

Public Finance and Political Order: Lessons from China's Economic Development in the Late Nineteenth Century

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ABSTRACT (Return to Index)

The historical circumstances of the late 19th century provided the impetus for and possibilities of industrial growth in China. However, economic development in this period occurred at a very slow pace, and China's previous prominence in the world economy quickly diminished because of sluggish growth. What had inhibited China from undergoing rapid industrial development during this period? This paper examines the political economy dynamics that blunted China's response to the challenges of development. In particular, this paper proposes that the failure to mobilize sufficient fiscal resources was a major impediment to China's development efforts. The government failed to increase the revenue capacity of the existing public finance system because of the institutional inflexibilities that had been built into the overarching regime of political economy. This paper is able to show that the same set of institutions, which had facilitated economic growth and political stability in China during the earlier periods, were also responsible for the fiscal incompetence and resulting frustrated economic development in the late 19th century.

.01. INTRODUCTION (Return to Index)

The ever-accelerating pace of technological changes and global economic integration is bringing profound challenges to Asia's existing political and economic institutions as they enter the 21st century. However, this is not the first time that Asia has found itself in the midst of far-reaching changes in its external environment. In particular, during the 19th century, the advent of the technologically and economically superior West created great obstacles, as well as opportunities,

for this region to promote modern economic growth. How did the political and economic institutions in Asia respond to this new political and economic reality? How were these institutions in turn transformed in the process? Lessons from the past can provide important clues to our understanding of the challenges facing Asia today.

In this paper, I seek such insights from the transition of the Chinese economy and government during the last years of the Qing (清) dynasty (1644-1911). [1] Between 1700 and 1840, not only did China experience extensive economic growth, but also enjoyed stability and relatively unchallenged political dominance in the region.[2] However, from the mid-19th century on, China was confronted with a different external reality. The advent of the Western colonial powers brought severe macroeconomic disruptions, intensified competition by foreign imports, and substantial resource loss through indemnity payments.[3] Economic growth stagnated, and mechanized industrial production, modern infrastructures (such as the railway and telegraph), and economic institutions (such as modern commercial banks) developed at a very slow pace.[4] The external crises and economic stagnation bred further internal political strife: domestic rebellions reached an unprecedented scale and corruption became widespread. The process of political disintegration eventually resulted in the demise of the dynasty in 1911.

Deng (2000) presents an excellent survey of the many explanations of "China's premodern success and its downfall after the Opium War," and summarizes the major schools of thought. The schools of the Marxist tradition attribute China's economic and political deterioration to the West's gunboat diplomacy and colonial economic policies in combination with China's internal growth-inhibiting institutions. The criticism of the Marxist perspective is two-fold. First of all, the impact of the advent of the West was unevenly distributed and, in many cases, provided both the impetus and the means to develop China's military, foreign relations, and industries.[5] Secondly, China's innate weakness is inconsistent with the economic and political successes of the Qing before the mid-19th century.

Other schools interpret China's downfall in the late 19th century as an inevitable outcome of long-term economic, environmental, technological, and demographic processes.[6] For instance, Elvin (1973) advances the theory of a "high-level equilibrium trap," where China's traditional economy accommodated bottlenecks so well that the discontinuous leap into modern economic growth was never necessary. Although the "high-level equilibrium trap" can successfully account for the absence of endogenous modern economic growth prior to the mid-19th century, it fails to explain why a quantum leap failed to occur after China's full encounter with the West, when modern economic growth had become both necessary and possible. Other deterministic theories are subject to similar criticisms.[7]

What, then, had impeded the Chinese economy from undergoing industrial growth during the late 19th century? How can we understand China's drastic descent into economic stagnation from its previous path of prosperity and stability?

This paper provides an alternative explanation to these questions and makes two important contributions. First, it draws attention to the issue of public finance and establishes a causal link between the absence of industrial development in 19th-century China and the government's failure to mobilize fiscal resources during a period of rapidly increasing expenditures. Second, this paper renders a political economy explanation for China's fiscal failure,[8] which is puzzling given the many advantages of the existing fiscal system by the contemporary international standard.

The motivation to focus on public finance is determined by the public-good nature of (and hence the importance of government financing in) the military-industrial development in China during this period. However, the literature attributes China's public finance failure to the vaguely defined "political conservatism." Based on the studies of Riskin and Willmott, Fairbank (1978) concludes that "the potential surplus that might have been mobilized from agriculture to modernize was not being so mobilized," because the government lacked "the ideas and impulse to shatter tradition and lead toward economic development" (pp.19). Explanations of this sort depend on the assumed exogeneity of ideological factors, and are thus not immediately verifiable. The challenge therefore is to resolve China's puzzling public finance failure without resorting to ad hoc non-verifiable assumptions.

This paper overcomes this challenge by examining China's public finance system (taxation in particular) in a broader political economy context. This approach uncovers the institutions underlying the fiscal constraints faced by the Qing government. Through insights from a simple game-theoretical model, I will show that the Qing's existing fiscal system may have been designed to serve the dynasty's key interest of maintaining political control rather than to extract fiscal resources per se. The mechanisms through which such a political-cum-fiscal objective was attained implied institutionalized constraints to the state's response to exogenous fiscal shocks.

The rest of the paper is organized as follows. Section 2 introduces the historical background and attributes the lack of industrial development in China, not to the "lack of will" by the government, but to the lack of fiscal resources in funding military and industrial undertakings. Section 3 uses a simple game-theoretical framework to analyze the political rationale behind the particular features and functions of the China's existing fiscal system. It conjectures how drastic exogenous fiscal shocks can disrupt the equilibrium outcome and cause adverse economic and political consequences. Section 4 substantiates the game-theoretical conjectures by either directly identifying them through historical evidence, or by confirming the predictions that they generate. Section 5 focuses on the dynamic aspects of the theoretical hypothesis. It verifies that institutional inflexibilities created significant impediments to the mobilization of fiscal resources in 19th-century China. Section 6 concludes.

.02. FISCAL CONSTRAINTS TO DEVELOPMENT (Return to Index)

As a rather extraordinary historical incident, the Manchu tribes established their dominion over China and founded the Qing Dynasty in 1644. Despite the initial lack of legitimacy of their rule, the dynasty quickly recovered; and for the ensuing 150 years or so enjoyed steady economic expansion and a prolonged period of relative peace, regional dominance, and strengthened imperial power.

The fact that extensive economic growth prevailed in China from about 1680 to mid-19th century is well documented in the literature. Researchers agree that the growth in population and agricultural productivity, increased urbanization and commercialization, and the spread of proto-industrial production sustained a level of per capita economic welfare that was at least comparable to that of contemporary Europe and Japan. By the end of the 18th century, China had become the world's largest economy. During the same period, China's internal political stability and regional dominance were also manifest. Unlike the early years of the Qing, rebellions remained largely localized and sporadic. Series of military campaigns in Southeast and Central Asia waged by emperors Kangxi (康熙, reign: 1662-1722) and Qianlong (乾隆, reign: 1736-1795) trebled the size of the empire, secured the northern borders with Russia, annexed Mongolia, and established suzerainty over Korea and Indochina.

This period of stability and prosperity came to an abrupt end during the First Opium War (1839-42), following which China repeatedly succumbed to the West's colonial expansion into Asia.[9] The Treaty of Nanking, concluded at the end of the war, was a watershed in modern Chinese history. It granted Britain trade and extra-territorial privileges, including the legalization of opium trade and a 21-million-dollar indemnity, which was equivalent to more than half of annual Chinese government income at that time (Maddison [1998], pp.41). The subsequent wars brought similar political and economic concessions. By 1900, China had ceded much of its most productive regions (along the coast and Yangtze) together with Taiwan and Manchuria, as well as its suzerainty over Indo-China, Korea, and Central Asia, to foreign influence.

While Japan, a country similarly impacted by the West's gunboat diplomacy, was quickly industrializing, the Chinese economy stagnated in the mist of the macroeconomic instability caused by the external crises. The adoption of mechanized industrial production lagged behind the industrializing economics: as late as 1933, 68% of total industrial output was still handicraft (Feuerwerker [1980], pp.16). Maddison (1998) computes that China's share in the world GDP had declined from 32.4% in 1820 to 13.2% in 1890 (pp.40 Table 2.2a). Internal political deterioration was equally rapid and complete. Long and large-scale domestic rebellions, such as the Taiping Rebellion (1850-73), erupted frequently during the late Qing and incurred high economic and social costs. By 1900, the political landscape of China had fundamentally changed. Although the Qing initiated a series of bold reforms in the early 1900s, including the reorganization of the executive branches of the government in 1906, and the institution of

provincial and national assemblies in 1909-10, these reforms turned out to be too late. On October 10, 1911, a revolt in Wuchang (fk

f) touched off defections in most provinces, and the Qing, as the last dynasty in China, disintegrated.

.02.1. DEVELOPMENT AS A PUBLIC GOOD (Return to Index)

Understanding why adverse economic and political outcomes unraveled as they did in China begins with the appreciation of the public-good nature of industrial development as determined by the historical circumstances of the late 19th century.

