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China's Road in the Great Divergence

Qing's Model of Economic Development in the 1644–1911 Era

“大分流”视域下的清代经济发展模式

（英文版）

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内 容 简 介

本书试图探讨18世纪末和19世纪初的清朝中国与西方国家相比较，其经济发展道路是独特的还是相似的问题。主要分析“马尔萨斯奇迹”发生之前的清代人口膨胀及其对策；根据主要商品的市场流通量和关税记录，估算19世纪上半叶的商业总产值；探讨以咸同时期为转折点的清朝财政制度的变迁；分析咸同年间的政府借贷活动以及1823年大水灾时的清政府救灾情况。对现有的历史GDP研究和“大分流”研究进行反思，强调利用第一手史料进行研究的重要性。晚清时期的中国是相当特殊的国家，有着很强的传统和独特的文化传承，但这种“独特”并没有强烈到让中国可以违背普适的政治经济规律。清代中国仍然遵循着“普遍农业国家”的发展道路。这种发展道路，一些西方国家早已完成，一些国家则直到现在还在完成过程之中。

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Foreword

Maarteen Duijvendak*

Among today's economists exists a lively debate on the recent economic development of China. One point of dispute is when China will become the largest and most productive economy. Economic historians likewise debate the question of when and why China lost its prominent position as the richest economy in world history. Should we place this change in the sixteenth, eighteenth or nineteenth century? Was this position lost because of policies by the Chinese state; policies on trade, taxes or trust, or was it about the access to coal, capital and colonies in the other countries? And when this happened, was it China that diverted from the standard track, or was it the country that took over; England, the Dutch Republic, or the young United States? Books on the topic could easily fill a bookstore, the majority written by historians from the West. Recently however Asian voices have risen in the debate.

It is understood that historians who write about these global processes use generalised arguments. The assessment of economic developments in two or more countries demands the author to adopt more of a bird's eye view. A looking glass or microscope simply will not do. However, among most of the western scholars knowledge of the development of Chinese economy, institutions and policies rests on a limited amount of sources. Here the input of Chinese historians is of vital importance. Only by observing and assessing all available information can one come to the right generalisation.

Of course there is an important difference between the arguments of aforementioned modern scholars discussed in this book, and the great and sometimes

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speculative ideas of early twentieth century scholars like Otto Franke, Henri Gordier or Joseph Needham. Still this research relies heavily on literary sources. More quantitative and empirical knowledge of institutions and policies is urgently needed. This type of information is essential for a more precise understanding of the fiscal system and its revenues; of the state's expenditures and ability to borrow capital; and how the state answered when disasters struck and relief was organised. This detailed data will not just result in more comprehensive spreadsheets, statistical precision and colourful graphs. Used well, it produces more thorough arguments on topics that are prominent in the existing debate.

This book brings such evidence to the table, fresh from the archives. Important data presented on fiscal and financial policies in the Qing Dynasty (1644–1911) is put in context and discussed. In doing so it improves our collective understanding of the economic developments in China and the role of the state. It adds to the existing arguments, it refines some and it provides some new ideas about a distinct Chinese model of economic growth during these years.

At the heart of this study lies a PhD-thesis defended at the University of Groningen in 2020. The author, Yuping Ni, is a scholar who presented his material and ideas at seminars and workshops in different parts of Asia, Europe and the United States. A conference in Seoul brought him in contact with my department in Groningen. Grants from the *Dutch Research Council*, the *Chinese Scholarship Council* and the *Confucius Institute* made it possible for him to stay and study in the Netherlands for a year. During this year Ni published a book with *Brill Publishers* in Leiden, wrote an article—in cooperation with Dr. Martin Uebele—published in the *Australian Economic History Review*, and now the thesis has grown into a book published with the Tsinghua University Press in Beijing.

This book brings an end to a project that brought Yuping Ni to Groningen and carried me to Beijing. We found great joy in getting to know each other and each other's families; to explore our societies and history. As we were discussing the things we observed, mutual respect and friendly ties developed, plus our scholarship nurtured. Where the latter is about understanding arguments and improving their underpinnings, it is the former that fosters bonds between peoples and societies. I think the existence of this book proves the relevance of scholarly exchange in both directions.

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List of Chinese Terms

Buzhengshi (布政使): the nominal head of the civil service and the treasurer of the provincial exchequer.

Changshui (常税): also called Changguan Shui (常关税), refers to the collection of Chinese domestic customs.

Dan (担): unit of measurment used to denote mass. Roughly equivalent to 50 kilograms. Also sometimes referred to as a shi (石).

Dao (道): an official responsible for multiple prefectures.

Daqian (大钱): large coins/token metal coins issued during the late Qing period.

Diding (地丁): an agricultural land tax collected in silver.

Ewai Yingyu (额外盈余): additional Yingyu, adding an Yingyu to ordinary Yingyu in some ports.

Ezheng Shu (额征数): the regular quota of a tax.

Gongbu (工部): the Ministry of Works.

Guan Shui (关税): Customs duties.

Guangchu Si (广储司): the Storage Office, a section under the Department of Internal Affairs.

Hubu (户部): the Ministry of Revenue.

Jiandu (监督): the highest official in some customs ports.

Jiangning Zhizao (江宁织造): the official responsible for weaving the emperor’s clothes, located in Jiangning, known today as Nanjing.

Jing Xiang (京饷): provisions to the capital by provinces.

Li (厘): a unit of weight (also of length and area); 1 li = 1/1000 of a tael.

Liangtou (樑头): a boat’s skipper.

Likin (厘金): an ad valorem tax levied in the late Qing and early Republic of China.

Mu (亩): unit of measurement formerly used in China to indicate an area of land.

Neiwu Fu (内务府): Department of Internal Affairs, an organisation responsible for the affairs of the royal family.

Pi (匹): unit of measurment used for rolled-up fabric. Typically about four zhang when rolled out.

Pingyu (平余): a kind of surplus silver with tax collection.

Qinglisi (清吏司): Department of Pure Functionaries.

Shilang (侍郎): an official title, assistant minister, for officials holding the rank of grade two within the traditional nine-grade civilian rank system; there were twelve assistant ministers in the Six Ministries of the central government (each ministry had two Zuo Shilang 左侍郎 , meaning Left Shilang, and two You Shilang 右侍郎 , meaning Right Shilang).

