmental savings (in the form of silver reserves) for seventeenth–nineteenth century Qing China, matched with an historical narrative to illustrate the problem of incentives and information as the origin of China’s economic divergence from Western Europe.

Keywords: incentive and information; political institutions; public finance; Qing China

In the recent Great Divergence debate on the question of why the Industrial Revolution happened in England or Europe, but not in China or Asia, political institutions have figured little among the multitude of hypotheses ranging from cultural and scientific traditions to factor endowments or natural resources.¹ The historiography on the role of traditional Chinese state had long been dominated and clouded by the overly simplistic framework of oriental despotism or theories of class struggle in the official Communist ideology.² On the other end, the recent revisionist school claimed that the Imperial rule of benevolence in traditional China provided an institutional framework that taxed the peasantry lightly, protected private property rights, and interfered little in the operation of well-established markets in land and labor (see Pomeranz 2000; Rosenthal and Wong 2011; Wong 2012).

The Chinese imperial political structure, marked by a centralized and unitary state and evolved in relative isolation, offers a fascinating test case on the relationship between political institutions and long-run economic growth. This article posits a new thesis to reconcile these sharply divergent viewpoints and re-interpret both the nature and role of traditional Chinese state in the Great Divergence debate. Through the compilation of new data series of public finance and incidence of warfare in Qing China (1644–1911), this article offers a re-interpretation on the political logic of Chinese empire drawing on the insights of new institutional economics. In the spirit of Olson

*Email: d.ma1@lse.ac.uk

(1993), I show that given the stream of revenue emanated from the rulers' monopoly of power and long-time horizon, an absolutist regime with total power as in imperial China could achieve a relatively stable path of low fiscal extraction coexisting with a relatively free private sector under what Olson termed a stationary banditry equilibrium.³ Going beyond Olson, I develop a framework with three major actors: the emperor, the bureaucracy, and the people to incorporate the principal-agent problem with asymmetric information embedded in a centralized hierarchical political system. In this political structure, given that the political stability is critical to ensure the conditions of monopoly of power and long-term horizon necessary for upholding the stationary-banditry equilibrium, the objective function of the imperial rulers would shift from short-run revenue maximization to long-term defense of monopoly rents. Indeed, under the binding constraints of insurrection from below and information asymmetry from within the system, fiscal extraction, and tax revenue maximization could become secondary to the survival and extension of rule in traditional Chinese state.

I argue that these constraints in the Chinese context have become a double-edged sword: they tied the predation (or the grabbing hands of) a nominally totalitarian state as much as they constrained the fiscal and financial capacity of the Chinese state to promote economic growth in the early modern era. This particular equilibrium forms a sharp contrast to the development of western European state systems in the early modern era marked by a dynamic interplay between a system of fierce inter-state competition and internal representative institutions that constrained the rulers through a formalized constitutional constraint.

This article focuses on China's last dynasty Qing (1644–1911). I divide the paper into three main sections followed by a conclusion. The first section provides an illustration of the model of traditional Chinese political structure and its theoretical implications. The second section examines the fiscal regime for Qing China (1644–1911) based on newly reconstructed data series on warfare, central governmental revenue, and governmental silver reserves. The third section analyzes the problem of incentives and information and its relevance for understanding China's early modern divergence with English and western European states.

1. A model of Chinese absolutism

From the founding of the Chinese empire in Qin (221–206 BC) until the fall of the last Imperial Qing dynasty in 1911, both the concept and practice of centralized rule with a hierarchical bureaucracy had been indisputably its most distinguishing and enduring characteristic. In this model of an absolutist regime, ultimate power was vested in the emperor who commanded property rights over all factors of production including land and labor. At the other or lower end of the spectrum are the people or masses (farmers or peasants in an agrarian regime) who are nominally the tenants and cultivators of land and resources owned by the emperor.⁴ The Imperial household is entitled to rents from agricultural output, the bulk of which went into the supply of external defense and internal security. In this model, the dominance of a single imperial household over all social or political groups is essential.⁵ Only the status of the imperial throne is hereditary. This Chinese concept of the state, as recognized by generations of scholars, is in many ways an extension of a patriarchal household. With the elimination of hereditary aristocracy, the transition from feudalism to central rule extended the stand-alone imperial household (家) into the national sovereign (国). Indeed, the unity of individual, family, and state is encapsulated in the enduring Confucian adage that one needs first to cultivate himself,

then his household, then his own state properly, in order to finally realize virtues for all under the heaven (修身 齐家 治国 平天下). The literal translation of the Chinese character for nation-state (国家) is “state-family.”⁶ With the elimination of aristocracy or self-contained political units, the administration of the empire – tax collection, suppression of violence, and some provision of minimal public goods – would be governed by direct imperial rules and orders (律令) executed by an impersonal bureaucracy.⁷

This model of Chinese autocracy is founded on a ruler-centered model, with no formal or external institutional constraint placed against the powers of the Imperial rulers and their agents over the general populace except perhaps the vaguely defined “Mandate of Heaven” (天命).⁸ There was a system of checks against bureaucratic abuses of power or dereliction of duty or to redress grievances of the general populace, but only strictly within the administrative hierarchy in a top-down fashion with the emperor often being the final arbiter. There is always the so-called insurrection constraint: if pushed below subsistence by excessive imperial or bureaucratic abuses, the masses might resort to violent rebellion to overthrow imperial power. Indeed, rebellions and insurrection had been an enduring feature of Chinese history marked by periodic political fragmentation and dynastic strife. The well-known admonishment to the Tang Chinese emperor that water can float as well as overturn a boat, just like masses do to their rulers, is a alternative characterization of the insurrection constraint.

We can interpret the insurrection constraint in light of Olson’s (1993) benchmark framework based on the analogy of stationary and roving banditry. The crux of his argument is that monopoly political rule given a long-time horizon (especially with throne being hereditary across generations as in dynasties) is more likely to lead to a “virtuous” equilibrium of relatively low level of predation or extraction and relatively high level of provision of public goods under a stationary bandit type of ruler. The longer the time horizon, and the more stable the imperial rule, the more likely the ruler’s interest could become, in Olsonian terms, “encompassing.” Hence, under conditions of monopoly rule, and a long-time horizon and low discount rate, rulers’ high valuation of the stream of future tax income over one-time or short-term extraction constitutes a self-enforcing constraint on the grabbing hands of autocratic rulers even in the absence of any formal constitutional constraint.⁹

The Olsonian equilibrium of a virtuous autocracy neglected or assumed away the principal–agent problem within the regime. This highly problematic assumption, surprisingly, was harbored within the idealized Confucian ideology of the state depicted as a paternalistic extension of a patriarchal family where the incentives and interests of family members were naturally confluent by default. But given the expansion of the empire and impersonal nature of imperial bureaucracy, the reality is often far from this ideal: the incentive schemes and information structures of the three actors – the emperor, the bureaucrat/gentry, and the masses or peasant farmers – were more likely to diverge, giving rise to potential double principal–agent problems. Indeed, a system of centralized administrative rule designed to overcome political fragmentation as often observed in a decentralized feudal type of system would then be confronted with principal–agent problems embedded within a centralized hierarchy, which tended to increase with the rising scale of the empire given the pre-modern monitoring technology.¹⁰ This constitutes what I view as the second constraint: the information constraint.