First, macroeconomic shocks occurring in this period implied significant systemic risks that discouraged private investment. The legalization of opium imports led to increased trade deficits, and the resulting widespread addiction lowered labor productivity. The loss of tariff autonomy (not regained until 1928) and the mercantilistic pressure from the West further disadvantaged domestic manufacturers against foreign competition. Military confrontations with the West and subsequent defeats not only aggravated macroeconomic uncertainty, but also induced monetary contraction caused by outflows of silver as indemnity payments, both of which further reduced private investment.[10] Consequently, the historical circumstances were such that after the mid-19th century, industrial development in China had amounted to an important public good. Even with efficient private capital markets, market incentives alone would be unable to produce the socially optimal level of industrial development.

To the extent that external crises led to macroeconomic shocks, a strong military had become a prerequisite for successful economic development. The grave economic implications of the failure to provide national security can be illustrated by China's military experience during the Opium War.

On the eve of the war, China had a standing army of one million, 220,000 of whom were stationed in the four coastal provinces immediately affected by the war, including a 100,000-men navy and over 700 ships. The British, on the other hand, even at the height of the war, had no more than 110 ships and 20,000 troops including a 8,000-men navy (Haijun siling bu [1994], pp45-6). Although the Chinese military outnumbered its enemy, its combat capabilities were much inferior. In terms of naval power, the Chinese wooden oared or sail boats were no match for the 25 British iron-clad steam-powered battleships, neither was the Chinese cannon, less than half a ton with ranges of no more than 1,000 meters, any match for the British cannon weighing 2.5 to 5 tons with ranges of 10,000 meters. During the naval battle of Dinghai (Dinghai, Zhejiang (Ym_1) province on July 5, 1840, the British artillery defeated the Chinese Dinghai fleet in nine minutes (Haijun siling bu [1994], pp.38, 51). It suffices to say that the direct threat to Peking, posed by battles like Dinghai, gave the Britain much leverage in negotiating the terms in the Treaty of Nanjing.

A direct consequence of military inferiority was the continued drainage of resources from China in the form of indemnities. Between 1895 and 1911, China paid out 477 million taels in principal and interest to foreign creditors for indemnity loans, which was 50% more than all foreign loans borrowed for railway development before 1912, and twice the size of the initial capitalization of all foreign, sino-foreign and Chinese-owned enterprises established in 1895-1913 (Feuerwerker [1980], pp.68). Therefore, military development took on additional significance as a public good precisely because national security and sovereignty were necessary for successful industrial development.

.02.2. LACK OF POLITICAL WILL OR KNOW-HOW: POSSIBLE EXPLANATIONS?

(Return to Index)

Attributing the absence of rapid industrial development in China to an undersupply of military-industrial development as important public goods leads to further questions. Is it likely that the Qing lacked the political will to devote government resources to these public goods? To support this claim, critics often refer to the incident where Empress Dowager used a naval development fund to construct the Summer Palace in 1885-95. Others, such as Kuo and Liu (1972) and Chan (1980), claim that corrupt and incompetent officials caused the eventual failure of many government-merchant industrial joint ventures.

Undeniably, military-industrial development projects did not always receive the top government priority. However, incidents like the Summer Palace were relatively rare. As will be shown shortly, by the late 1860s, the imperial authority had by and large recognized the necessity of government support to the military and industries, and had acted accordingly. What is more, Empress Dowager's fiscal consumption may reflect political myopia induced by the political and fiscal constraints, and thus should not be taken as a purely exogenous explanatory factor. The criticism of the exogeneity assumption also applies to the issue of corruption. Compared to the limited scale of corruption in the earlier periods, the surge in corruption in the late 1800s itself needs to be accounted for. In addition, although "Merchant Operation under Official Supervision," the mode of operation for many industrial ventures, created ample opportunities for corruption, it enabled some degree of property rights protection in the absence of strong legal institutions.[11] In fact, much of the industrial development in Meiji also involved the exchange of political patronage for economic concessions between the government and a class of privileged entrepreneurs.

The rejection of the "lack of will" hypothesis leads us to question, whether a "lack of understanding" had led to the undersupply of government support. Could it be that the "politically conservative" Qing was unaware of the government's role in supporting the military and industries? A quick overview of government initiatives during the post-Opium-War period rejects this conjecture.

The Qing government was fully aware of its responsibility in promoting national security and macroeconomic stability through military development. According to the research of Hao and Wang (1980), from 1821 to 1861, at least 66 key government officials and eminent scholars, including Emperor Daoguang (S¹IQ, reign: 1840-1851), supported the procurement of Western military equipment with public funds (pp.149). The zongli yamen (Ministry of Trade Affairs with Foreign Nations, ;'□t□TýV□□FU<NjRY^è•, created in 1861 to supervise foreign relations and modernization programs), communicated the government's understanding of the imperative of military development in a 1863 memorial:

All commentators know that foreign countries such as England and France rely only on their solid ships and cannon to lord it overseas. Your ministers frequently, in periods of leisure from public affairs, have thought and planned again and again: the friendliness or opposition of foreigners always depends upon the strength or weakness of China. Certainly Japan is not the only one to consider us in this way. If we can strengthen ourselves, then we can live peacefully with the others, and covertly deter them from undertaking their cunning and aggressive plans. Otherwise, we shall have nothing to depend upon. (Teng and Fairbank [1954], pp.71-72)

To the extent that Japan's growth during the same period can serve as a qualified benchmark, the compelling similarities between the Qing and Meiji modernization programs indicate that the Chinese government played a qualitatively similar role in leading and supporting development.[12] In terms of military development, the Japanese government, both the Meiji and the preceding Tokugawa (with regional lords), built arsenals and shipyards, and imported foreign weaponry and technicians.[13] On the industrial development front, government support during Meiji took the form of government ownership, government investment in physical infrastructure (such as the railway and education), and heavy subsidies (both monetary and as technology transfers) to private firms. Indirectly, the government employed foreign engineers and teachers on a large scale in government, factories, and schools. The government also financed the overseas visits and studies for many officials and students.[14]

These government activities were equally earnestly pursued by the Qing government.[15] Following this strategy, as early as 1860, the Qing government imported foreign rifles, cannon, and steamers, and employed foreign military instructors and technicians. Key officials' strong advocacy for Western military technology led to nineteen government-owned Western-style arsenals by 1911 (Feuerwerker [1980], pp.32). The largest of all, the Jiangnan Arsenal, produced muskets[16], howitzers[17], shrapnels[18], as well as large guns, rockets, Remington style breech-loading rifles. In response to China's naval weakness, the government built the Fuzhou Shipyard with French assistance and generous government funding (Kuo and Liu [1978], pp.519-25). In terms of industrial development, the government was both directly involved in and provided indirect infrastructure support to domestic industries during the Self-Strengthening Movement. In 1872, under the auspices of Li Hongzhang (Ng?žàz, 1823-1901) and with funds

from grain tribute haulage supplemental charges, the China Merchants' Steam Navigation Company was established and placed under private management. The following years saw the establishment of government-merchant joint ventures in mining (coal in particular), iron and steel, and textile, along with substantial public investment in telegraph, railway, and other infrastructures. Like Japan, the Qing government promoted the modern education by setting up, as early as 1862, schools of Western learning, tong-wen guan (

Te†™), and technical schools affiliated with arsenals and shipyards. It also sponsored military personnel and students to receive both specialized and general training abroad.[19] Perhaps more surprisingly, contrary to the commonly perceived "political conservatism," the Qing government put in place modern market-promoting institutions, such as the Company Law in 1904 (Feuerwerker [1980], pp.33) and patent protection (Teng and Fairbank [1954], pp.211).

.02.3. LACK OF FISCAL MEANS (Return to Index)

The qualitatively similar government leadership in supporting the military and industries between China and Japan demonstrates that the undersupply of such development in China has to be explained by factors other than the lack of "know-how." This paper proposes that the quantitative differences in the fiscal resources were responsible for the divergent economic and political outcomes in these two countries.

The causal relationship between the availability of fiscal means and the success of military-industrial development results from both the public-good nature of modern industrial development and the primitive nature of the private capital markets. Systemic macroeconomic risks led to the insufficient financial intermediation toward the industrial sector.[20] The Chinese native banks specializing in commercial credit lacked the expertise to fund large-scale modern industrial enterprises. The public debt market was also none-existent.[21] Furthermore, accessing the international capital markets required conditions that could not be easily met until later stages of development.[22], [23] For these reasons, government revenue, especially taxation, became crucial for the success of military-industrial development.[24]

This causal link is also indirectly reflected in the failure of many Chinese military projects. One prominent example is the dissolution of the Hunan Army (one of the key government forces suppressing the Taiping rebels) in 1864 because the troops had become too expensive to maintain (Liu [1978, pp.410-35]). Japan, on the other hand, aggressively increased military expenditures by more than three-fold per year between 1893 and 1896-1904 (Perkins [1967], pp.xxx). Differences in military expenditures were further perpetuated by the widening differences in military capabilities. China's 200 million-tael indemnities for losing the 1894-5 Sino-Japanese War was an important and timely boost to Japan's government revenue.