Tong Jin Shui Jiao (铜斤水脚): copper transport fee, a fee to be paid by those who bought copper and sent it to Beijing.

Xian (县): county, the lowest provincial administrative district of ancient China.

Xie Xiang (协饷): provisions sent to other provinces, if sent to the Capital will be named Jing Xiang (京饷).

Xunfu (巡抚): Viceroy, the highest official in a province; if there was a Zongdu (总督) (Governor) appointed in a province, then the Zongdu outranked the Xunfu.

Yamen (衙门): government office.

Yangshui (洋税): also called Yang Guan Shui (洋关税), maritime customs duties.

Yanli (盐厘): salt Likin.

Yanglian Yin (养廉银): anti-corruption allowance.
Yingyu (盈余): surplus of Zheng'e.
Yinku (银库): the Silver Treasury.
Zheng'e (正额): the regular amount of government revenues and expenditures.
Zhou (州): prefecture, the provincial administrative district of the Qing China above Xian (县).
Zongdu (总督): Governor, the highest ranking official in one or several province (s).
Zongli Yamen (总理衙门): the Prime Minister of Foreign Affairs Yamen.
Zongren Fu (宗人府): Imperial Clan Court, an organisation responsible for the affairs of the royal family.
Zouxiao (奏销): submitting financial reports to the throne for approval.

List of Abbreviations

FHAC The First Historical Archives of China
ZPZZ Zhupi Zouzhe (Palace Midrange Rescript Memorials)
TB Tiben (Reports to the Emperor)
LFZZ Lufu Zouzhe (Extra Copies of Grand Council Memorials)
Chaodang Copies of the Archives, which are stored in the library of the Institute of Economics, Chinese Academy of Social Sciences. These include:
Guanshui Baogao Biao Qingdai Guanshui Shouzhi Baogao Biao (Revenue and Expenditure Reports of Customs in the Qing Dynasty) and
Tiben Guanshui: Customs Duties Reports to the Emperor
SYD Shangyu Dang (Edict Records)
GXCZP Guangxu Chao Zhupi Zouzhe (Palace Midrange Rescript Memorials of the Guangxu Reign)
GZDQLC Gongzhongdang Qianlong Chao Zouzhe (Palace Midrange Rescript Memorials of the Qianlong Reign)
GZDGXC Gongzhongdang Guangxu Chao Zouzhe (Palace Midrange Rescript Memorials of the Guangxu Reign)
SQYJ Shi Qu Yu Ji, written by Wang Qingyun
YZCHW Yongzheng Chao Hanwen Zhupi Zouzhe Huibian (Collection of the Palace Midrange Rescript Memorials in Han Language of the Yongzheng Reign)
LMGS List of Money and Grains Sent to and from the Provinces in the Seventeenth Year of Jiaqing in the Qing Dynasty

Introduction

The argument whether China's model of economic development is unique or similar to the rest of the world, especially when compared with the West, has existed for quite a while. In the sheer relentless quest towards understanding why some nations become rich while others fail, the case of China might represent an exception to the conventional wisdom and the most celebrated model of economic development currently in use. Alternatively, the deeper inspection of this case might help generalise our understanding of economic development in such a way that it allows us to explain China's trajectory as well. As a major milestone, the publication of Kenneth Pomeranz's book *The Great Divergence* in 2000 sparked a new era in global comparative economic history and added a new page to the debate on the question of Chinese or European uniqueness. It would be practically impossible, as well as superfluous, to summarise or even mention all the publications that contributed to this debate in the last 20 years.

In most of the existing review articles, it is stated that England was the "lucky one" and China the "normal".[1] The idea of European exceptionalism was not only argued by specialists in European history, but also voiced by some authors from Asia.[2] In all of these publications a lot of attention was devoted to the question of timing: when did Europe surpass the Chinese economic development? Was this around 1800, when England entered a phase of continuous modern industrial economic growth, as argued by Pomeranz, or was it earlier, in the mid-

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1 Peter C. Perdue. Review of Pomeranz, Kenneth, *The Great Divergence: China, Europe, and the Making of the Modern World Economy*. H-World, H-Net Reviews. August, 2000. URL: http://www.h-net.org/reviews/showrev.php?id=4476.

2 Prasannan Parthasarathi. Review of *The Great Divergence: China, Europe, and the Making of the Modern World Economy* by Kenneth Pomeranz. Past & Present, no.176 (Aug., 2002), pp.275–293.

18th century, or late-17th century when states in Europe commenced to modernise their institutions and technologies? Of course this strand of the debate was highly connected to the one about explanations. The dominant view here among economic historians followed the lines of Pomeranz, that is, geography, culture, and institutions all played at the background, but the technological changes and the effects of transatlantic globalisation were seen as decisive. Currently, this is the standard view for many scholars.[1]

However there exists a second line of reasoning that includes more institutional arguments. This line of explanation starts off at the views of Douglass North on transaction costs and the prominent role of institutions, including the prevailing systems of written and unwritten laws and the role of the state.[2] Daron Acemoglu and James Robinson have built upon these arguments. In their seminal article “The Colonial Origins of Comparative Development” from the year 2001, they argued that the quality of economic institutions was the key long-term determinant of economic growth.[3] In their view good economic institutions protected property and contract rights, which means the development of private entrepreneurship and investment. In another book (2012) *Why Nations Fail: The Origins of Power, Prosperity and Poverty*, the authors go one-step further in arguing that economic institutions in turn are determined by politics.[4] Here, they concentrate less on the role of the state, but rather on questions of representation and inclusion of different classes of people in the state. Their argument is that the more concentrated the political power is, the more a small group in society tries to extract wealth for itself without investing in public goods or the wider well-being. Acemoglu and Robinson’s answer to the question on what explains the differences in wealth across the world is in short: representative and inclusive political institutions.

A third and broader line of reasoning also starts with North’s institutional-

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1 Robert C. Allen (2011). *Global Economic History: A Very Short Introduction*. Oxford: Oxford University Press.

2 Douglass C. North (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.

3 D. Acemoglu et al. *The Colonial Origins of Comparative Development*. American Economic Review, vol.91, no.5 (Dec., 2001), pp.1369–1401.