Our theoretical discussion could yield some immediate predictions on patterns of public finance in this model of Chinese absolutism. Firstly, the absolutist or totalitarian nature of Chinese imperial rule with broad-sweeping coercive power and control over factors of production such as labor and land enabled a precocious development of an

empire-wide taxation system based on an explicit and direct extraction or taxation.¹¹ This shows up as the rising importance of land tax in imperial China's fiscal revenue from at least the medieval era.¹² However, the presence of an insurrection constraint acts to moderate the magnitude of fiscal extraction for the benefit of ruler's long-term political stability. This explains the Confucian ideology of "imperial rule of benevolence" that often interprets excessive taxation as an omen of despotic rule or malfunctioning governance or even collapse throughout Chinese history. Furthermore, as the emperor was informally constrained by his weak capacity to monitor local taxation by the bureaucrats, the imperial policy of taxation evolved towards an openly declared prefixed annual tax quota at the central level with imperial recognition of some informal local taxation.¹³ Below, we illustrate our theoretical prediction with the historical case of Qing China (1644–1911).

2. Warfare, taxation, and political stability in Qing China (1644–1911)

China's last dynasty – the Qing – epitomizes a condensed history of empire building from rebellion and warfare to taxation and political and administrative centralization. The Qing Imperial monarchy was Manchus, a non-Han Chinese minority hailing from China's Northeast frontier that became a great defender of orthodox Confucian ideology and a centralized political system. The more than two-and-a-half centuries under the Qing saw roughly a tripling of the population and a doubling of territory, ushering in China's prosperous eighteenth century – the so-called "Glorious World of Kangxi and Qianlong."

The imperial Qing fiscal regime, largely inherited from the preceding Ming and earlier dynasties, reflected the nature of a highly centralized and hierarchical political system. Underpinning this fiscal regime was an elaborate accounting and reporting system cross-cutting the three layers of governmental administration at central, provincial, and county level, where in principle the use and allocation of almost every budgetary item had to be reported and matched with the detailed imperial rules and regulations.¹⁴ Although taxes were collected at the county level from the highly dispersed and decentralized producing or marketing units across a giant empire, almost all revenues were in principle under the purview of Central government or Board of Finance. There was no officially recognized local or county level finance, although the Qing did distinguish between remitted taxes (起运) and retained ones (存留), with the latter often recognized as the local cost of tax collection, which formed part of the *de facto* local administrative budget. The remitted taxes were either directly transferred to Beijing or other revenue deficit regions in China.

Our analysis here starts with the official or formal revenue captured within the reporting system. During the entire Qing leading up to the mid-nineteenth century, the share of land tax predominated with a ratio of 70 percent for 1776, with the remainder coming from some form of commercial taxes. The revenue system is largely monetized in the use of the monetary standard Kuping tael, a form of silver ingot whose weight and fineness were regulated by the Qing treasury: the Board of Finance. The in-kind tax in the form of grain tribute shipped to Beijing along the Grand Canal contributed a little more than 20 percent of the total fiscal revenue (Wang 1973, 80). On the expenditure side, about 50 percent or more was expended on direct payment to soldiers and another 17 percent used to pay for the salaries of officials and bureaucrats. Expenditure on public goods such as maintenance of river transport or famine relief seemed to be only slightly above 10 percent.¹⁵

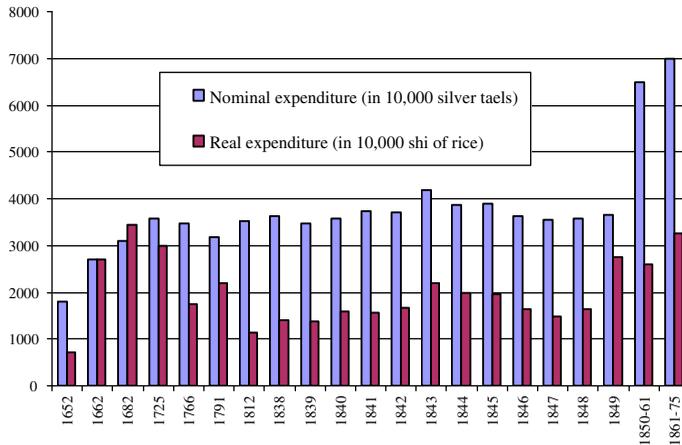


Figure 1. Government expenditure (revenue) in Qing China. Sources: Fiscal data from Iwai (2004, 37, Table 2); Hamashita ([1989] 2006, 73). Lower Yangzi grain price from Wang (1991) is used to deflate the nominal series.

Figure 1 reconstructs scattered series of formal or official expenditure (revenue) under the direct purview of the Qing imperial Board of Finance. It clearly shows the working of a fixed target for revenue for the period between 1662 and 1849: the series remained largely trendless with an average of about 36 million silver taels but a standard deviation of only 3.2. The series began to rise from the mid-nineteenth century but in real terms still remained mostly stationary or even declined in real terms between the late-seventeenth century and the mid-nineteenth century once deflated by the price of rice. Overall, it is possible that Qing official tax rates in the eighteenth century were the lowest across all dynasties in per capita terms. Indeed, despite the vast expansion of population, the Qing administrative units hardly expanded: it had only 1360 counties compared to 1180 under the Han and 1230 under the Song (Skinner 1977, 19). Similarly, the size of the Qing standing army of about eight hundred thousand around the eighteenth century was possibly lower in absolute number than during the Ming and Song (Iwai 2004, 33).¹⁶

Thanks to recent comparative work, we are now able to place the Qing imperial revenue and fiscal regime in a global context. Table 1 shows that the total nominal Chinese governmental revenue in silver terms was higher than any of the European states or Ottoman empire in the latter half of the seventeenth century and remained one of the largest throughout the eighteenth century. This is largely a reflection of China's enor-

Table 1. Qing central government revenue in international comparison (tons of silver).

	China	Ottoman	Russia	France	Spain	England	Dutch R
1650–1699	940	248		851	243	239	
1700–1749	1304	294	155	932	312	632	310
1750–1799	1229	263	492	1612	618	1370	350
1800–1849	1367					6156	
1850–1899	2651					10,941	

Source: China same as Figure 1. Other countries are from Karaman and Pamuk (2011), available at <http://www.ata.boun.edu.tr/evketpamuk/JEH2010articledatabase>. Conversion notes: one Chinese silver tael = 37 grams of silver.