Quantitative differences in the amount of government support were a determining factor for the success of industrial and infrastructure projects in China and Japan. Beasley (1981) documents how until the 1880s state finance provided the capital for high-risk modern industrial enterprises in Japan. Apart from direct state ownership, he also finds generous government financial aid in the form of guaranteed dividend rates, subsidies, and government contracts. Jones (1993) concludes that the Japan government financed 40%-50% of domestic investment during 1868-1910 (pp.104). By contrast, the nascent industrial projects in China on average had to rely more

on treaty port merchants for financing and often suffered from shortages of funds (Perkins [1967]). In terms of infrastructures, the following table on railway development reflects how China had fallen behind countries like India and Japan.

Table 1. Cross Country Comparison of Railway Development, December 31, 1909

Country

Mileage in
Operation

Mileage per 100 sq.
Miles

Mileage per 10,000
People

China (excluding Siberia and
Manchuria)

5,297

0.13

0.12

Siberia and Manchuria

6,423

0.13

4.3

Japan (including Korea)

5,767

2.4

0.9

British India

31,484

1.6

1.1

Siam

575

0.16

0.6

Egypt

3,503

1.0

3.1

Germany

37,338

17.1

6.2

Great Britain and Ireland

23,286

19.2

5.6

France

30,186

14.6

7.7

Russia (in Europe and Finland)

36,912

1.8

3.5

Italy

10,439

9.5

3.2

Europe

204,864

5.5

5.2

Canada

24,099

0.6

37.1

United States (including Alaska)

237,182

6.6

27.0

Australia and New Zealand

18,838

0.6

31.4

Mexico

15,013

1.9

10.3

Brazil

12,998

0.3

6.1

Central Russia

4,066

1.9

4.3

Source: China Year Book, 1912, pp. 184-187.

The extent of government-supported economic activity can also be measured by the share of government expenditures as a percentage of GDP, which soared to 47% in Japan (Table 2) and remained below 5% in China.[25] [26] Had the Qing been given sufficient resources to finance its modernization programs, the history of China might have taken a different path.

Table 2. Government Expenditure as Share of GDP in Japan, 1880-1910 (current prices)

Government Expenditure
(million yen)

GDP
(million yen)

Share
(%)

1880

87

829

10.5

1890

119

983

12.1

1900

465

2,165

21.5

1910

1,491

3,181

46.9

Source: Emi (1963), pp.15

.02.4. CHINA'S FISCAL PUZZLE (Return to Index)

If the lack of fiscal means (especially tax revenue) was largely responsible for the absence of rapid military-industrial development in China, how can we explain China's failure to mobilize sufficient fiscal resources? This question is particularly puzzling because China enjoyed a tax system that had been the envy of the premodern world (Peng [1981-5], pp.51-68). The absolute size of the Chinese economy implied a substantial tax base.[27] Centralized tax collection consisting mostly of direct tax (land tax) ensured fiscal stability during much of the earlier periods. Apparently, there existed the administrative capacities for fiscal extraction. Why fiscal expansion failed to occur in China? A closer look at China's fiscal situation raises some further questions.

Table 3. Estimated Imperial Budget in 1766 and the Early 1890's (in Taels of Silver)

1766

Early 1890's

(a)

(b)

(c)

(d)

Income:

Income:

Land tax

29,910,000

61.6%

Land tax and grain tribute

33,307,000

37.1%

Salt tax

5,740,000

11.8%

Salt tax

12,600,000

14.0%

Maritime customs

5,400,000

11.1%

Maritime customs

21,989,000

24.5%

Surcharge

3,000,000

6.2%

Likin

13,890,000

15.5%

Native customs

850,000

1.8%

Native customs

4,160,000

4.6%

Contributions

3,000,000

6.2%

Miscellaneous taxes

3,856,000

4.3%

Misc. taxes and income1

640,000

1.3%

Total Income

48,540,000

100.0%

Total Income

89,802,000

100.0%

Expenditure:

Expenditure:

Military stipend

17,000,000

49.3%

Army, navy and fortifications

25,200,000

18%

Bureaucratic salaries

4,270,000

12.4%

Grants-in-aid to provincial adm.

34,042,000

25%

Central gov't, imperial
household

1,020,000

3.0%

Foreign debt servicing

42,000,000

31%

Waterworks

3,800,000

11.0%

Other military related³

10,250,000

8%

Food supplied at exams

6,000,000

17.4%

Imperial funds remitted

12,973,000

10%

Grain transport cost

1,200,000

3.5%

Waterworks

1,389,000

1%

Miscellaneous expenditures²

1,220,000

3.5%

Maritime customs adm.

3,942,000

3%

Grain transport cost

5,780,000

4%

Railway development

550,000

0%

Native customs allowance
to Inspectorate

370,000

0%

Total Expenditure

34,510,000

100.0%

Total Expenditure

136,496,000

100.0%

Budget Balance (Surplus)

14,030,000

28.9%

Budget Balance (Deficit)

-46,694,000

52.0%

Sources:

(a) & (b): Zhu, B. & Shi, Z, eds., *The Economic History of China*

(c) & (d): H.B. Morse, *The Trade and Administration of China*, Maritime customs income data from George Jamieson, *Report on the Revenue and Expenditure of the Chinese Empire*.

Notes:

1. Including such items as tea tax, brokerage tax, and mining tax.
2. Includes such items as food subsidies to government offices in Peking, royal handicraft production, and religious services.
3. Includes such items as frontier defence and arsenals.

On the one hand, the size and composition of fiscal expenditures changed dramatically from 1766 or late 1890s; on the other hand, the backbone of revenue--land tax--hardly increased at all in nominal terms. Despite the new sources of revenue, such as maritime customs and likin (‘*li*’), a domestic transit tax, overall revenue growth clearly fell short of the surge in expenditures. Why did China's public finance exhibit such inflexibility?

.03. HYPOTHESIS: POLITICAL ECONOMY, PUBLIC FINANCE, AND INSTITUTIONAL INFLEXIBILITIES (Return to Index)

To account for the inflexibility of China's public finance system, I first postulate that these fiscal constraints reflect underlying institutions. To examine these institutions, I use insights from a game theoretical framework to demonstrate that fiscal interactions (namely taxation) are endogenous to a broader political economy system, and the resulting overall equilibrium determines the flexibility of the fiscal system.[28]

.03.1. PRE-EMPTING REVOLTS BY THE ELITES (Return to Index)

Conceive a two-period game where the sovereign needs to secure political control by strategically influencing the human capital investment by the local elites. In the first period, elites are endowed with generic human resources (time, energy, intellect, & etc.) that can either be directly applied to organizing revolts, or be irreversibly transformed into human capital specific to other careers. Career options (including revolts) promise a certain probability of success and a success payoff that is realized in the second period. The elite's strategy is to pursue the career that will maximize his expected net payoff and make the human capital investment accordingly in the first period. The sovereign's second-period gain depends on the career choices of the elites, and in particular, what they have chosen to do with their human resources. The sovereign's strategy is therefore to present the elites with a menu of career options, so that their optimal career choices would also maximize his expected net (of the costs for inducing such choices) gain.

Given this construct, if the risk-adjusted benefit of staying in power outweighs the cost of inducing the elites not to revolt, the sovereign would devise a career alternative to pre-empt revolts. He does so by demanding a particular type of human capital for this career, which is irrelevant for revolts and promises a higher expected return, i.e. a rent, to the human resources thus invested. At the symmetric equilibrium, the elites opt not to revolt, and the sovereign, even after compensating the elites for not revolting, still reaps a higher payoff by securing his political control. Since the sovereign offers the career alternative, it is easy to show that, if we resolve indifference by having the elites not revolt, then there exists a minimum rent that the sovereign has to offer, which is defined by both the likelihood and the payoff of successful revolts.

Once the human resources are irreversibly transformed into career-specific human capital, the elites no longer pose any political threat to the sovereign, who then will find it opportunistic ex post not to deliver the rent. This amounts to a "hold-up" problem that makes the ex ante promise of rent in the simple two-stage game setting less credible. However, this problem can be eliminated in an infinite-horizon version of the game, where the sovereign lives forever, and the over-lapping generations of elites live for two periods each. A simple reputation mechanism, where elites revolt in all subsequent periods once the sovereign has reneged, can constitute a credible punishment to sustain a subgame perfect equilibrium where elites do not revolt and sovereign pays the promised rents in each period.

.03.2. TAXATION (Return to Index)

Consider another one-stage game involving the sovereign, tax collector, and taxpayers. The taxpayers are endowed with an output and they share a common notion of what a "fair" tax is. The sovereign specifies a revenue target to be remitted by his tax collector. The tax collector in turn levies a tax on taxpayers, which the sovereign does not observe. The collector's income is the difference between the actual levy and the required revenue, i.e. extralegal taxation. The taxpayers, given the levy, can choose whether to comply or to protest the levy by rioting (which is costly). The sovereign observes riots only and chooses whether or not to appease the protesting taxpayers by punishing the collector. If the culpable collector is punished, taxpayers stop rioting and revert to the "fair" tax. If no punishment is meted out, the taxpayers still have to pay the higher tax, and the sovereign's income (the revenue target) will be discounted by a political instability factor now that riots have irreparably occurred.