4 D. Acemoglu and J.A. Robinson (2012). *Why Nations Fail: The Origins of Power, Prosperity and Poverty*. New York: Crown Publishing Group-A Division of Random House, Inc.

ist arguments, but focuses more on state formation, models of tax-extraction, in combination with empire-building and the broader economic development. Peer Vries made an important and well-received contribution to this approach: the role of the state and state-making in fostering economic growth. In his opinion it was the state that acted as the prime mover in the economic development of China and Britain. According to him the Chinese tax-extraction in combination with, what he calls, agrarian paternalist policies did not spark the same development as in Britain. In his seminal book *State, Economy and the Great Divergence: Great Britain and China, 1680s–1850s* from 2015, Peer Vries makes valuable observations on the Chinese development.[1]

However, because this book relies largely on second-hand literature, the persuasive quality of some of the arguments is hindered. It stands to reason that primary sources allow for a higher level of detail and accuracy. Here are some examples. Vries states on page 91:

> *"Whereas 'up to the outbreak of the Taiping Rebellion in 1851 the state had always made the examination system the primary, and the sale of offices secondary, channel of mobility', it by and large was the other way around after that rebellion. During that rebellion selling offices yielded 4 to 6 million taels of silver annually. For the period we discuss in this book, it seems safe to conclude that Wang's first type of contributions, in total, apparently did not yield more than, on average, a couple of million taels of silver per year. That is substantial, but not so much as to fundamentally change orders of magnitude of total government income."*

In this statement, Peer Vries refers to four sources. Two do interest us here now. In note 97 on this page Peer Vries refers to K. W. Swart.[2] This study mentions the 4–6 million taels of silver income from the selling of offices. As its source the author of this study refers to the observations of an American missionary published in 1849 in the *Chinese Repository*. Vries verifies the number of taels, using Ma Debin LSE Working Paper, "Rock, scissors, paper: the problem of incentives and information in traditional Chinese state and the origin of

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1 P. Vries (2015). *State, Economy and the Great Divergence: Great Britain and Chin*a,1680s–1850s. London: Bloomsbury Publishing.

2 K.W. Swart (1949). *Sale of Offices in the Seventeenth Century.* Hague: Martinus Nijhoff, p.110.

the Great Divergence” from 2011. More specifically Vries refers to graph 4 on page 25, where he thinks the 4–6 million taels of silver is confirmed. Actually, this graph shows that the income from the sales of offices between 1800 and 1863 reached just above the 1 million taels of silver for three separate years. Ma Debin refers to these data on revenue to the very reliable source in Luo Yu-dong, *History of Chinese Likin Tax*.[1] So this does not confirm Swart his statement from the 1949 dissertation. Swart’s book is based on a much less reliable source. While Vries’s conclusion remains prudent but even “a couple of millions taels” is too much. In my opinion it was impossible for the government to gain such an amount of money from selling offices. In fact, even the court reduced the requirements of selling offices after the rebellion, it failed to achieve good results because the rich had lost confidence towards the court. In 1851, selling offices only yielded 1,110,385 taels, and in 1853, the amount dropped to 672,611 taels.[2] It never reached to 4–6 million taels of silver annually during the rebellion. The second problem is that even in the late Qing period, the examination system was still the principal way to select for offices. As an illustration of its importance, Zuo Zongtang, one of the highest officers originating from the ranks of the military, was appointed by the imperial government as the supreme military commander of Xinjiang province to fight against the rebellion led by Mohammad Yaqub Beg and supported by Russian troops. During this war, even he asked to return to Beijing to take the imperial examination.

On pages 94 and 95 Vries states:

> *“By far the most important tax, the one on land, remained almost stable for the entire period of Qing rule that we are discussing here. It basically only increased somewhat with the extension of cultivated land. I did not find any estimate for the period till the First Opium War that was higher than 50 million taels. The yield of the rest of official taxes was and continued to be much smaller.”*

This sentence is a little vague and it contains a rough estimate of the land tax-revenue. The 50 million is not just the land tax of the Qing Dynasty in the

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1 Luo Yudong. History of Chinese Likin Tax (中国厘金史). Shanghai: Commercial Press. 1936/2010, pp.6–7.

2 Luo Yudong. *Zhongguo Lijin Shi* (1936). p.7.

19th century. The total revenue of the Qing Dynasty before the First Opium War (1840–1842) rarely exceeded 50 million taels of silver, even surcharge added. As will be discussed later in this book, the total revenue at that time included land tax (about 20–25 million taels of silver), salt tax (about 5 million), customs duties (about 5 million), selling of offices (about 2 million) and miscellaneous taxes (about 1 million).

On page 152 Vries quotes:

> *"The regular income of officeholders totaled only 6,295,000 taels, while the extra income totaled about nineteen times as much as the regular income. The combined total income of gentry members from office holding was an estimated 121,000,000 taels of silver annually. This large sum was shared by some 23,000 incumbent Chinese officeholders, who constituted about 1.6% of the total gentry ranks in the late nineteenth century. On the average, the gross income of an officeholder amounted to more than 5,000 taels of silver per annum."*

Actually, this sentence was cited from Chung-Li Chang's dissertation[1]. However, this description is not supported by source material. There are no "personal income" statistics available for this period. This problem with Chang's work was also observed in the 1963 review of the book *American Anthropologist* by Robert M. Mars.[2]

The main aim of this book is to reflect on the Chinese development and the role of the state and its institutions in a broader understanding. Its specific focus is a fiscal one. The main contribution to the debate on Chinese economic performance builds on fiscal data. To answer the question of China's or England's uniqueness in their economic development models, my focus is very much on the role of the Chinese state, on fiscal development, and on to what extent the government or administration intervened in society. The analysis of fiscal data is at the heart of this book. But to build my argument an understanding is required of the fiscal regime, its options and alternatives regarding the two pillars of any society: the demographic composition and development and the structure and de-

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1 Chung-Li Chang: *The Chinese Gentry: Studies on Their Role in Nineteenth Century Chinese Society*. Seattle, Washington: University of Washington Press, 1955, p.42.

2 Robert M. Mars (1963). Bookreview on page 963 and 964 in *the American Anthropologist* 65.

velopment of the Chinese economy. In addition to this, a chapter has been added on the Chinese state and its willingness to intervene in specific conditions. These arguments combined will hopefully form a reply to Peer Vries’s statements on the paternalist Chinese interventionist state.