Table 2. International comparison of per capita tax revenue.

	China	Ottoman	Russia	France	Spain	England	Dutch R
<i>Per capita revenue in grams of silver</i>							
1650–1699	7.0	11.8		46.0	35.8	45.1	
1700–1749	7.2	15.5	6.4	46.6	41.6	93.5	161.1
1750–1799	4.2	12.9	21	66.4	63.1	158.4	170.7
1800–1849	3.4					303.8	
1850–1899	7.0					344.1	
<i>Per capita revenue in days of urban unskilled wages</i>							
1650–1699		1.7		8.0	7.7	4.2	13.6
1700–1749	2.26	2.6	6.4	6.7	4.6	8.9	24.1
1750–1799	1.32	2.0	8.3	11.4	10.0	12.6	22.8
1800–1849	1.23					17.2	
1850–1899	1.99					19.4	

Sources: Chinese data same as Table 1. For per capita revenue in days of urban unskilled wages, 1650–1759, 1700–1709 figures are used to represent 1650–1699, 1700–1749, respectively. The averages of data for 1750–1759 and for 1780–789 are used to represent the entire period 1750–1799 for all countries except Russia, China and nineteenth century England. Data are from Karaman and Pamuk (2011). See <http://www.ata.boun.edu.tr/sevketpamuk/JEH2010articledatabase>. Nominal wages for China and England are for Beijing and London drawn from Allen et al. (2011). Nominal wages for Russia are 1 and 2.52 g of silver for 1700–1725 and 1772–1774, respectively from data supplied by Brois Mironov, listed on http://gpih.ucdavis.edu/files/Wages_Moscow_1613-1871.xls.

The averages of data for 1750–1759 and for 1780–1789 are used to represent the entire period of 1750–1799 for all countries except Russia, China and nineteenth century England. Data are from Karaman and Pamuk (2011).

mous population; roughly 10 times than that of the Ottoman Empire's, Russia's, or France's individually during the eighteenth century. In per capita terms, however, Chinese tax revenue as revealed in Table 2 ranks with Ottoman and Russian rates as among the lowest, while England and the Dutch stood at the other end, with France and Spain in between. The starkest contrast came in the first half of the nineteenth century roughly at a time when China confronted England head on in the Opium War. Qing's total central revenue amounted to only 24 percent of that of Britain's and in per capita terms, was a striking 1 percent.

The second panel of Table 2 follows the approach of Karaman and Pamuk to convert per capita tax revenue into daily wages of urban unskilled laborers. Qing's official fiscal revenue in per capita terms amounted to only just over two days' earnings of an urban unskilled worker in the early eighteenth century, and dropped further by the late-eighteenth century, reflecting the combined effects of a fixed revenue target accompanied by an explosive population expansion. This compares to the annual British per capita fiscal revenue which was equivalent to nearly 13 days of unskilled wage earnings in the late-eighteenth century (see Table 2).

While firm GDP estimates for China in the eighteenth and nineteenth centuries are unavailable, some tentative calculations by Wang (1973, 133) show that his more comprehensive version of tax revenues (which includes guess-estimates for the costs of tax collection as well as various extralegal local surcharges) amounted to a mere 2.4 percent of NNP even in the 1910s.¹⁷ This again contrasts with Britain, where total tax revenue rose by a stunning 17-fold from 1665 to 1815, with its share in national income surging from 3 to 18 percent between 1688 and 1810 (O'Brien 1988, 3). Unlike the Qing taxation system, the surge in British tax receipts came disproportionately from indirect taxes such as customs and particularly on excise duties, which together accounted for

nearly 70 percent of total revenue towards the end of the eighteenth century (O'Brien 1988, 9–10; Daunton 2012, 119).

However, the above comparative analysis based on the scattered series of average annual official revenue of about 30 million taels only reflected the normal conditions under times of relative stability, bypassing the recurrent episodes of political instability when extraordinary revenue had to be raised. While we do not have annual series of official governmental revenue, recent scholarship has reconstructed relatively continuous series of the Board of Finance warehouse (银库) receipts which recorded the actual inflow (usually consisting of tax remittance from the provinces) and outflow (governmental payment for various expenditure from the warehouse) (Shi and Xu 2008). The cumulative stocks of silver reserves at the warehouse from the balances of inflows and outflows – in the absence of organized public debt – can be viewed as the equivalent of cumulative stock of governmental savings. They provide us a rare insight into the overall Qing fiscal position on a relatively continuous time frame.

Figure 2 shows the available series of annual inflows and outflows of silver at the silver warehouse of the Board of Finance, which, at an average rate of about 11 million taels, amounted to less than a third of the average annual tax revenue of 36 million. So, the remaining two-thirds of total annual Qing revenue that did not enter the Board of Finance warehouse receipts were expended either as direct transfers between provinces or expenses incurred outside Beijing. Although trendless, the annual series of inflows and outflows display great fluctuations, with sharp rises in outflows often associated with major warfare expenditure.

Figure 3 plots the annual stock of silver reserves against episodes of warfare and conveys a fuller and more telling portrayal of the relationship between Qing fiscal policy and political stability as predicted in an Olsonian type of stationary banditry equilibrium. In its early years of military conquest in the 1660s, the Qing's silver reserves started out as minimal but then gradually built up during the eighteenth century, particularly when the incidence of warfare declined sharply and political stability set in. As a non-Han minority ruler of China, Qing's earlier reliance on Chinese generals and

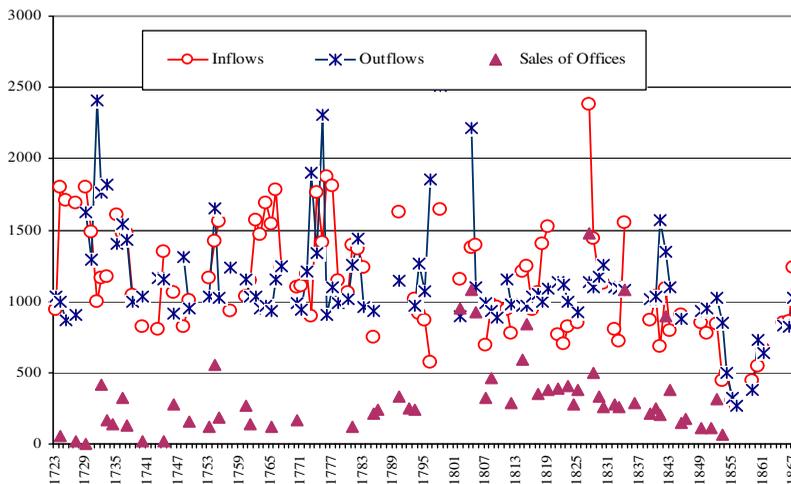


Figure 2. Annual inflows and outflows of silver reserves at the Qing board of revenue (in 10,000 taels).