If the instability discount effect of riots were sufficiently large, and if punishing the tax collector is relatively costless for the sovereign, the sovereign's strategy is to punish the collector if and only if riots occur. Given this strategy, the taxpayers will adopt a trigger strategy where they riot at tax levies exceeding the sum of "fair" tax and the cost of rioting. If we resolve the taxpayers' indifference by having them comply, the tax collector's strategy is to set an optimal levy as the sum of "fair" tax and cost of rioting. Therefore, at the subgame perfect equilibrium, tax collector demands his optimal levy, the taxpayers comply, the sovereign receives the revenue target, and there is no need for punishment. The no-riot-no-punishment outcome is efficient in the sense that no real resources are expended in punishment, riots, and political instability.

In a nutshell, without proper constraints, the tax collector has the incentive to overtax. In this game, the shared beliefs of "fairness," once arisen, can limit the actual level of extralegal taxation through a combined bottom-up (rioting by taxpayers) and top-down (punishment by the sovereign) enforcement mechanism.

.03.3. POLITICAL CONSIDERATION OF TAXATION (Return to Index)

The game of pre-empting revolts quantifies the minimum rents without specifying how they would materialize. Suppose that these rents arise from the extralegal taxation by using the successful elites to collect taxes. This assumption can be justified on various grounds, one of which being the transaction costs associated with the physical payment of rents. As a result of this additional assumption, the amount of extralegal tax collection should be equal to the minimum rent required by the pre-emption game. This implies that the sovereign's strategy in the taxation game is to specify a revenue target equal to the difference between the optimal tax levy

(which is also the sum of "fair" tax and cost of rioting) and the minimum rent. The revenue target reflects the sovereign's discretionary fiscal income, and is optimized for given parameters including the "fair" tax.

To sum up, two important parameters--the costliness of revolts and the exogenous, shared notion of "fairness"--determine a unique division of economic resources (the output by taxpayers). This division, namely the discretionary fiscal income accrued to the sovereign, extralegal taxation to the tax collector, and the residual to the taxpayers, not only corresponds to a unique fiscal outcome, but also constitutes a set of property rights that are already optimal in the sovereign's perspective. As long as these parameters remain the same, the sovereign will have no incentive to increase his discretionary fiscal income, as any unilateral attempt to do so will only provoke off-the-equilibrium-path punishment either as revolts or riots. Since the shared beliefs of "fairness" tend to persist without explicit mechanisms that can coordinate their changes--once the beliefs of "fairness" have taken hold, they limit the ex post extent of appropriation by the state (sovereign and bureaucrats) and afford property rights protection to the taxpayers. The stability of beliefs in this model also implies that the fiscal outcome has a significant lock-in effect, and therefore, discretionary fiscal policies are likely to be ineffective in accommodating exogenous shocks. I propose this as the theoretical underpinning to China's fiscal puzzle.

.04. EVIDENCE FOR THE HYPOTHESIZED POLITICAL ECONOMY SYSTEM (Return to Index)

The previous section hypothesizes a stylized model of political economy, whose outcome is an endogenous, inflexible fiscal system. Does the institutionalized inflexibility adequately explain China's fiscal failure in the 19th century? Before we can validate this claim, we must first prove that the political economy interactions described in this model are consistent with the empirical evidence concerning the earlier periods of the Qing. Once we have empirically substantiated the institutional root of fiscal inflexibility, we can then proceed in Section 5 to analyze how the fiscal reactions engendered by the exogenous shocks in the late Qing failed to engineer sufficient revenue growth.

.04.1. EVIDENCE: BUREAUCRACY AS A CAREER ALTERNATIVE TO PRE-EMPT REVOLTS (Return to Index)

The game of pre-empting revolts focuses exclusively on the potential threat posed by the local elites, which arises from their exclusive endowment of the human resources to organize revolts. This is a correct abstraction of the political situation that the Qing sovereign encountered. In the absence of a large and powerful aristocracy (both during the Qing and the preceding Ming Dynasty), the local elites were de facto the only group with the political and

economic potential to challenge the throne. Historical evidence also suggests that only the local elites were likely to possess the skills and resources necessary to turn popular discontent into organized political oppositions of a larger scale. Without the participation of the elites, such discontent could at best develop into riots that were much less damaging to the Qing sovereign.[29]

Given the threat of the elites, the game theorizes that the sovereign can pre-empt revolts by inducing the elites to pursue alternative careers with higher expected payoffs. In the context of the Qing, such a career alternative took the form of a rent-seeking bureaucracy.

The analysis implies that such a bureaucracy should be small, open, and competitive to motivate rent-seeking by all elites. And these features are consistent with the Qing's meritocratic bureaucracy. The restricted size of the Chinese bureaucracy, recorded to be about 20,000 men in active service by Fairbank and Goldman (1998), was surprisingly small for the empire (pp.107). The openness and competitiveness of the bureaucracy were a result of the method of entry selection, the civil service examinations, which were held every three years at the prefectural, provincial, and national levels. The candidates were tested on Confucian classics, and the examinations themselves were administered carefully, to the extent possible, to ensure impartiality. Therefore, at least theoretically, anyone could become a bureaucrat by succeeding in these examinations, indicating a considerable degree of open and competitive access.

The sovereign's objective to invite all elites to the rat race for higher rents can clarify an intriguing observation of the early Qing: a personnel transition that "prematurely" opened the bureaucracy to Chinese elites. During the early Qing, members of the Manchu tribal units, the "banners," dominated the important government positions. Within a few decades, legions of Chinese entered the administration, many of who also occupied prominent positions. This rapid political opening is surprising because it occurred in a period when the Qing also aggressively battled its perceived lack of legitimacy to the extent of paranoia.[30] However, allowing the local elites to join the bureaucracy becomes politically desirable once we interpret the bureaucracy as a rent-seeking device that pre-empted likely revolts.

For the same reason, we should expect the bureaucracy to specifically target the local elites. This prediction is confirmed by observations concerning the civil service examinations. Although the bureaucracy was supposedly open to all, Ping-ti Ho (1964) shows that the local elites were more likely to benefit from these open examinations. His study of the social composition of jin-shi (ŪŹX), holders of the highest academic degree, reveals that the majority of jin-shi during the Qing came from families that had already produced one or more holders of the higher academic degrees or offices: 62.8% averaging over the three periods of 1652-1661, 1673-1703, and 1822-1904. The percentage of jin-shi from families without a single holder of the elementary degree or office actually fell significantly from 29.2% during 1652-1661 to 15.8% and 15.5% in the two latter sample periods (pp.114). In addition to Ho's study, the requirements for participating in the

examinations, such as a guarantee of their origin and character from members of the (degree-holding) local elites effectively barred most commoners from the examinations (Chan [1955], pp.10-11).

Apart from a bias in favor of local elites, the model also implies that the Qing bureaucracy, as the career alternative to divert the elites' human resources away from revolts, should encourage the formation of politically benign human capital. This prescribed feature resolves an apparent departure of the Qing bureaucracy from standard theories on bureaucracy, which advocate specialized professional training. Rather than equipping the candidates with the relevant administrative skills, the Qing bureaucracy led them to the abstruse studies of Confucian classics. The students, instead of focusing on the practical interpretations of the doctrines, paid more attention to memorizing the classics and exegetical notes of more than 430,000 characters (Maddison [1998] pp.22, quoting Miyazaki [1976]), and the rigid style of ba-gu (kQj€†e), eight-legged essays that they were required to write in the examinations.[31] Such "wasteful" human capital investment can only be rationalized within the rent-seeking bureaucracy that is designed to consume the intellectual energy and resources of the local elites. The less practical was the human capital, the more difficult it would be to apply the skills to organizing revolts, and the more irreversible the human capital transformation process would be.

Furthermore, if the political consideration for human capital had been true, we would expect strict adherence to such a curriculum and examination format even as the need for more sophisticated government skills grew. Although after the Opium War, professional skills, such as diplomacy, foreign languages, and industrial development, were in great demand, the form of the examination system was unchanged for more than half a century until 1905. In addition, the Qing also spared little effort in keeping the examinations intact from the political and economic turmoil ensuing the war. For example, the Taiping Rebellion failed to disrupt neither the national or provincial examinations at Peking even once. The provincial examinations outside Peking, suspended due to the rebellion, were quickly made up by 1870 (Liu [1978], pp.478).

The model predicts that the optimal career alternative (to revolts) is one that exhausts the elites' human resources, implying that in China's context, the civil service examinations were intensely competitive, so that passing them would require years of devoted academic studies. This prediction is well confirmed by the historical evidence. In fact, the model clarifies another peculiar feature of the Qing bureaucracy--the excessively competitive civil service examinations and long academic studies. From the data on Jiashan and Suzhou Counties compiled by Chang (1955), only about 3 % of sheng-yuan (uXT), who succeeded in the first round of examinations eventually became officials (pp.118). Elsewhere in China, the competition could be more intense. In Liuyang county, Hunan Province, 2,000 candidates vied for the twelve quotas just so that they could advance to the provincial examinations. Alternatively, Deng (2000) estimates the success ratios to be between 30:1 and 100:1 for each of the three rounds of examinations (pp.20). As a result, academic studies were intense and time-consuming. Those who obtained a jin-shi

degree, which qualified them for bureaucratic assignments, usually had to spend 30 years studying (Chang [1955], pp.164).