Another disclaimer, this book will not offer a comparative analysis, although there will be references to literature on Europe occasionally. This book presents specific knowledge of Chinese history based on Chinese sources. My case study is the Qing Dynasty, 1644–1911.

The Chinese society has a long and continuous development, and can be seen as one of the oldest and most enduring traditions and civilisations in the world. Importantly, this continuity is the result of state formation, and the role of Chinese institutions. In this sense, when compared with the West with its many rising and vanishing civilisations, China could be regarded as special, as its continuity bridges millennia. The question remains about how the state and economy in China were interrelated. That is the main lens for my research. I am convinced that when conducting research on China’s political affairs, one needs to consider economic factors and vice versa, since these two aspects are closely intertwined in the social fabric of a country.

To understand the characteristics of economic development in the Qing Dynasty, this study examines some of the relevant aspects of the economy, which include population development and the way this issue was discussed in China, the production and composition of the total trade value in parts of China, the fiscal transformation that happened during the Qing period, the failure practice of borrowing money by the government, with specific attention to disaster relief as an indicator of resilience and state response in this period. I focus on these aspects to analyse the existing literature, the most relevant data, and to clarify the type or model of economic development in Imperial China and how the state acted accordingly.

In compiling this book, I have drawn materials from three main unpublished

series of sources.[1] I like to start with the most relevant, which are the First Historical Archives of China (Beijing), including:

—*Zhupi Zouzhe* (Palace Midrange Rescript Memorials), for which the archive accession numbers always begin with the numeral 04, for example, 04-01-35-0326-043. Archive accession numbers give complete information about the archived item. The here-mentioned example indicates that the item belongs to *Zhupi Zouzhe* and refers to a report submitted by Gao Chen, a Shanhai Guan district officer, on December 22, 1750 (Chinese lunar calendar).[2]

—*Tiben* (Reports to Emperors), whose archive accession numbers always begin with 02, for example 02-01-04-14795-017. Archive accession numbers give complete information about the archived item. The example given refers to an item belonging to *Tiben* and identifies a report submitted by Jiangfu, a minister of the Ministry of Revenue, on May 10, 1754 (Chinese lunar calendar).

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1 As my book Ni, Y. (2016). *Customs Duties in the Qing Dynasty, ca. 1644–1911*. indicated, there were only few scholars who used first-hand archives to analyse these topics. An absence of archival material will create a blind spot within the field of research. For example, with the exception of Tang and myself about the customs duties, most researchers have drawn their data from two sources: *Shi Qu Yu Ji* (SQYJ)by Wang Qingyun; and *The List of Money and Grains Sent to and from the Provinces in the Seventeenth Year of Jiaqing in the Qing Dynasty*. I have shown, however, that these sources are unreliable because customs data are missing for many historical periods and major ports of entry (on land borders or domestic waterways, and along the eastern coast). By inspecting archives from the First Historical Archives of China, I found that data in SQYJ for Chongwenmen, Zuoyi, Youyi, Nanxin Guan and Zhehai Guan are inaccurate for the years 1841, 1842, 1845 and 1849, while the data in LMGS for Zhangjiakou, Shanhai Guan, Shahukou, Chongwenmen, Huai'an Guan, Xushu Guan, Yangzhou Guan, Xixin Guan, Jiujiang Guan, Longjiang Guan and Beixin Guan are inaccurate for the years 1811 and 1812. When customs data from the above mentioned less reliable data points are added, the data in LMGS is higher by more than 200,000 taels of silver per year and higher in SQYJ by more than 1,000,000 taels of silver (Ni Yuping, 2008 A & B.)

2 Generally, the Governor and Viceroy would report every important affair to the Emperor and the Emperor would write some comments on the report with a red pen. The words in the report will be written in print style and can be easily seen. Zhupi means it was commented on by the Emperor with a red pen. So *Zhupi Zouzhe* (Palace Midrange Rescript Memorials) was the original report. In order to keep the record, the court had all the copies of the *Zhupi Zouzhe*, which bore the name of *Lufu Zouzhe* (Extra Copies of Grand Council Memorials). *Tiben* (Reports to Emperors) also was one kind of official's reports to the Emperors.

—*Lufu Zouzhe* (Extra Copies of Grand Council Memorials), whose archive accession numbers always begin with 03, for example 03-604-040. Archive accession numbers always give complete information about the archived item. The example refers to an item belonging to *Lufu Zouzhe* and identifies a report submitted by Chang Fu, a Shanhai Guan district officer, on November 12, 1789 (Chinese lunar calendar).

—*Shangyu Dang* (Edict Records), the emperors' orders; when cited in this book these are followed by the date of issuance, as given in the archive.

To save space and facilitate ease of use, when I cite *Zhupi Zouzhe, Tiben,* or *Lufu Zouzhe* I only give the archive accession numbers of items, which could be traced back through the reporter's name and the date on which the report was submitted.

The second major source is a selection made from a variety of published records, by the First Historical Archives of China and the Palace Museum of Taipei and includes the following:

—*Gong Zhong Dang Kang Xi Chao Zou Zhe* (Palace Midrange Rescript Memorials of the Kangxi reign).

—*Gong Zhong Dang Guang Xu Chao Zou Zhe* (Palace Midrange Rescript Memorials of the Guangxu reign).

—*Gong Zhong Dang Qian Long Chao Zou Zhe* (Palace Midrange Rescript Memorials of the Qianlong reign).

—*Gong Zhong Dang Yong Zheng Chao Zou Zhe* (Palace Midrange Rescript Memorials of the Yongzheng reign).

—*Guang Xu Chao Zhu Pi Zou Zhe* (Palace Midrange Rescript Memorials of the Guangxu reign).

—*Guang Xu Xuan Tong Liang Chao Shang Yu Dang* (Edict Records of the Guangxu and Xuantong reigns).

—*Jia Qing Dao Guang Liang Chao Shang Yu Dang* (Edict Records of the Jiaqing and Daoguang reigns).

—*Kang Xi Chao Man Wen Zhu Pi Zou Zhe Quan Yi* (Translation of the Palace Midrange Rescript Memorials recorded in the Manchu language of the Kangxi reign).

—*Kang Xi Chao Han Wen Zhu Pi Zou Zhe Hui Bian* (Collection of the Palace Midrange Rescript Memorials recorded in the Han language of the Kangxi reign).