Sources: Shi (2008, 272–281). Sales of office revenue data from Luo ([1936] 2010, 6–7).

military force to suppress the former Ming loyalists led to the build-up of relatively autonomous power bases and political structures in Southern China and hence created real institutional possibilities for feudalization or decentralization. This, however, was to end by 1683 when Emperor Kangxi (1661–1722) quashed the rebellion of these so-called “three feudatories” and annexed their territories into Qing’s centralized administration. Two years later, Kangxi broke the resistance of the rebellious naval kingdom of Zheng Chenggong and officially integrated the island of Taiwan into the Qing administration. In the final decades of the seventeenth century, the Qing contained the threat from an expansionary Russia by signing the Treaty of Nerchinsk in 1689 and conquered China’s north-western territory in 1696. From 1720, the Qing attained the control of Tibet with the installation of a new Dalai Lama. Clearly, by the early eighteenth century, the Qing had succeeded in the consolidation of power and establishment of monopoly rule over China’s historically largest ever territory, with further extension of suzerainty across much of East and Southeast Asia through the so-called tributary order.¹⁸

As can be seen in Figure 3, when Kangxi emperor famously declared in 1712 that there will be no additional head taxes on newly added taxable population (续生人丁, 永不加赋) and when Yongzheng further consolidated the largely fixed head tax into land tax (摊丁入地) in 1722, Qing’s fiscal position as measured by the accumulation of silver reserves became increasingly favorable. By the 1790s, the reserves peaked at over 70 million, roughly equivalent to two years of total tax revenue. It was also during these glorious decades of Kangxi and Qianlong that numerous tax exemptions were granted in times of bad harvest as further hallmarks of the Imperial rule of benevolence (Zhang [1898] 2002, 19–21). The suppression of the White Lotus rebellion around the turn of the eighteenth century (toward the end of the Qianlong rule) led to a sharp drop in silver reserves. Things became worse by the turn of the century when the value of silver rose persistently upward due to massive opium imports as well as the collapse of Spanish empire, the world’s largest silver supplier. The rising value of silver contributed to difficulties in the collection of Qing fiscal revenue, which was levied in silver tael but collected from small holders who typically paid in copper cash.¹⁹ Figure 2 reveals

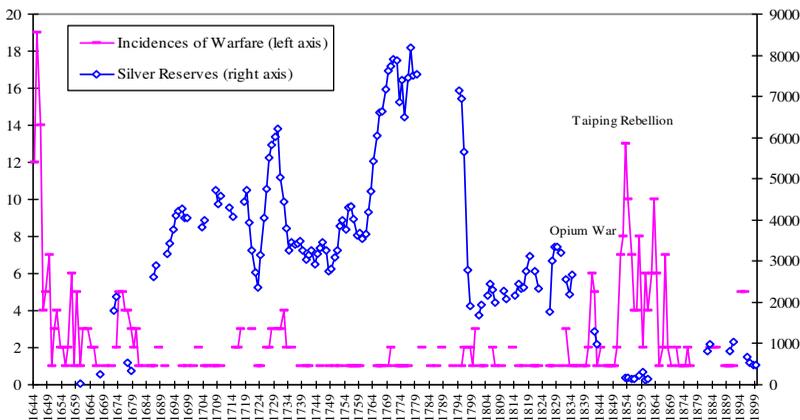


Figure 3. Annual average of recorded incidences of warfare (on the left axis) and silver reserves (in 10,000 taels on the right axis) in Qing (1644–1911).

Sources: Incidences of Warfare calculated from *A Chronology of Warfare in Dynastic China* (Zhongguo Lidai Zhanzheng Nianbiao) by China’s Military History Editorial Committee (Ed.) (2006). Silver Reserves are from Shi (2008, 272–281).

that the massive sale of governmental offices and titles particularly in the years of 1804, 1827, and 1834 reached over 10 million taels, nearly one-third to one-half of the annual central governmental revenue at ordinary times. They represented Qing's near-desperate measures to replenish the Qing's dwindling silver stocks. The 1840s Opium War followed by the devastating Taiping rebellion almost completely drained the Board's coffers of its silver reserves and left the Qing largely bankrupt by the mid-nineteenth century.²⁰

3. The limits and dilemma of the Chinese model

The stylized picture as described above of Qing public finance confirms some of our theoretical predictions. The absolutist and totalitarian nature of the Chinese state provided both the legitimacy and an empire-wide bureaucratic infrastructure to coerce direct taxation on properties, in this case, land, in an agrarian empire. The Qing imperial ideological commitment to a fixed and low level of taxation – the hallmark of imperial rule of benevolence – seems like a rational response to the insurrection and information constraints. The fixed annual target of revenue was supplemented by a system of cash (silver) reserves in Board of Finance in times of changing circumstances.

There are, however, fundamental contradictions in Qing's ideological commitment to an annual target of fixed tax quota at a time of rapid population and territorial expansion. The contradiction is further exacerbated by the absence of any officially designated local finance. The stated objective of the formal Qing fiscal system had been all-inclusive, but the reality is far from the ideal with increasingly larger components of the so-called informal, unofficial or extraordinary revenue incurring beyond the official reporting and accounting system. As Zelin (1985, 28) shows, the retained revenues, which were the *de facto* local taxation, only amounted to about 21.5 percent of total revenue in 1685. Even among this 21.5 percent, the bulk of it was expended on local expenses connected with the center, such as the provision for imperial armies and imperial relay stations. As the official tax revenue allocated to the local administration fell far short of the requirements of normal administration – often insufficient to cover the salaries of official bureaucrats let alone their expenses and support staffs such as secretaries, clerks, runners, and personal servants, various levels of bureaucrats relied on informal or the infamous extralegal surcharges (苛捐杂税) beyond the official level. Zelin's study documents in detail the sources of these revenues ranging from the levying of various surcharges, manipulation of weights and measures and currency conversion in tax collection, falsifying reports, shifting funds across fiscal seasons or years, retaining commercial tax revenue, hoarding tax revenue from newly claimed land, and exacting contributions and donations from local farmers or merchants. Provincial level officials and their "unofficial" staff relied on the extraction of gifts and contributions from the lower level officials and engaged in practices such as skimming funds in purchases and allocations (buying at a low price but reporting a high price) (Zelin 1985, 46–71). The biggest irony is that as none of these practices were legal in name, Iwai's (2004) study documents a case where the officials involved had to pay-off the threat of blackmail from well-informed local elites who had threatened to expose if a share of the spoils were not rewarded to them (3–4).