The model suggests that as far as rents for pursuing bureaucratic careers go, wage premia and extralegal taxation are perfect substitutes. If transaction costs are considered, extralegal tax revenue may even be preferred by the sovereign as an ex post payoff to the elites. This insight explains why we observe statutory income that were ludicrously low compared to the return to similar human capital in the private sector, and income from extralegal taxation that was many times higher.

During most of the 18th century, statutory bureaucratic income consisted of the official salary, supplementary income, yang-lian yin ({{QÉ^ö}}, and a public expense allowance, gong-fei (IQ9□), with the latter two being instituted during the Yongzheng (Í-ck, reign: 1723-36). The official salary was seldom changed and ranged from 180 taels per year for the grand secretary and viceroys to 45 taels plus rice rations for county magistrates. Yang-lian yin and gong-fei raised the statutory annual income to 1,000-4,000 taels for prefects and 400-2,257 for county magistrates (Chang [1962], table 3, pp.14). Although the statutory income was much higher than the per capita income (30 taels in 1908), it was not particularly more competitive than private jobs--a private secretary during the mid-19th century could earn as much as 2,000 taels. [32] In addition, officials also bore a significant portion of the legitimate administrative expenses, at 5,000-10,000 taels per year for a magistrate.[33] Despite the low and even negative net statutory income, bureaucrats were enriched through substantial extralegal taxation. Meadows (1847), a contemporary Western diplomat, was given the impression that "the highest mandarins get about ten times, the lowest about fifty times, the amount of their legal incomes" (pp.100). Chang (1955) evaluates the average magistrate's non-statutory income at 30,000 taels, and 180,000 taels for provincial governors or viceroys. In the case of the governor of Jiangsu Province in the nineteenth century, his non-statutory income would be fourteen times greater than the statutory income (pp.29-33).

.04.2. EVIDENCE: BELIEF-COORDINATED TAXATION (Return to Index)

When the Qing came to power, they inherited a failing public finance system from the Ming, which had gradually recovered by 1700. In 1753, Wang (1973, table 4.2) estimates that about 78% of total tax revenue came from land tax and the rest from salt gabelle, domestic customs, and other miscellaneous taxes. Of the total land tax, about 70% was the di-ding (0W□N), pre-specified land tax quotas payable in silver taels, and 30% of grain tribute, levied only on a number of counties, payable in kind according to quotas but also commutable to silver taels.[34] Since land tax constituted the lion's share of total revenue and the collection of di-ding and grain tribute was similar, it suffices to focus on the di-ding to analyze the Qing's tax system.

The Qing's tax system is consistent with the specifications of the model. Bureaucrats, especially the county magistrates, collected the di-ding twice a year from individual households according to pre-specified quotas. The revenue targets, in the form of quotas, were then remitted to the Qing court through the upper levels of the government. The imperial Board of Revenue, and the Imperial Treasury, jointly controlled the remission and disbursement of funds. The actual tax burden, however, differed from the quotas. By levying various surcharges and manipulating the copper-silver exchange rate (as quotas were specified in silver taels but payments were often made in copper cash), magistrates collected substantial non-statutory income in excess of the authorized revenue targets. The prevalent practice of extralegal taxation confirms the assumption in the model that the sovereign tacitly permits extralegal taxation and prefers it as a more cost-effective means to "pay off" the elites. In fact, the transaction costs of payments in explicit wage premia could be significant for the Qing. Few fiscal transfers were made through the credit system of the native Shanxi banks, and most transfers, because of the geographical size of the country, involved physically hauling large amounts of silver taels over long distances.[35]

To apply the model's equilibrium outcome to China, three other assumptions have to be met. First, the sovereign cares about the political disturbances caused by anti-tax riots, and he is able to heavily penalize the local bureaucrats at relatively low costs. Second, since the sovereign does not observe extralegal taxation, he cannot deter over-taxation through tax-contingent penalties. Third, the taxpayers espouse a common notion of "fair" taxes. They have no recourse against extralegal taxation except by rioting collectively to protest unduly high taxes, which is immediately observable to the sovereign. There is substantial empirical backing for these assumptions.

The Qing sovereign's concerns over heavy tax burden on taxpayers are reflected in an interesting policy bias where fiscal conflicts between officials and the local people were often resolved in favor of the latter. This bias manifested itself in an 1878 imperial edict, in which Emperor Guangxu (1875-1907) comments on incidents where the military became involved in suppressing the uprisings caused by the local officials' attempts to "extort money from the people," most likely through over-taxation. He explicitly "forbid governors and governors-general to sent out troops ' to give trouble to the people' " (Hsiao [1960], pp.440). Given the "oversupply" of bureaucrat candidates as a result of the rent-seeking bureaucracy, the Qing could harshly punish a bureaucrat by dismissing him and would easily find an equally capable replacement. This fulfills the assumption that the sovereign has a cost-effective means to punish the bureaucrats.

The difficulty for the Qing sovereign to control extralegal taxation manifests itself in the failure of the huohao guigong (火耗归公) reform during the Yongzheng reign. The central government attempted to legalize one common surcharge huohao (火耗), the meltage fee, and to bring it under the government's control. However, Zelin (1984) documents that the reform was modestly successful and had failed by the late 18th century.

The model claims that the penalty for levying taxes exceeding the tolerance band above the "fair" tax lies not so much in the direct cost of communal riots (as in Greif, Milgrom and Weingast [1994]), but in the punishment by the sovereign that these riots would trigger. The aftermath of the Huang County of Shandong Province (黄县) tax riot verifies this claim.

During the fourth month of this year [1828], Qi-shan memorialized the throne criticizing Li Zhao-min, the magistrate of Huang County, for irresponsible tax-collection and unharmonious relations between the government and the people. It was decided that he be dismissed promptly. This province [Shandong Province] had the old rules for collecting taxes. How come that [the tax burden] had risen each day to even double? Both the prefect and the provincial officials were summoned to conduct a thorough investigation and deliver a truthful report to the throne. (Wang [1973], pp.34-5).

Clearly, while the beating of the individual petitioner reflects the ineffectiveness of unorganized protests, communal riots prompted the almost immediate attention of the higher governments and the sovereign. Disciplinary actions quickly ensued. It is evident that once a communal riot was detected, retribution in terms of punishing the "culpable" bureaucrat given by the Qing sovereign was both timely and harsh.

The dismissal of the Huang county magistrate is representative of other incidents of tax-related disputes. In 1862, in response to the escalating anti-taxation violence near Peking, Emperor Xianfeng (咸丰, reign: 1851-1861) issued an edict specifying that "if local officials received their pay but showed no achievements, so much so that they embittered the people and led to anti-tax assemblies, they, including their supervisors will be forcefully penalized without exceptions" (XWT 7517).

Central to the model is the assumption that the taxpayers shared "fair" fiscal obligations to the state. When fiscal demands exceed the upper limit of these obligations, they will riot to protest unduly high taxes and revert to pay the "fair" taxes. William Martin, a contemporary American who spent 45 years in China once witnessed an anti-taxation riot in 1896 that reflected the people's recognition of their fiscal obligations. Among the 20,000 or so rioters, he "noticed [that] a company of rioters guarding a portion of the building while their comrades were eviscerating the rest. Inquiring why they were mounting guard instead of joining the riot, they answered simply, 'This is the treasury, and no man shall touch the emperor's money.' "[36]

The effect of the shared beliefs of "fair" taxes is to coordinate riots by taxpayers when their actual tax burdens exceed the upper limit of "fairness." The 1828 tax riot in Huang County represents an off-the-equilibrium-path incident where tax riots indicate the existence and functions of these beliefs.

It is alleged that this county had always used the 3,400:1 cash-silver exchange rate in collecting the land tax. During the third month of this year, the magistrate attempted to raise the exchange rate by 200 cash. A commoner entered his office to petition him to stick to the old exchange rate and was beaten by the magistrate. Later that day, many people who came to the market [at the county capital] rushed into the grand hall of the government office and knocked down many objects, such as the screen door. (XWT, 7511-7512, translation and emphases mine)

This incident demonstrates that the unilateral attempts by the bureaucrat to manipulate exchange rates, so that they could collect more than what was "fair," would induce riots. That the mob was instigated on the same day the petitioner was persecuted indicates the effectiveness of organization among the peasants.