—*Qian Long Chao Shang Yu Dang* (Edict Records of the Qianlong reign).
—*Xian Feng Tong Zhi Liang Chao Shang Yu Dang* (Edict Records of the Xianfeng and Tongzhi reigns).
—*Yong Zheng Chao Man Wen Zhu Pi Zou Zhe Quan Yi* (Translation of the Palace Midrange Rescript Memorials recorded in the Manchu language of the Yongzheng reign).

The first and second sources are the archives and the first-hand materials, which are the cornerstone of this book. The third and last source is the *Chaodang* (Copies of the Archives), which is stored in the library of the Institute of Economics, the Chinese Academy of Social Sciences. As some archives have been lost throughout the centuries, sometimes I have had to rely solely on the *Chaodang* as a data source. However, as a rule I give priority to inspecting archives firsthand (rather than copies), and I only cite the *Chaodang* instead if I can not find the original archive entry or if data was missing in that archive.

Needless to say, in addition to archives, there are many kinds of official books, gazetteers, and other historical records (such as published collections written by individual officials) that also became relevant in my research. I provide details of these sources when they are cited. These are the building blocks that I use, in combination with the existing and growing scholarship on Chinese economic history. I also will refer to recent publications of Chinese scholars available in Chinese.

There have been a multitude of important debates on Chinese economic history. However, in this book I had to limit myself to only discussing a few aspects. Firstly, this book aims to describe and contextualise the population expansion of Qing China, analyses the solutions employed, and tries to establish whether or not Malthusian principles had been independently developed in China at about the same time as in the West. Secondly, by accessing first-hand archival materials, this book tries to estimate the total trade value of goods in the early-19th century Qing Dynasty, and thereupon compare the role of the trade sector in the economic development of different countries. Thirdly, this book focuses on the fiscal system. In doing so it shows how the Qing court could be typified as traditional and conservative, as no single entity had the power to challenge the natural progression of events. Fourthly, this book tries to analyse the difference between the Qing and the West about the practices of borrowing money, from which we could understand the great difference. The last element is a case study

detailing a big flood in 1823. This aims to verify whether Beijing spent a much higher share on disaster relief in comparison with the disaster responses of major European nations during severe crises in the 19th century. In this way, my book tries to answer the central question, that is, whether the Chinese economic development can be considered unique or similar to the West.

Chapter 1 Population Expansion and Demographic Pressure in Qing China (1644–1911)

1. "The Chinese Thomas Malthus"

In 1798, Thomas Robert Malthus (1766–1834) published the classical book, *Principles of Population*, which had a worldwide influence. Malthusian thinking consists mainly of the idea, that given fixed resources (usually agricultural land), population growth automatically means less per capita income down to the point where people would starve. A main insight was, that this holds, even if the size of land resources grows. For example because agricultural land is claimed from swamps, or forest, or it is used more intensively due to better agricultural techniques such as rice terrace farming or new American crops. The reasoning is that the population may grow exponentially and thus faster than agricultural output increases, again bringing down per capita output to a point where it endangers human existence.

According to Malthus, these arguments fall in two sections, the so-called "positive checks" and "preventive checks". Stated simply, the contemporary Chinese arguments fall in the former category where the number of people is checked to a level that allows for a per capita income at which humans are able to survive. The stated policies of infanticide, the outright killing of certain social groups, disasters, diseases, and civil wars all fall in the same category and are usually not regarded as acceptable or even preferred "solutions" to the problem

of population pressure, because they usually represent problems in their own right to some degree.

More relevant are thus policies and mechanisms that solve the topic before it even arises, i.e. preventing a number of people inconsistent with the availability of food. In 19th-century China, controlling the marriage age would be such a policy, as well as effectively enforcing one or two births per couple.[1] Other mechanisms would include restricting the share of female population getting married at all in connection with restricting births out of wedlock, a social pattern found in large parts of early modern Europe commonly referred to as the “European marriage pattern”.[2]

Practically, the literature usually tests for either of these arguments by empirically relating two sets of variables to each other: The positive check supposes that per capita income (as measured in various ways such as GDP per capita or real wage) should be positively correlated with the mortality rate, and the preventive check supposes that per capita income should be negatively correlated with the birth rate. Of course, there are plenty of more or less sophisticated setups to test these hypotheses all coming down to the same basic idea. What is more important is that when done properly they rely on time series econometrics and thus annual data and auxiliary information. These are not available for 19th-century China. Still, the data presented here are the best available and should be interpreted with the theory just explained in mind.

The other important insight from reflecting in the mirror of Western literature is that the whole point of testing for Malthusian checks is concluding that if and when they don’t apply anymore, an economy has apparently moved on. In turn it enters a post-Malthusian era, in which though population grows, people can still enjoy rising per-capita income. European states experienced this sooner or later in the first half of the 19th century, ironically right after Malthus’s treatise.

There have been myriads of writing on demographic subjects since the publication of Thomas Malthus’s book. Utilising his main arguments and testing his main propositions have been at the core of this type of literature. While this

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1 In the Tang and Song Dynasties, a male could marry only when he was over 15 years old and a female over 13 years old. However, in the Qing Dynasty it had changed to 16 years old for a male and 14 years older for a female. See Rules Explanation of the Qing Dynasty (大清会典事例), vol.324.

2 Clark 2008, Hajnal 1965.

chapter is mainly about the scholarly reflection in Qing China on demographic issues revealing the same analytic approach on the mechanisms of population growth and per-capita income, the most common question in the Western discourse is about, if and when, this close interaction of resources and per capita income was abandoned in whatever region.