Reliance on informal local taxation and the employment of unofficial staff for public administration often led to the privatization of public services. The classic book by Tung-tsu Ch'u (1962) on Qing local government offers a vivid portrayal of county clerks extracting bribes with the threat of delaying legal cases submitted, runners

demanding so-called “chain-release money” from the families of the accused who would otherwise have been put under chain and torture, retaining part of the “recovered goods” from theft or robbery, or sometimes resorting to outright extortion of wealthy residents through false accusations. Even the porters guiding the magistrate’s office would demand pay for handing in documents or warrants. All in all, clerks, runners, and personal servants often collaborated in sharing the spoils of corruption. This nexus of corruption at the local level is a pale reflection of the much larger networks of collusion at higher levels of the state machinery. Although levels of extraction were hierarchical from the provincial level down, deceit and collaboration were mutual across levels, creating layers of cover-ups among the officials and staffs that would frustrate any monitoring attempts.²¹ One seminal study by Chang (1962) on Chinese gentry income put non-official income extracted from below (that is excluding income earned through business or other activities) by different levels of officials at a whopping 19 times their official salaries.²² It is important to note that it is not necessarily the level of taxation, which itself – even including the extra-components – may still rank far lower than in England, but informal, unregulated and often arbitrary nature of these extractions that may help explain the apparent contradiction of the very low rate of tax extraction measured by the receipts of the Board of Finance and the rapacious image of the Qing regime.

The contradiction is reflective of a fundamental logical flaw embedded in any type of principal–agent relationship within the bureaucratic structure of an absolutist regime where the ruler served the dual role of the principal and the potential enforcer of the principal agent contract. In fact, the Qing emperors recognized the merits of a formalized and transparent taxation system, which could better protect the interests of both the tax-paying masses and the state. The well-known fiscal reforms carried out by the Yongzheng emperor from 1724 is such a case in point. The reform increased surcharges to land taxes and essentially legitimized and formalized previously “illegal” local extractions into hefty salary subsidies to various levels of officials, aptly named as “silver for nurturing official probity” (养廉银). While achieving some degree of success initially, the policy eventually had to be largely abandoned towards the end of the eighteenth century as the formalization of local informal taxation may have had the unintended effect of exposing previously hidden revenue to possible extraction from the upper level officials or even by the imperial throne itself especially in times of financial distress (Zelin 1985, Chap. 7).²³

Partly as an outcome of these extractions within the administrative hierarchy, additional informal and extra-legal surcharges began to grow outside the already much expanded formal tax quota formalized under the Yongzheng reform. The reform ended in self-defeat. The irony is that the informal or extra-legal taxation – being outside the official purview – became the most secure source of local finance in this hierarchical system. The Qing rulers’ eventual acquiescence and accommodation of local corruption and extra-legal taxation beyond a nominally fixed target of tax revenue became a rational compromise to reconcile the inherent contradiction between the nominally absolutist power of the state and its limited capacity to govern. When bureaucratic abuses and extractions became so excessive as to directly threaten imperial stability and dynastic survival, the state-controlled legal system under Qing would often punish severely but selectively high profile cases to pacify popular discontent.²⁴ Hence, the bane of “corrupt bureaucrats and agents” long decried throughout Chinese history was merely a part of the system rather than an anomaly.²⁵

All this implies that the Qing public finance was fragile and vulnerable in the face of crises that could see a sudden surge of expenditure. Chen's (1992) meticulous yet incomplete calculation of expenses for military warfare shows a highly uneven inter-temporal pattern, ranging from mere several tens of thousands of taels in mid-eighteenth century to a peak of nearly 150 million taels for suppressing the White Lotus Rebellion during 1796–1804.²⁶ Given that the Qing Board of Finance, even at its peak, had 70 million taels in its coffers, equivalent to no more than 3–5 percent of GDP based on Wang's calculation, Qing had little room to manoeuvre within the normal fiscal framework to weather these shocks (Wang 1973). Chen (1992) has carefully categorized the sources of the extraordinary revenue raised to cover the military expenditure. These range from forced on-site confiscation and predations, advanced collection of land taxes or temporary but arbitrary surcharges on existing categories of taxation, increasing the share of remitted revenue at the expense of retained revenue for the local government, to forced contribution from wealth holders, and the sale of governmental offices and titles (Chen 1992). In the devastating mid-nineteenth century Taiping rebellion, the desperate Qing eventually succumbed to monetary debasement (see Chen 2008).

Here, we see in a political regime marked by the absence of sound fiscal capacity or a well-functioning market for public debt that deterioration in public finance could become a direct threat to private property rights, which in turn reinforces the traditional Chinese ideology towards political stability and monopoly imperial rule.²⁷ In many ways, the ideological pre-occupation with Qing may have also predisposed Qing towards territorial expansion that could potentially internalize any disruptive external rebellions or pre-empt looming fiscal crises. This interlocking mechanism between ideology and institution accounts for both the durability and resilience of the Qing regime along a relatively stationary trajectory until the onset of Western Imperialism in the mid-nineteenth century.

4. Conclusion: state capacity and great divergence

Through a narrative model of the Chinese state, this article stresses the importance of institutions as determinants of both the long-run economic trajectory and the great divergence between China and Western Europe in the early modern era. My new interpretation refutes as well as reconciles both the theses of oriental despotism and the revisionist view of Qing imperial rule of benevolence. By focusing only on the nominally absolutist nature of Chinese imperial power, the school of Oriental Despotism neglected the powerful countervailing forces of insurrection and information constraints. At the same time, the revisionist school has clearly taken too literally the official rhetoric of benevolence, while neglecting the underlying dark realities of Chinese absolutism.

Like many traditional empires, the Chinese model of absolutism reveals the paradox of strong power and weak governance. It supports another affirmation of the paradoxical pattern long recognized in European fiscal regimes: that constitutionally constrained regimes may be more effective, *ceteris paribus*, in extracting a much higher rate of tax revenue than absolutist regimes. Meanwhile, the differences in levels of fiscal revenue could also be – with important qualifications – reflective of large differentials in the development of fiscal and financial institutions and perhaps of gaps in per capita income. Indeed, other studies point to the combination of low shares of fiscal revenue, high interest rates, and low levels of financial intermediation as symbiotic with the low per capita incomes that characterize contemporary underdevelopment (Acemoglu 2005; Besley and Ghatak 2010; Besley and Persson 2011).²⁸ Available evidence shows that

for the seventeenth and eighteenth centuries, private interest rates in traditional China exhibited a wide variation, but even at the lower end averaged about 20 percent per annum, a rate that was possibly four or five times the level of that in England and the Netherlands (see Peng et al. [2009] for China and Epstein [2000] for Europe). And this ratio reversed for real wage rates of unskilled urban workers, where the Chinese rates for the seventeenth – nineteenth centuries were probably a third or less of those in the same two European countries (Allen et al. 2011). This factor price ratio differential at the two ends of Eurasia forms a sharp contrast to the differentials in per capita tax revenue. Indeed, if we accept Allen's (2009) recent argument on the importance of differential factor prices – a higher ratio of wages to capital costs and resource prices in England than in China – as being instrumental in inducing the Industrial Revolution in England rather than in China; I argue these differential factor prices themselves need to be explained rather than taken as exogenous.