.04.3. PROPERTY RIGHTS IN THE CHINESE CONTEXT (Return to Index)

An important result of the model is that, since the sovereign's discretionary fiscal income is already optimized given the belief system, he would have no incentive to increase taxation. The predicted voluntary restraint from increasing taxes took the form of the court's decision in 1863 not to raise more land tax in Henan by adopting a uniform, higher cash-silver exchange rate. Emperor Tongzhi (

T»l, reign: 1862-1874) reasoned that such tax increases would cause confusion and "instigate troubles." [37] A similar example occurred in 1713 where Kangxi voluntarily gave up the option to raise the quotas on the existing registered land. Through an imperial edict, he proclaimed that:

The empire has enjoyed continued peace for a long time, and the number of households and inhabitants has been multiplying daily. If additional taxes are assessed on the basis of the current population figures, it is really quite improper. For although there is an increase in population, there is no increase in the amount of cultivated land. We deem it fit, therefore, to instruct governors-general and governors of the provinces to take the number of registered ding [adult male] listed in the current registers, which number is not to be augmented or diminished, as the permanent, fixed quota [for collecting the ting imposts]. All inhabitants born hereafter shall be exempted from [additional] imposts. In taking the census it will be necessary merely to ascertain the actual amount of population increase and report it in separate registers. [38]

Where as North and Thomas (1973) and North and Weingast (1989) emphasize the importance of formal institutions, such as constitutionalism and the rule of law, in enabling the European states to overcome the short-run fiscal temptation to abuse property rights, Qing's "self-imposed" fiscal limits and respect for private property rights are rather remarkable. Shared beliefs against high taxes sustained the Qing's commitment to secure property rights, thus creating a win-win situation for both the state and economy in the long run. The above-mentioned examples, where the Qing state restricted its ability to tax, imply that these beliefs effectively constrained the Qing's fiscal behavior.

As a matter of fact, because beliefs afford the sovereign more credible commitment to secure property rights (which promote long-term economic growth), he would have the incentive to strengthen these beliefs through explicit policies. We can therefore infer from these otherwise "counter intuitive" fiscal actions as deliberate policies that the Qing adopted to facilitate the formation and reinforcement of the beliefs. This interpretation is consistent with other features of China's fiscal system during the earlier Qing periods, including the preference for rigid quotas over the more flexible ad valorem tax rates, the rare recompilation of the tax registers, and the use of "simplified tax notice" yi-zhi-you dan (□ fǎw1uUS) to "make it easier for the people to understand" their tax liabilities (XWT 4857-8).

So far, this section has presented the evidence that supports the correspondence between the political economy model in Section 3 and China during the earlier Qing periods. The empirical evidence suggests that the Qing bureaucracy functioned as a rent-seeking device that served important political purposes. At the same time, it administered tax collection for the sovereign, and its discretionary fiscal power was kept in check by the threat of bottom-up tax riots that triggered bureaucratic discipline from top down. Shared beliefs coordinated the equilibrium

where local elites posed little political threat to the ruling Qing dynasty, secure private property rights fueled economic expansion, the endogenized fiscal needs of the state remained modest, and stable revenues ensured fiscal solvency. These predictions parallel the observed prosperity and stability of China in the pre-Opium-War era.

.05. BELIEFS, DYNAMIC CHANGES, AND IMPEDIMENTS TO FISCAL DEVELOPMENT (Return to Index)

Section 4 establishes the empirical validity of the model in Section 3, on which basis we have accounted for China's earlier economic and political successes. It remains to be shown that the institutional inflexibility implied by the model can also unravel China's fiscal failure of the late 19th century. In the remainder of this section, I will use the predictions from the model to account for the collapse of China's fiscal system. The empirical validity of these predictions then constitutes the indirect evidence for the model.

.05.1. FISCAL POLICY PREDICTIONS (Return to Index)

If a system of political economy based on shared beliefs enabled 150 years of economic expansion and political dominance in China, and that there were few explicit mechanism that could coordinate changes in these beliefs, we can make the following three predictions with respect to the Qing's fiscal policies.

Prediction 1: Because shared beliefs imposed a rigid cap on the Qing's discretionary fiscal income, even when fiscal needs soared, the Qing would be reluctant to increase the revenue generated from the land tax.

The Qing's attitude towards proposed changes in the land tax during the Tongzhi reign confirms this prediction. During the anti-Taiping years of the 1860s, the imperial government was so hard-pressed for military funds that it was willing to bear the potential political costs by allowing the provincial authorities to raise their own armies to fight the rebels. Since China's land tax institutions were relatively well-developed and stable, one would expect that simply collecting more land tax to raise more government funds would be a less risky alternative. The Qing's apparent unwillingness to increase the land tax even at high costs is illustrated by the incident described in Section 4.3 where Emperor Tongzhi rejected a proposal to raise the cash-silver exchange rate uniformly to 3000:1 for the di-ding in Henan and use the additional funds for the military. Instead, he concluded that

Henan in recent years has frequently suffered from rebels, and the people there are yet to recover. Now is the time to rest and promote the livelihood of the people, and how can additional

taxes be imposed to burden my people? Who consider this as being difficult to implement is permitted no further discussion. (XWT 7520-21)

Supplementing the military budget with extra land tax revenue would have been appropriate if the only impact amounted to lump-sum transfers of agricultural surpluses from peasants to the government. Tongzhi's refusal to do so indicates this policy would have had additional political costs, by upsetting the beliefs of "fair" taxes.

Evidence of this type also includes Daoguang's decision to cut taxes while government expenditures had risen sharply as a result of the Opium War. During this period, a combination of factors--floods, appreciation of silver, and falling agricultural prices--made the existing taxes a heavier burden on the taxpayers. Despite the urgent need to fight the war and pay the subsequent indemnities, Daoguang opted to provide tax relief to the flood-ridden Yangzi provinces (9% in 1842 and 33% in 1850) that were significant contributors of the land tax (Hsia [1975], pp.366-67). Tongzhi's tax cuts in Suzhou (Ī,Ḑ), Songjiang (~g_l), and Taicang (*YÓN) counties in the Lower Yangzi in 1863 again illustrate the Qing's willingness to cut taxes even under difficult fiscal circumstances. The "reverse" relationship between fiscal crises and land tax cuts seems to suggest that exogenous shocks not only raised fiscal needs, but also heightened political vulnerabilities, the net effect of which actually motivated the Qing to maintain or reduce the land tax burden.

The failure to increase land tax revenues contributed to the diverging fiscal capacities in China and Japan. While the nominal di-ding and grain tribute revenue hardly increased between 1766 and the early 1890s (Table 3), the Meiji government implement land tax reforms in 1872-73 (Smith [1988], pp.52-60). Japan's land tax later generated substantial revenues: until the 1880s, 80% of total government tax revenue came from land tax, and its growth contributed to the rapid expansion in government expenditures reported in Table 2 (Beasley [1981], pp.110, 141).

Prediction 2: If expanding the existing land tax was infeasible as a policy to meet the rising fiscal needs, the Qing government would be more inclined to seek revenues from other sources. More specifically, if beliefs, rather than formal rules, were the basis of China's public finance institutions, the Qing would tend to tax economic activities where such beliefs were absent.

This prediction is verified by a major trend in China's fiscal development after the Opium War. In 1864, Tongzhi, promulgated a new commercial tax, the likin. Numerous likin bureaus soon mushroomed all over the country and generated a significant share of total revenue (Table 3). The rapid growth of likin, in contrast to the stationarity of the land tax, reveals the Qing's preferences for taxing trade.

What had contributed to the popularity of trade as a revenue source after the Opium War, especially given that it had been left largely untaxed previously? There are several features about trade that would pose it as an attractive source of additional revenue according to the model. First, since trade was not tax before, few beliefs about the "fair" levels of taxation had prevailed among the taxpayers (merchants). Second, merchant communities were also less cohesive and thus less effective than peasants in organizing and enforcing large-scale riots. Third, the relative insignificance of merchants in the agrarian economy, except for in large trade centers, also implied that riots by merchants would fail to produce large throngs of angry protestors that would serve as visible signals to the sovereign. These features determine that the Qing would have less resistance in initiating commercial taxes than in increasing the existing land tax. Consequently, the growth in commercial taxes, which were more flexible, should be more rapid as well--likin reached 13 million taels per year, just 15 years after its promulgation in 1864.

The model illustrates how, without strong legal institutions, shared beliefs enabled the Chinese state to commit to secure property rights. The initial success of likin, stemming partly from the absence of such beliefs, implies the following prediction.

Prediction 3: The new commercial taxes however, exactly because they operated outside the system of shared beliefs, were unlikely to afford the same protection of property rights, and therefore, would tend to induce more prevalent abuse of private property rights.

This prediction is materialized in the rampant corruption that arose from likin. When likin was first implemented, the Qing government emphasized that it was to be a low ad valorem tax so as not to discourage trade. However, the actual practice of likin resulted in extralegal taxes that were 162% of the formal rate, much higher than those on the land tax (Morse [1908], pp.97-107). Including illegal accretions on top of extralegal fees, the taxpayers' actual burden could have been many times higher. The frequent protests of foreign and domestic merchants reflect that the actual likin payments were both large and arbitrary.[39]

A group of British observers from Lancashire surveying the state of trade in China reported in 1896-7:

"The likin officials here [in Yunnan Province] as everywhere are extortionate and unreasonable with the small distributors, demanding payment in cash or silver as they choose, at exorbitant rates of exchange." (Bourne et al. [1898], part I, pp.74-75)

"[M]erchants object to likin...because of the uncertainty caused by extortion in respect of exchange, weight of silver, &c., and of the frequent delays for examination of goods which can only be got over by bribes of undetermined amount." (Ibid, pp.109)

This observation, together with other reported incidents of likin abuses, reveals the absence of effective limits to the collection of extralegal fees. Merchants' insecure property rights led some trade to divert away from the less costly route of transportation, and even caused some trade to disappear altogether. The following quote from Bourne et al. (part I, pp. 32) suggests the inefficiencies caused by likin.