In 1793, the 58th year of the Qianlong period within Qing China, five years before Thomas Malthus published his book, *An Essay on the Principle of Population*, a Chinese scholar named Hong Liangji (1746–1809) wrote an article about the pressures of population growth during his time. It received as a title: *Zhi Ping Pian*.[1]

Hong was a famous scholar in the Qing. In 1790, he won the second place in the Imperial Examination and worked in the Imperial Academy. Among all his works, the most famous was his research on population. Even though his writing predates Thomas Malthus' treatise, Hong almost reached similar conclusions. In the *Zhi Ping Pian* it states:

> *There have never been people who did not delight in living under a peaceful rule, and none unhappy about living under a peaceful rule that has lasted for a long time (i.e., more than one hundred years). However, in the matter of population, it is noted that today's population is five times as large as that of thirty years ago, ten times as large as that of sixty years ago, and not less than twenty times as large as that of one hundred years ago.*
>
> *Take for example a family that at the time of one's great-great-grandfather or that of one's great-grandfather was in possession of a ten-room house and a one hundred mou piece of farmland. After the man got married there were at first only the two of them (husband and wife) living in the ten-room house and on the one hundred mou piece of land, with their resources more than ample. Assuming that they had three sons, by the time the sons grew up, all three sons, as well as the father, would have had their own wives, thus, totaling eight people. Eight people would require the help of hired servants, amounting to say, ten people in the household. With the ten-room house and the one-hundred mou piece of farmland, they likely would have just enough accommodation and food to eat, although barely*

1 Hong Liangji, On Governance and the Well-being of the Empire (治平篇), *Collections of Hong Liangji* (洪亮吉集). Zhonghua Book Company, 2001, p.14.

enough. However, in time, there would be grandsons, who in turn would marry. The aged members of the household would pass away, but there could still be more than twenty people in the family. With more than twenty people sharing a ten-room house and working on a one hundred mou piece of farmland, even if they ate very frugally and lived in crowded quarters, their needs would likely not be met. Moreover, there would be great-grandchildren and great-great-grandchildren, and the total number of people in the household would be fifty or sixty times that of the great-great-grandfather's or great-grandfather's time. For every household at the time of the great-great-grandfather, there would be at least ten households at the time of the great-great-grandson and great-grandson. Some families' population would have declined, but there would also be lineages whose male members would have greatly multiplied, compensating for the cases of decline.

One may say that at the time of the great-grandfather and great-great-grandfather, not all uncultivated land had been reclaimed and not all available housing had been filled. However, the amount of available farmland and housing likely had only doubled or at the most increased three to five times, while the population would have grown ten to twenty times. Thus, farmland and houses are always in short supply, while there is always a surplus of households and an excess in the population. Furthermore, some families would have bought or otherwise appropriated other people's properties such that one person owns the houses of more than one hundred people and one household occupies the farmland of one hundred households. No wonder that everywhere there are people who have died from exposure to windstorms, rain, and frost or from hunger and cold and the hardships of homelessness.

This leads us to ask whether there is a natural way to deal with such a situation. Floods, droughts, and plagues are natural ways of reducing the population. However, people who unfortunately become victims of such calamities are no more than 10% or 20% of the total population.

Do the ruler and his ministers have a way of dealing with such a situation? They may make adjustments in the following ways: pursuing policies to ensure that no farmland remains unused and that there is no surplus labour. Moreover, migration of farmers to newly reclaimed land may be organized; heavy taxes may be reduced after a comparison is made between

past and present tax rates. Extravagance in consumption may be prohibited; and the appropriation of other people's properties to wealthy household may be suppressed. Should there be floods, droughts, and plagues, grains in the granaries may be made available, and all the funds in the government treasury may be used for relief. These are all that the ruler and his ministers can do in the way of adjustments between population and productive land.

In summary, after a long period of peaceful rule, nature cannot stop the people from reproducing; yet, the resources with which nature nourishes the people are finite, and what the ruler and the ministers can do for the people is limited to the policies enumerated above. Among ten youths in a family, there is always one or two who would resist going to school. With some idle people in all the empires, how can it be expected that all will accept control from authorities? Housing for one person is inadequate for the needs of ten people; how can it be sufficient for a hundred people? The food for one person is inadequate for ten people; how can it be sufficient for a hundred people? This is why a period of peaceful rule concerns me.

Hong dared to raise questions regarding current affairs and criticised the chosen responses, a choice for which he ended up suffering a lot. Hong's lifetime experienced one of the fastest population expansions in Chinese history. The population boom resulted in a series of socio-economic problems. He found that the increase in production was slower than the population's growth, and he believed that the tension would be relieved by disasters, famines, plagues, and wars. Hong pointed out that the government could mitigate the problem through policies such as adjusting taxes, encouraging colonisation, and enhancing the social safety net. However, he expressed his concern about the limits of the population boom and policies by the government to solve the population crisis in addressing such an inherent structural dilemma. Hong's article didn't get accepted by Emperor Qianlong, and he was even sentenced to death in 1799 since he infuriated the court by criticising the current politics. Of course, he was not executed but exiled to the Yili region in Xinjiang province by the Emperor.

From these analyses, we can conclude that Hong's idea was very similar to Thomas Malthus' idea of positive and preventive or moral checks. It is therefore adequate that Hong was called the "Chinese Thomas Malthus." Referring to an obvious parallel in contemporary Chinese policy, these ideas laid the ground to

formulate the one-child policy (despite their very recent abolition) in modern China.

After Hong, there were also some scholars who had suggestions about the population problem; of them, Wang Shiduo (1802–1889) was the most famous. Wang's idea was mainly recorded in his *Yibing Riji* (Diary of Wang Shiduo). Wang believed that "the population would double in 30 years if there were no war. However, production did not increase at the same pace. All the mountains had been sown with corn and all the rivers had been changed to agricultural land. The planting technology was already highly developed; all the vegetables had been eaten, but it was still not enough to feed such a huge number of people." "Ordinary people were tired of their families…their livelihood was poor not because of wrong policy and bad harvest but because of the population. More and more rebellions would be followed."[1]

Wang had a number of suggestions to reduce the population. The first was to implement a late marriage policy. During his time, a couple would get married generally at the age of 15 or 16. Wang decreed that men and women should be married no earlier than the ages of 30 and 25, respectively. Anyone in violation of this rule should be sentenced to death. The second was to control the birth rate. He said one family could only have one boy or one girl, and two boys would be the maximum allowed but having two girls was not permitted. Children above that number must be killed, and abortion should be used in the family that already had a kid. The third was to adopt even more draconian law. The government should kill large numbers of criminals, especially the rebels who should be killed at once. Just like Hong, Wang's ideas were not accepted by the rulers at all. The population expansion was instead "solved" by the Taiping Rebellion (太平天国运动, also known as Taiping Heavenly Kindom Movement) and other series of wars.[2]

From above it becomes clear, that Malthusian thinking was independently developed and established in the Chinese discourse at about the same time as in the West, and that the main strands of argument were in fact following Malthusian principles. However, the question when China actually ceased to be a Malthusian society will be left for further research.