Future research should seek to define the theoretical implications on the distinctions between the informal and self-enforcing constraints (such as insurrection and information constraints) and the formalized constitutional constraints on the power of executives. In China, informal constraints led to the sharing of economic rents restricted within the bureaucratic or political-social hierarchy, which inhibited the rise of independent economic or commercial interest groups. Moreover, the often hidden and decentralized nature of these rents in the form of informal or extra-legal taxation or corruption posed particular threat to economic activities that are most intensive in capital, informational, or contractual needs. In this regard, one could surmise that unique combination of representative institution within and jurisdictional fragmentation among the European states may have key institutional features that help relieve the insurrection and information constraints embedded in any hierarchical political structure and pave the way for the rise of the modern West.²⁹

Acknowledgements

I benefitted greatly from discussion with from Loren Brandt, Stephen Broadberry, Mark Dincecco, Phil Hoffman, Cai Hongbin, Peter Lindert, Liu Guanglin, Paul Davis, Brad DeLong, Long Denggao, Avner Greif, Deirdre McCloskey, Joel Mokyr, Patrick O'Brien, Maarten Prak, Leandro Prados de la Escosura, Kenneth Pomeranz, Paul Rhode, Thomas Rawski, Tirthankar Roy, Shi Zhihong, Tuan-Hwee Sng, Jan Luiten van Zanden, Oliver Volckhart, Gavin Wright, Yan Se, Yuan Weipeng and Zhou Li-an and the seminar participants at University of Utrecht, the Netherlands, LSE, University of Carlos III, Madrid, Fudan University, Tsinghua University, Guanghua School of Business, Beijing University, UC Berkeley, Stanford University, Northwestern University, University of Michigan, IMT (Luca, Italy). Research for this paper is supported by Global Price and Income Project funded by NSF under the leadership of Peter Lindert and European Commission's 7th Framework Programme for Research *Historical Patterns of Development and Underdevelopment: Origins and Persistence of the Great Divergence* (HI-POD). I alone remain responsible for all the errors.

Notes

1. See Ma (2004) for a summary of these hypotheses. Also, see Brandt, Ma, and Rawski (2014).
2. For oriental despotism, see Wittfogel ([1957] 1976). Also see Wang ([1981] 2005) for a Marxist perspective of the traditional Chinese state.
3. For new institutional economics literature related to the state, see North (1981), Olson (1993), and North, Wallis, and Weingast (2009).

4. The imperial ownership of land is expressed by the traditional notion of “Wang-tu wang-min (王土王民, king’s land, king’s people),” which appeared in *The Book of Songs* compiled during the age of Warring States (403–221 BC) and persisted throughout the imperial period (see Kishimoto 2011).
5. At the founding of the Qin empire, China’s First Emperor Qin Shi Huang (秦始皇), followed the advice of his Legalist (法家) chancellor, Lishi (李斯), and opted against a feudal (封建) type of political arrangement, where the imperial power would coexist with various regional elites or aristocrats often with hereditary status. Instead, they implemented a prefectural system (郡县制) of empire-wide administrative units and household registration “bianhu qimin” (编户齐民). See Du (1990).
6. See Qian (1966, 8–12).
7. The stand-alone nature of Chinese rulers was consistent with countless historical examples of the rulers turning against the landed or commercial elites as well as bureaucrats. For Ming emperors’ brutal punishment of landlords and bureaucrats see Huang (1974). For a critique of how this important distinction between Chinese and Western political regimes had been blurred by the dogmatic application of Marxist ideology in China, see Feng (2006).
8. The problem of the absence of formal constraints on the emperor is succinctly summarized by Huang’s (1974) study of Ming imperial system, the heyday of Chinese imperial despotism: “... Final authority (was) rested in the sovereign, bureaucratic action was limited to remonstrance, resignation, attempted impeachment of those who carried out the emperor’s orders, and exaggeration of portents as heaven-sent warnings to the wayward emperor. When all these failed, there was no recourse left” (7).
9. See Besley and Ghatak (2010) for a simple reputation-based game-theoretic model that establishes a positive relationship between the ruler’s rate of expropriation and his political discount rate, leading to the rise of what they refer to as a case of endogenous property rights (private property rights protected without formal institutional commitment).
10. See Sng (2010) for a model on informational diseconomies of scale in Chinese empire. The continuous cooptation of heterogeneous or alien political units into the centralized administrative hierarchy (through force or other means) became a historical trade-off between external threat and internal insurrection.
11. This contrasts with seventeenth-century England where parliamentary limits to taxation placed constitutional constraints to both land tax and its administration. English public finance increasingly turned to indirect taxation over commerce, whose burdens were often implicitly transferred to third parties. See Daunton (2012).
12. See Ma (2012) for an overview of the long-term transition in political and fiscal regimes in dynastic China.
13. Theoretically, this approach can be analyzed in a standard principal–agent model framed in the agrarian setting of land and labor contracts. If the principal (the landlord or the state) has weak ability to monitor the agent (either the bureaucrat or the farmers in this case), it is economically more efficient to opt for a fixed rent contract over a share or wage contract. See White (2004) for a similar theoretical approach on the French taxation system in the Ancien Regime.
14. See Iwai (2004) and Shi and Xu (2008) for a description of the Qing fiscal institution.
15. See Shi and Xu (2008, 68) and Iwai (2004, 32).
16. The Qing Imperial court had its own source of revenue and expenditure under the office of the so-called Nei-wu-fu (内务府). Overall, the share of Nei-wu-fu budget was small relative to that of the Board of Finance. The eighteenth-century Qing emperors seemed to take pride in their relative frugality as Kangxi himself testified, in our Dynasty, the total sum of military and civil expenses is about the same as that of the Ming period. But speaking of the Court expenses, the aggregate amount spent by the Court is even less than that for one palace of the Imperial Concubines. The accumulated sum of the past 36 years is less than that spent in one year’s time during the Ming (cited in Chang [1972, 271]).
17. Wang’s (1973) result also seems broadly consistent with the daily wage conversion in Table 2.
18. See Spence (1990) for a standard narrative.
19. See Lin (2006) for the issue of silver appreciation in the early twentieth century.
20. For a detailed compilation of military expenditure on major warfare in Qing, see Chen (1992).