[A] party of men who had carried Ssu-ch'uan [Sichuan] opium over the mountains to Fan-ch'eng ... on the Han River, where they sold it and brought back cotton, carrying 80 lbs. each by hill roads, avoiding all likin stations between Fan-ch'eng and K'uei Fu...to escape so lightly they must spend two months toiling over mountains with heavy loads; and the likin system is causing this awful waste of human labour all over Western China.

By depressing the growth of trade, likin seemed to have quickly exhausted its revenue potential. Nominal revenues from likin reached 13-15 million between 1869 and 1894, and stabilized at 17-20 million by the end of the Qing without even correcting for inflation.[40] The lack of shared beliefs in commercial taxation to coordinate property rights protection, which were not compensated with formal legal institutions, led to the rapid deterioration of property rights in commerce, and eventually, limited China's ability to extract more resources from commerce in the long run.

.05.2. LIKELY PRIVATE RESPONSES TO PREDICTED POLICY CHANGES (Return to Index)

If the Qing's fiscal policies tended to bias towards commercial taxes that lacked effective property rights protection, we should expect private agents to respond in ways that would mitigate the lack of property rights protection. And such private responses can be formulated as:

Prediction 4: To minimize the effects of insecure property rights without strong legal institutions, private organizations with superior coordination capabilities will facilitate the emergence of belief-based mechanisms to enforce property rights. Increasingly, they will act as fiscal intermediaries in the collection of taxes. To the extent that these organizations allow create a win-win situation for bureaucrats and the sovereign in the long run, these organizations will be encouraged to take on prominent fiscal roles.

The evidence for this prediction lies in the proliferation of guilds in the late 19th century. The last decades of the Qing witnessed an accelerated growth of guilds and an expansion in their

influence and function.[41] In particular, after the mid-19th century, guilds became more involved in the collection of commercial taxes. Increasingly, the bureaucrats in charge farmed likin to the guilds, which then collected taxes from their members and submitted the negotiated lump-sum amounts to the bureaucrats.[42]

Interpreting guild development in late 19th-century china as responses of the private sector to the government's commercial tax policies resolves some inconsistencies between historical evidence and the standard monopoly-based theory on guilds. Such monopoly-based theory implies that guilds would impede the development of trade through their anti-competitive behavior, which contradicts the fact that many late Qing guilds welcomed and even actively recruited new members,[43] and seemed to have promoted domestic trade. Besides, the theory says nothing about why the guilds, which had long existed, would farm taxes, and did so during this particular period. On the other hand, these observations are perfectly consistent with Prediction 4, where the guilds can be seen as private organizations that facilitated the social and economic cohesion among merchants, not to restrict competition, but to protect property rights.

Prediction 4 specifies that for the guilds to protect property rights through tax-farming, they must be capable of coordinating and enforcing riots among the merchants. Historical evidence shows that this was often achieved in two ways. First, by pooling resources, the guilds actively created the value of guild membership (in the form of insurance and social network, for instance), the termination of which could deter free-riders. Next, the guilds relied on their sophisticated means of control to enforce riots. In fact, the guilds frequently employed formal enforcement mechanisms, such as plenary meetings to facilitate communication, and intensive monitoring of their members.[44] Penalties for the failure to comply with guild regulations were also explicit. They often ranged from fines to public admonition and expulsion, which usually entailed ostracism or boycott. There were additional provisions to ensure that penalties were strictly enforced.

Tax-farming arrangements were feasible because the guilds were able to enforce riots by members as the ex post punishment. The bureaucrats' attempts to levy more than the negotiated amount invariably would meet strong guild-wide opposition. Mann (1987) describes the following incident where the guild forced the likin bureaucrats to honor the tax-farming arrangement (pp.122-32). In 1859, the Xinhui county in Guangdong was levied a likin for the first time. The Xinhui Palm-leaf Guild agreed to collect a lump-sum annual surcharge of 1,300 taels. When the local government requested more money three years later, the guild resisted payment. The magistrate could do nothing but request a waiver of the tax from his superiors. Not only was he unable to survey the palm-growing areas to tax them directly (because the guild and its supporters refused to cooperate), he could not muster community support either--when he called a meeting for local gentry, no one came.

As predicted, by enabling collective action, the guilds allowed shared beliefs to afford property rights protection through tax-farming, and thereby creating a win-win situation for both the merchants and the local bureaucrats (and indirectly, the sovereign). For example, during 1899-1905, Guangdong, Jiangsu and Zhejiang provinces were the most active in adopting tax-farming. In Changshu (8^Yq), Jiangsu Province, it was reported in 1910 that the 102,000-tael quota of likin was exceeded by 22,000 taels upon converting to tax-farming (Mann [1987], pp.159)

Interpreting the guild organization as an endogenous solution to the lack of internal enforcement among merchants solves another puzzle. Apart from providing services to its members, the Qing guilds also supplied services to the general public: education, public works, fire-fighting, management of police and militia, and large-scale famine relief (Yang [1999], pp.77). The provision of public goods appeared less altruistic if one interprets them as efforts to make the guild-wide riots more disruptive and hence visible to the Qing sovereign. The higher the guild's stature in the local community and more vital the functions it served, the greater its ability to disrupt local order and arouse the attention of the sovereign, and the greater its leverage over the local officials by threatening to terminate such services became. For the same Lancashire investigators, Chinese guilds were undeniably powerful organizations in the late 19th century:

[T]he chairmen of the several Guilds' Committees associate[d] with the local officials in such matters as the arranging of local tax assessments and tithes, the organizing and managing of fire brigades and militia forces, the settlement of the more important bankruptcy cases, the raising and administering of relief funds, the control of orphanages and asylums, &c. They thus have altogether a status of much importance and influence from a political, trade, religious, or social point of view, especially when coupled with the power to boycott anybody or anything. For to incur the displeasure of a Guild means isolation of the severest kind, and social or commercial ruin. (Bourne et al. [1898], part II, pp. 311)

In conclusion, the private remedial responses to property rights abuses induced by the Qing's commercial taxation confirm the central role that beliefs played in China's public finance and economy at large. Although tax-farming had become a viable mode of likin collection in large trade centers, guild organization was infeasible for the vast majority of merchants who were more dispersed. The protection of property rights afforded by guilds was therefore too limited to negate the overall detrimental effects of commercial taxation on the entire economy.

.06. CONCLUSIONS (Return to Index)

China's failure to industrialize in the 19th century, in the context of her previous economic and political successes, has not been adequately accounted for by the existing literature. This paper

develops an alternative explanation and its contributions are two-fold. First, by focusing on the significant role fiscal resources played in providing the macroeconomic foundation for industrial development, it identifies the public finance failure as a major impediment to China's economic development in the late 19th century. And secondly, by constructing a political economy model, it finds that shared beliefs were essential in sustaining fiscal stability and securing property rights. More importantly, it shows how these beliefs implied institutional inflexibilities that restricted China's fiscal adaptability, and in particular, the ability to mobilize substantially more resources. This paper is able to trace China's drastic economic decline (at least relative to the rapidly industrializing countries) and political turmoil in the post-Opium-War period to the institutional inflexibilities, which had paradoxically, been instrumental in her earlier political and economic successes.

Undeniably, the analysis of this paper remains preliminary and leaves much room for improvement and refinement. The subject matter is so complex that integrating all elements of analysis into a single paper comes at the expense of leaving out important historical and institutional details. Nevertheless, this paper is an attempt to investigate how China's government-economy relationship and agency relationships within the government were transformed by the onslaught of "globalization" brought about by the advent of the West in the 19th century. What lessons can we learn from history? This paper has touched upon only one of the many promising avenues for comparative research that I plan to pursue.

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.08. NOTES (Return to Index)

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[1] Pronounced as "Ching." For this paper, the ping-yin system is used for romanization.

[2] Extensive growth refers to the steady state growth after the 11th and 12th centuries (during which period growth was more intensive), based on increased factor inputs of labor and land, in combination with marginal productivity growth. For a detailed discussion on the long-term trends in the Chinese economy, see Maddison (1998).

[3] Parts of China, for instance the Lower Yangzi Delta, continued to grow during this period at a rate probably comparable to the average rate of growth in Europe (see Pomeranz [2000]).

However, the Chinese economy as a whole failed to progress along its own steady state, and in relative terms, failed to perform as well as the countries that did industrialize.

[4] According to Jones et al. (1993), in 1912 China had only 353 mechanized factories, compared to thousands small handicraft workshops. Fewer than 1% of the enterprises employed more than 500 people (pp. 122-3).

[5] For instance, during the "Self-strengthening Movement" (1861-94), the Qing made significant technological improvements through imports and the hiring of foreign technicians. See Kuo and Liu (1978) for a summary. Also see discussion in Section 2.2.

[6] Deng (2000) lists them as "ideological determinism," "environmental determinism," "population models," and "technological determinism."