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1 Wang Shiduo, Diary of Wang Shiduo (汪悔翁乙丙日记), Taibei: Wenhai Press, 1975, p.88.

2 Wang Shiduo, Diary of Wang Shiduo (汪悔翁乙丙日记), Taibei: Wenhai Press, 1975, pp.90–154.

2. Population Expansion in the Early Qing

While the first section presented a historical summary of the internal Chinese discourse on demographic policies during the Early Qing era, the following section empirically establishes the size of the Chinese population at the same time. It is very difficult, however, to estimate the population of ancient China since the census standards varied greatly and were primarily used for estimating taxes. However, with the tedious and impressive work of many scholars, the population estimates of Qing China have become increasingly accurate. Among them, Cao Shuji's data has the biggest influence.[1]

Table 1.1 Population in the Qing Dynasty

Provinces	1644	1776	1820	1851	1880	1910
Jiangsu	27,120,000	32,436,000	39,435,000	44,719,000	29,491,000	32,355,000
Zhejiang	19,900,000	22,365,000	27,335,000	3,0276,000	16,029,000	18,490,000
Jiangxi	19,300,000	18,783,000	22,346,000	2,4286,000	13,316,000	14,961,000
Anhui	27,120,000	25,857,000	32,068,000	3,7386,000	21,392,000	25,197,000
Shandong	13,080,000	27,902,000	32,326,000	3,5585,000	38,978,000	43,881,000
Henan	8,460,000	23,150,000	27,498,000	3,0771,000	26,218,000	31,087,000
Zhili	7,300,000	17,799,000	23,082,000	2,7055,000	31,587,000	37,328,000
Hubei	6,200,000	16,173,000	19,482,000	22,187,000	18,966,000	22,077,000
Hunan	7,000,000	15,252,000	18,981,000	21,809,000	22,512,000	26,320,000
Shanxi	5,700,000	12,262,000	14,339,000	15,838,000	8,827,000	11,867,000
Sichuan	5,000,000	16,811,000	23,565,000	29,465,000	36,461,000	45,633,000
Guangdong	7,800,000	18,445,000	21,405,000	23,859,000	26,447,000	29,461,000
Fujian	8,800,000	13,779,000	16,545,000	18,407,000	14,167,000	15,471,000
Guangxi	3,500,000	7,662,000	9,461,000	10,962,000	12,592,000	14,535,000
Yunnan	2,400,000	7,884,000	10,299,000	12,675,000	11,645,000	13,468,000
Guizhou	2,500,000	5,672,000	7,478,000	8,794,000	10,254,000	12,047,000

1 In Qing China, there were 18 provinces and 5 new provinces, including Xinjiang province in 1884, Fengtian province in 1907, Jilin province in 1907, Heilongjiang province in 1907, Taiwan province in 1885–1895. In Cao's table, it also includes Qinghai (1928) and Mongolia (1947) and there were some data points missing in certain years and provinces.

(Continued)

Provinces	1644	1776	1820	1851	1880	1910
Shaanxi	7,400,000	7,965,000	12,130,000	13,269,000	7,075,000	9,545,000
Gansu	2,390,000	15,799,000	17,605,000	18,990,000	4,955,000	7,161,000
Liaoning		610,000	1,757,000	2,582,000	4,090,000	10,696,000
Jilin		294,000	567,000	1,238,000	2,569,000	5,477,000
Heilongjiang		108,000	168,000	370,000	775,000	1,663,000
Mongolia	50,000	1,855,000	2,290,000	2,656,000	3,052,000	3,497,000
Qinghai		280,000	300,000	314,000	329,000	344,000
Xinjiang		862,000	1,105,000	1,363,000	1,392,000	2,169,000
Tibet	800,000	1,140,000	1,190,000	1,231,000	1,270,000	1,312,000
Total	152,470,000	311,465,000	383,100,000	436,087,000	364,389,000	436,042,000

Source: Cao Shuji, *Population history*, vol.4, pp.451–452; vol.5, pp.703–704. Due to the limit, Cao’s book does not offer the 1644 population data for Liaoning, Jilin, Heilongjiang, Qinghai and Xinjiang provinces.

Below you can find a graph of the absolute size of population and how it changed during the Qing Dynasty.

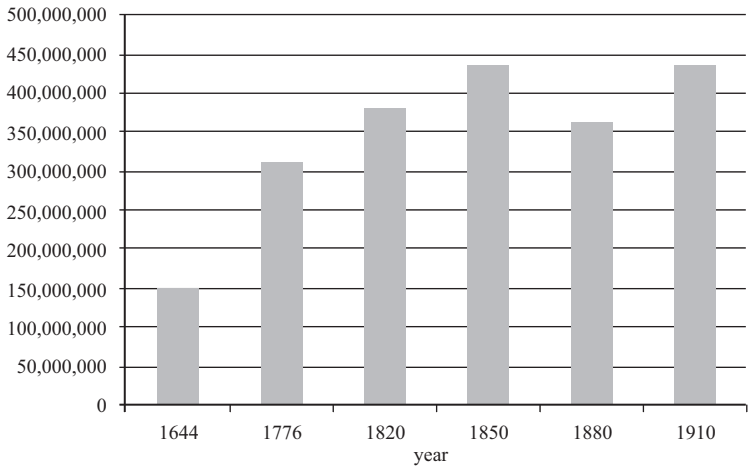

Figure 1.1 Population in the Qing Dynasty

Regarding Figure 1.1, we can see that there was a sharp population increase before 1850, during a period of almost 100 years of peace. The population in-

creased from 150 million in 1644 to 436 million in 1851, more than doubling (almost tripling) in over 200 years.[1]

The population expansion resulted in a series of socio-economic problems. It is common knowledge that in the last decades of the 19th century, the living standards of ordinary people dropped to a very critical level and even caused the concerns of the court. Even more than 100 years earlier, it already had attracted the attention of the Emperor:

The Kangxi Emperor (in power from 1661 to 1722) had a clear understanding of the pressures associated with the population size. In 1699 when he travelled to the Yangtze area, the richest area of China, he said that "I have always applied an exemption from the land tax and delivered relief as disasters happened in Jiangsu and Zhejiang provinces. However, the living standards of the people are not as good as before."[2] In 1709, he said that "We have had a long peaceful time and the population has increased very quickly. I have always been worried about the situation where food was not enough for the people, even during the harvest season and year."[3] "We have united our country for more than 60 years without any war, and the population has increased very quickly, but the amount of arable land has not increased at the same speed. The level of wealth that belonged to one person before should now be divided into several parts; how could that be enough in such a critical situation?"[4] In 1710, he also said that "the people were not as wealthy as before because of the long peacetime, and the population increased without the same growth of arable land and food production. Without enough food, how is it possible to become rich?"[5] In 1712, he said that "the price of rice has increased continuously, and many people cannot even find a job."[6]

The Yongzheng Emperor (in power from 1723 to 1735) continued his father's policy. In 1723, he said that: "Our country has last for a long prosperity without any wars and the population expands so quickly that the arable land

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1 Kent Deng, *China's Population Expansion and Its Causes during the Qing Period, 1644–1911*, in London School of Economics paper No: 219/2015.