21. It is often known that sometimes staffs kept a duplicate set of account books, with the set for local use marked by secret codes impenetrable from official examination. These special types of account books even circulated informally within a fairly wide area. See Zelin (1985, 240).
22. We can link these unofficial income estimates with total tax revenue. The total unofficial income for officials below the province, according to Chang (1962), stood at 63 million taels, which were 81 percent of the total official tax quota around 1884. This seems to point to the validity of the estimate by Wang (1973) that roughly doubled the official tax quota to include the entire tax revenue for 1753 (72).
23. Even China's highest authority of imperial revenue had difficulty in refusing extraction from the emperors. In a memorandum sent by the Board of Revenue to the Emperor in 1872, the minister stated: "A line must be drawn between the *Nei-wu-fu* (the Imperial Household) and the government Treasury which has been established by our early ancestors ... The revenue of this Board is fixed, but the borrowing of the *Nei-wu-fu* is indefinite. During these recent years ... [we] request your majesty to instruct the *Nei-wu-fu* to observe faithfully the tradition ... so that unnecessary expenses can be curtailed and national revenue can be preserved ..." (cited in Chang [1972, 269]).
24. For periodic and selective capital punishment on the so-called "economic crime" meted out to high level government officials, see He (1998, 293–295). Huang (1974) counted in detail the sorry fate of all the 89 most senior ministers of Revenue under the Ming from 1380 (13–14). For the nature and problem of the so-called "disciplinary mode of justice" in traditional China, see Ma (2011) and Stephens (1992).
25. See Iwai (2004, Chaps. 1, 2) for a nuanced and succinct exposition on this thesis.
26. See Chen (1992, 275).
27. The question on the absence of a viable market for public debt in traditional China is beyond the scope of this paper. Max Weber at one point hypothesized that the absolutist and unitary nature of traditional Chinese political regime may have constrained her fiscal and financial capacity (Weber 1951, 103–104). It is possible that the failed development of a public debt market in traditional China could be attributable to the combined absence of an internal constitutional constraint and political fragmentation (or inter-state competition) that could the bind the rulers to credible repayment of sovereign debts.
28. Also, see Vries (2012) for a comparison of provision of public goods in China and Britain in eighteenth century.
29. On the rise of Parliaments and the West, see North and Weingast (1989), Brewer (1989, 66–67), Greif (2005), Prak and van Zanden (2006), Van Zanden, Buringh, and Bosker (2012), and Mokyr and Nye (2007).

References

- Acemoglu, Daron. 2005. "Politics and Economics in Weak and Strong States." *Journal of Monetary Economics* 52: 1199–1226.
- Allen, Robert C. 2009. *The British Industrial Revolution in Global Perspective*. Cambridge: Cambridge University Press.
- Allen, Robert C., Jean-Pascal Bassino, Debin Ma, Christine Moll-Murata, and Jan Luiten van Zanden. 2011. "Wages, Prices, and Living Standards in China, 1738–1925: In Comparison with Europe, Japan, and India." *The Economic History Review* 64 (S1): 8–38.
- Besley, Tim, and Maitreesh Ghatak. 2010. "Property Rights and Economic Development." In *Handbook of Development Economics*, edited by Dani Rodrik and Mark Rosenzweig. Amsterdam: Elsevier.
- Besley, Tim, and Thorsten Persson. 2011. *Pillars of Prosperity: The Political Economics of Development Clusters*. The Yrjö Jahnsson Lectures. Princeton: Princeton University Press.
- Brandt, Loren, Debin Ma, and Thomas Rawski. 2014. "From Divergence to Convergence: Re-evaluating the History Behind China's Economic Boom." *Journal of Economic Literature* 52 (1): 45–123.
- Brewer, John. 1989. *The Sinews of Power: War, Money and the English State, 1688–1783*. London: Unwin Hyman.
- Ch'u, T'ung-tsu. 1962. *Local Government in China Under the Ch'ing*. Cambridge, MA: Harvard University Press.

- Chang, Chung-li. 1962. *The Income of the Chinese Gentry: A Sequel to the Chinese Gentry*. Seattle: University of Washington Press.
- Chang, Te-Ch'ang. 1972. "The Economic Role of the Imperial Household in the Ch'ing Dynasty." *The Journal of Asian Studies* 31: 243–273.
- Chen, Feng. 1992. 清代军费研究 [A Study on Qing Military Expenditure]. Wuhan: Wuhan University Press.
- Chen, Feng. 2008. 清代财政政策与货币政策研究 [A Study on Qing Fiscal and Monetary Policies]. Wuhan: Wuhan University Press.
- China's Military History Editorial Committee, ed. 2006. *Zhongguo Lidai Zhanzheng Nianbiao* [A Chronology of Warfare in Dynastic China]. 2nd ed. Beijing: Jiefangjun.
- Daunton, Martin. 2012. "The Politics of British Taxation, from the Glorious Revolution to the Great War." In *The Rise of Fiscal States*, edited by Bartolomé Yun-Casalilla, Patrick K. O'Brien, and Bartolome Comin Francisco Comin, 111–142. Cambridge: Cambridge University Press.
- Du, Zhengshen. 1990. 编户齐民: 传统政治社会结构之形成 [Bianhu Qimin: The Formation of Traditional Political and Social Structure]. Taipei: Lianjing.
- Epstein, Stephan R. 2000. *Freedom and Growth: The Rise of States and Markets in Europe, 1300–1750*. Vol. 17. London: Routledge Explorations in Economic History.
- Feng, Tianyu. 2006. 封建考论 [Feudalism: A Review and Survey]. Wuhan: Wuhan University Press.
- Greif, Avner. 2005. "Commitment, Coercion, and Markets: The Nature and Dynamics of Institutions Supporting Exchange." In *The Handbook for New Institutional Economics*, edited by Claude Menard and Mary M. Shirley. Norwell, MA: Kluwer Academic.
- Hamashita, Takeshi. [1989] 2006. 中国近代经济史研究 [Research on Modern Chinese Economic History, Maritime Customs Finance in Late Qing and Market Networks of Treaty Ports]. Nanjing: Jiangsu People's Press. (Translated from Japanese).
- He, Ping. 1998. 清代赋税政策研究 [Research on Qing Taxation Policy]. Beijing: Chinese Academy of Social Science Press.
- Huang, Ray. 1974. *Taxation and Governmental Finance in Sixteenth-century Ming China*. London: Cambridge University Press.
- Iwai, Shigeki. 2004. 中国近世财政史の研究 [A Study on Early Modern Fiscal History of China]. Kyoto: Kyoto University Press.
- Karaman, Kivanc, and Sevket Pamuk. 2011. "Ottoman State Finances in European Perspective (1500–1914)." *Journal of Economic History* 70: 593–629.
- Kishimoto, Mio. 2011. "Property Rights, Land and Law in Imperial China." In *Law and Long-term Economic Development, and Eurasian Perspective*, edited by Debin Ma and Jan Luiten van Zanden. Stanford: Stanford University Press.
- Lin, Man-hong. 2006. *China Upside Down, Currency, Society, and Ideologies, 1808–1856*. Cambridge, MA: Harvard University Press.
- Luo, Yudong. [1936] 2010. 中国厘金史 [History of Chinese Lijin Tax]. Shanghai: Commercial Press.
- Ma, Debin. 2004. "Growth, Institutions and Knowledge: A Review and Reflection on the Historiography of 18th–20th Century China." *Australian Economic History Review* (Special Issue on the Economic History of Asia) 44: 259–277.
- Ma, Debin. 2011. "Law and Economy in Traditional China: A 'Legal Origin' Perspective on the Great Divergence." In *Law and Long-term Economic Change*, edited by Debin Ma and Jan Luiten van Zanden. Stanford: Stanford University Press.
- Ma, Debin. 2012. "Political Institution and Long-run Economic Trajectory: Some Lessons from Two Millennia of Chinese Civilization." In *Institutions and Comparative Economic Development*, edited by M. Aoki, T. Kuran, and G. Roland, 78–98. Basingstoke: Palgrave Macmillan.
- Mokyr, Joel, and John Nye. 2007. "Distributional Coalitions, the Industrial Revolution, and the Origins of Economic Growth in Britain." *Southern Economic Journal* 74: 50–70.
- North, Douglass C. 1981. *Structure and Change in Economic History*. New York: W. W. Norton.
- North, Douglas C., and Barry R. Weingast. 1989. "Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-century England." *The Journal of Economic History* 49: 803–832.
- North, Douglas C., John Wallis, and Barry Weingast. 2009. *Violence and Social Orders*. Cambridge: Cambridge University Press.