[7] Pomeranz (2000) claims that the "great divergence" between China and the industrial West was due to historical accidents that relaxed the resource constraints in the West through the discovery of the New World and the favorably located coal deposits in England. However, his study fails to recognize the endogeneity of the West's discovery of the New World, and does not address why China failed to overcome the resource constraints like Japan did.

[8] The caveat is to understand that the Qing's fiscal system is deemed a failure relative to the demands it faced and its potential. In absolute terms, fiscal revenues rose from 42.5 million taels in 1847 to 302 million in 1911, a significant accomplishment in nominal terms. But such increases in supply fell short of the more rapidly rising fiscal demand. I thank R. Bin Wong for alerting me to this subtlety. More careful treatment of what the fiscal demands and potential are will be presented shortly.

[9] Some may argue that the process of dynastic decline was set in motion several decades before the advent of the West, see for instance Jones and Kuhn (1978). However, the extent of internal decline in the early 1800s was far less drastic. In fact, signs of internal decline, such as the tax resistance in Jiangnan (_1WS), accelerated only when compounded with post-Opium-War external crises. Bernhardt (1992) records that tax resistance in Jiangnan occurred in two waves: a long and gentler one 1840-46 and shorter sharper one in 1853 (pp.55-83).

[10] For instance, the Sino-French War (1883-85) led to a financial crisis during 1883-4 in Shanghai, which caused many businesses to fail (Chan [1980], pp.424).

[11] The development of private enterprise in China during the current reform provides a contemporary analogy. By allying with local governments, private enterprises were able to prosper long before the official legitimization of private ownership in the constitution amendment of 1999. Many studies, including Qian and Che (1998) and Li et al. (1999), argue

that because of the patronage of local governments and the firms' contribution to local public finance, these quasi-private firms gained access to important resources (such as licenses and credit) and protected themselves from regulatory uncertainties.

[12] The role of the government in economic development during the late Tokugawa period and Meiji Restoration is a contentious issue in the economic history literature. While the effectiveness of state-owned industrial enterprises is ambiguous, the direct financial subsidies to the private sector and the indirect technological spill-over of militarization clearly encouraged economic development (see Yamamura [1997], Emi [1963], and Smith [1988]).

[13] For example, in 1856, the feudal lord of the Hizen domain ordered a complete shipbuilding plant from Holland, while in the same year, the feudal lord of Satsuma established a western-style navy and purchased more of the domains modern ships from abroad (17 between 1854-68). The Bakufu central government also started a navy training school with Dutch instructors in 1855. (Beasley [1981], pp.53-55)

[14] Ministry of Industry, which was primarily responsible for hiring foreign personnel, spent 40-67% of its expenditures on their salaries. These foreign personnel commanded a substantial wage premium, earning on average 212 yen per month compared to 21 yen for their Japanese counterparts. Highly skilled technicians were paid as much as 600-800 yen per year. Ibid, pp.120.

[15] For economic and institutional reforms attempted by the Qing, see Bell and Woodhead (1912, pp.352-76).

[16] A heavy, large-calibre gun with a long barrel, carried on the shoulder and loaded through the muzzle, fairly outdated technology for the 19th century.

[17] A cannon that has a short barrel and is used for firing shells at high angles of elevation and low speeds.

[18] A hollow artillery shell filled with pieces of metal that explodes and scatters its contents.

[19] In 1871, the government initiated a program where 120 students aged 12-16 were to study in the United States for an extended period (15 years). The first group of 30 students arrived in Hartford Connecticut in 1872, with three more groups of 30 arriving in 1873-75 (Kuo and Liu [1978], pp.532-41).

[20] By 1912 manufacturing firms registered with the Ministry of Agriculture and Commerce reported capitalization of \$4.8 million, while the traditional native banks and pawnshops capitalized \$165 million (Feuerwerker [1980], pp.40). This is consistent with the difficulties that

entrepreneurs in contemporary developing countries have in obtaining long-term credit. Wolf (1955) comments that financial institutions in such countries "impose prohibitive collateral requirements and interest charges which in practice sharply restrict the access of entrepreneurs to loan funds."

[21] Although the Qing had long deposited portions of its revenues with private banks to earn interest (qingshilu, pp.595-606), it never issued public debt until 1898, when it floated the 100-million-tael "Sincerity Bonds" yielding 5% and redeemable in 20 years. However, the bond was not warmly accepted by private investors. Only 10% was subscribed before the experiment had to be called off (Feuerwerker [1980], pp.66; qingshilu, pp.609).

[22] Sussman and Yafeh (2000) studies the risk premia associated with Japanese government bonds traded in London and found that two events elicited noticeable favorable market responses during 1870-1914: the adoption of the gold standard in 1897 and the victory over Russia in 1905. They conclude that events such as military victories or the adoption of well-understood macroeconomic rules signaled the credit-worthiness of the debtor countries. Sussman et al. (2001) finds that although the risk premia of bonds issued by the Qing were comparable to those of the Japanese bonds, the quantity of such bonds was extremely small. I suspect that, since many of Chinese bonds were mortgaged on the maritime customs, the risk-premia applied only to collateralized Chinese bonds--the risk premia on uncollateralized bonds could be so high that they were priced out of the market.

[23] The Sussman and Yafeh (2000) study also shows that before adopting the gold standard, Japan preferred to borrow at home and liquidate foreign debt. After the gold standard lowered its foreign debt risk premium, it preferred to borrow abroad and retire domestic debt. In other words, for the first thirty years of the Meiji Restoration (1868-1897), foreign capital remained prohibitively expensive.

[24] Gerschenkron (1962, pp.31-51, 353-364) reaches a similar conclusion by studying the delayed industrialization of some European countries.

[25] Ranis (1957, pp.30-31) provides similar evidence on government income expansion in Japan.

[26] Calculation made using Chang (1962) estimate of 1880s GNP at 2.8 billion taels, and Zhu and Shi (1995) estimate of government income at 90million taels. Perkins (1967, pp.487) even puts this figure in the 1%-2% range.

[27] Per capita agricultural output and income were comparable in 19th-century china and Meiji Japan. (Riskin [1975], pp.81) With population between the two being 400 million and 40 million, the Chinese economy was at least an order of magnitude greater that of Japan.

[28] The game theoretical analysis is developed in full in another working paper by the author, which is available upon request.

[29] See Hsiao (1960, pp.446, 448-9) and Yang (1975)

[30] The mentioning of the Qing, such as its character (清) had to be removed from all literary works.

[31] Unlike in Tang (618-907) and Song (960-1280), where students were required to study the law and to write judgments, during the Ming and Qing, students no longer studied the law: they were exclusively concerned with the style of ba-gu (Ch'u [1988], pp.94).

[32] Per capital income from Wang (1973, pp.133); salary for private secretaries from Ch'u (1988, pp.112).

[33] Ch'u (1988, pp.16-26); Fairbank and Goldman (1998, pp.129, 190); Bourne et al. (1898, part I, pp. 150); Morse (1908, pp.56)

[34] Although the figures in Table 3 are slight different from Wang (1973), it is also consistent with the observation that land tax is the most important source of revenue.

[35] According to Maddison (1998, pp.21), "[f]rom Canton to Peking, the normal courier service (by foot) took 56 days each way, urgent mail 18 days and super urgent mail 9 or 10 days each way."

[36] Martin (1900, pp.91-92), emphasis mine

[37] For a more detailed discussion of this incident, see section 5.1

[38] Hsu (1995, pp. 60), emphasis mine. Hsu romanizes ding as ting.

[39] "[I]t is asserted out of every three taels collected in the provinces, two are absorbed...before reaching Pekin[g]." (Bourne et al. [1898] part I, pp.343)

[40] Annual domestic trade figure estimated from likin and maritime customs (Perkins [1969], pp.119).

[41] According to the collection of guild hall commemoration tablets compiled by the Shanghai Museum in 1980, the last 50 years of the Qing gave birth to more guilds than the previous 200-

and-plus years combined, at a ratio of 57 to 30. (Shanghai Museum [1979] Appendix, pp.507-512)

[42] Liu (1988); Mann (1987) confirms that "[m]erchants, trade organizations, and gentry lineages with commercial investments assumed important tax-collecting roles in the marketplaces of Qing times. Moreover, the importance of merchant organizations in tax collection increased markedly after 1853" (pp.18).

[43] Guild membership was largely open to anyone belonging to the same trade (for trade-specific guilds) or to anyone of the same native origin (for common-origin guilds). The Construction Guild of Shanghai (shui-mu ye gongsuo) stipulated in 1869 that "all those who are also involved in the building construction business, are allowed to request an occupational certificate from us [the guild] who will ensure that they register as members" (Shanghai Museum [1979], pp.313-314). The Han-yang Guild of Yi-chang actively recruited new members by rewarding 10% of the newcomer's entrance contribution to anyone who promptly reported his arrival in town (Morse [1932], pp.315-16).

[44] Morse (1932, pp.19) records that the Ningbo Timber Guild had "an audit by accounts of various firms detailed in rotation of every member's books." Gamble and Burgess (1921) also mentions how some guilds hired spies to monitor their members (Chapter 8).