- O'Brien, Patrick Karl. 1988. "The Political Economy of British Taxation, 1660–1815." *The Economic History Review* 41: 1–32.
- Olson, Mancur. 1993. "Dictatorship, Democracy, and Development." *The American Political Science Review* 87: 567–576.
- Peng, Kaixiang, Zhiwu Chen, Weipeng Yuan, and Huining Cao. 2009. "水浅而舟重: 近代中国农村借贷中的市场机制 [Shallow Water and Heavy Boat: Market Mechanism in Modern Chinese Rural Credit]." In 中国工商业与金融史的传统与变迁 [The Evolution of Chinese Industry, Commerce and Finance, an International Symposium], edited by Qiugeng Liu and Debin Ma. Shijiazhuang: Hebei University Press.
- Pomeranz, Kenneth. 2000. *The Great Divergence: China, Europe, and the Making of the Modern World Economy*. Princeton: Princeton University Press.
- Prak, Maarten, and Jan Luiten van Zanden. 2006. "Towards an Economic Interpretation of Citizenship: The Dutch Republic between Medieval Communes and Modern Nation-states." *European Review of Economic History* 10: 111–145.
- Qian, Mu. 1966. 中国历代政治得失 [The Gains and Losses of Chinese Dynastic Politics]. Hong-kong: Great China.
- Rosenthal, Jean-Laurent, and Roy Bin Wong. 2011. *Before and Beyond Divergence*. Cambridge, MA: Harvard University Press.
- Shi, Zhihong. 2008. 清代户部银库收支和库存统计 [Statistics on the Stocks, Receipts, and Expenditures of the Vaults of the Qing Board of Revenue]. Fuzhou: Fujian People's Press.
- Shi, Zhihong, and Yi Xu. 2008. 晚清财政: 1851–1894 [Public Finance in Late Qing: 1851–1894]. Shanghai: Shanghai University of Finance and Economics.
- Skinner, G. William. 1977. "Introduction: Urban Development in Imperial China." In *The City in Late Imperial China*, edited by G. William Skinner and Hugh D. R. Baker, 23–25. Stanford: Stanford University Press.
- Sng, Tuan-hwee. 2010. *Size and Dynastic Decline: The Principal-Agent Problem in Late Imperial China 1700–1850*. Evanston, IL: Department of Economics, Northwestern University.
- Spence, Jonathan D. 1990. *The Search for Modern China*. New York: W. W. Norton.
- Stephens, Thomas B. 1992. *Order and Discipline in China: The Shanghai Mixed Court, 1911–27*. Seattle: University of Washington Press.
- Van Zanden, Jan Luiten, Eltjo Buringh, and Maarten Bosker. 2012. "The Rise and Decline of European Parliaments, 1188–17891." *The Economic History Review* 65: 835–861.
- Vries, Peer. 2012. *Public Finance in China and Britain in the Long Eighteenth Century*. LSE Department of Economic History Working Papers, No. 167/12. <http://www.lse.ac.uk/economicHistory/workingPapers/2012/WP167.pdf>.
- Wang, Yanan. [1981] 2005. 中国官僚政治研究 [Study on Chinese Bureaucratic Politics]. Beijing: Chinese Academy of Social Science.
- Wang, Yeh-chien. 1973. *Land Taxation in Imperial China, 1750–1911*. Harvard East Asian Series 73. Cambridge, MA: Harvard University Press.
- Wang, Yeh-chien. 1991. "Secular Trends of Rice Prices in the Yangzi Delta, 1638–1935." In *Chinese History in Economic Perspective*, edited by T. G. Rawski and L. M. Li. Berkeley: University of California Press.
- Weber, Max. 1951. *The Religion of China, Confucianism and Taoism*. New York: Free Press.
- White, Eugene N. 2004. "From Privatized to Government-administered Tax Collection: Tax Farming in Eighteenth-century France." *The Economic History Review* 57: 636–663.
- Wittfogel, Karl A. [1957] 1976. *Oriental Despotism: A Comparative Study of Total Power*. New Haven, CT: Yale University Press.
- Wong, Roy Bin. 2012. "Taxation and Good Governance in China, 1500–1914." In *The Rise of Fiscal States, a Global History, 1500–1914*, edited by Bartolome Yun-Casalilla and Patrick O'Brien, 353–377. Cambridge: Cambridge University Press.
- Zelin, Madeline. 1985. *The Magistrate's Tael: Rationalizing Fiscal Reform in Eighteenth-century Ch'ing China*. Berkeley: University of California Press.
- Zhang, Zhidong. [1898] 2002. 劝学篇 [Exhortation to Study]. Beijing: Huaxia.