2 Veritable Records of the Qing Dynasty, in Kangxi Times (清圣祖实录), vol.193.

3 Veritable Records of the Qing Dynasty, in Kangxi Times (清圣祖实录), vol.236.

4 Veritable Records of the Qing Dynasty, in Kangxi Times (清圣祖实录), vol.240.

5 Veritable Records of the Qing Dynasty, in Kangxi Times (清圣祖实录), vol.244.

6 Veritable Records of the Qing Dynasty, in Kangxi Times (清圣祖实录), vol.250.

could not feed the people. If it had a bad crop, people would be hard to find food.”[1] In 1729, Yongzheng pointed out that all the uncultivated land should be used to feed the people.[2] This situation continued to last well into the Qianlong era. In 1791, the Emperor expressed his worries to the court officials that the resources available might not be able to support the growing population.[3]

3. Solutions for the Demographic Pressure

The Qing government suggested some solutions to the population problem. First, with the government’s encouragement new world crops such as maize, potatoes, and sweet potatoes were planted. Before that, rice and wheat were the most important crops for the Chinese. According to the report of the United Nations International Fund for Development, we could see that “the oldest written record of maize in China appears in *Diannan Bencao* by Lan Mao in approximately 1492 (Liang and Johnnessen 1987). The original usage of maize was as traditional Chinese medicine. The earliest written record (from 1560) of maize as a food crop mentions that maize was a popular cereal crop cultivated in conjunction with rice, wheat, and millet in Pingliang Fu, Gansu Province, in northwestern China. Records also indicate that maize was used as a tribute to the emperor (Liang and Johnnessen 1987). Other historical accounts describe the cultivation of maize in the hilly areas of Fujian Province on China’s southeastern coast in the 16th century (Huang and Rozelle 2006). By the early 20th century, maize had become one of China’s major crops (Tong 2000). The maize area expanded to 10 million mou, approximately 12% of total cultivated area, between 1900 and 1930.”[4]

Corn and sweet potatoes had been introduced in the Ming Dynasty (1368–1644). Corn had appeared in Guangxi province in the period of Jiajing (1521–1566), but only appeared in Hunan and Sichuan during the Kangxi era of the Qing Dynasty. Sweet potatoes had appeared in China at about 1580 and became

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1 Veritable Records of the Qing Dynasty, in Yongzheng Times (清世宗实录), vol.6.

2 Veritable Records of the Qing Dynasty, in Yongzheng Times (清世宗实录), vol.80.

3 Veritable Records of the Qing Dynasty, in Qianlong Times (清高宗实录), vol.948.

4 Meng, E.C.H., Ruifa Hu, Xiaohua Shi, and Shihuang Zhang (2006). *Maize in China: Production Systems, Constraints, and Research Priorities*. *Mexico, D.F.: CIMMYT*, p.2.

popular in the early years of the Qing Dynasty. These crops produced more calories per acre than rice and wheat, which were the main food staple for the Chinese people. These new crops could also be planted in barren land. In the late Ming, Xu Guangqi (1562–1633), a very famous scholar and the author of *Nongzheng Quanshu* (Encyclopedia of Agriculture), wrote: "Where sweet potatoes were planted, the people would have half of the food. More and more people began to plant it."[1]

When the Qing Emperors noticed the increasing pressure of population growth, they implemented tax relief and river maintenance works, developed agricultural technology, and at the same time, Qianlong Emperor ordered all kinds of local governments to set incentives for planting new crops, especially corn and sweet potatoes. For example, in 1785, Qianlong Emperor said that "sweet potatoes are edible and have good drought resistance. We should let the people know about this and plant them wherever possible. That would be a good solution to the problem of excessive population growth."[2] By checking the records of all kinds of gazetteers in the Qing Dynasty, I found that there were 118 counties that did not plant corn. With the help of the government that number was reduced to 72 in 1820 and 40 in 1851, which means that eventually over 90% of the counties planted corn.[3]

Many books and papers stated that this was how such a huge population was fed at the time. Pan Xinghui wrote in his book that "the population increased so quickly, and this was due to the sweet potatoes, corn, and other crops that had appeared in China. These crops had the characteristics of strong adaptability and high yield and thus, became the main food of the poor people in the Qing."[4] However, there are no records on how much area had been used to plant corn or sweet potatoes. According to the census of 1914–1918, the area for planting corn and sweet potatoes was about 7.2% of the total arable land and its production was 7.7% of the total production. Searching through various sources from 1920,

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1 Xu Guangqi, Encyclopedia of Agriculture (农政全书), vol.18.

2 Veritable Records of the Qing Dynasty, in Qianlong Times (清高宗实录), vol.1268.

3 The number of prefectures and countries varied in the Qing Dynasty. Generally speaking, there were about 1500 counties before 1850 and 1700 counties before 1911. See Qing Shi Gao (清史稿), vol.54–81.

4 Pan Xinghui, *Changes in the History of China*, translated by David T.W. Pun, Hong Kong: Red Publish, 2014, p.44.

the production had increased to 9% of total production. Since the area for planting corn and sweet potatoes at that time had increased steadily, the ratio during the Qing Dynasty must have been even lower. In the 1930s, there was an investigation about corn and sweet potatoes. There were very small parcels of land to plant corn in Anhui, Inner Mongolia, Fujian, Guangdong, Guizhou, Henan, Jiangsu, Jiangxi, Ningxia, Shandong, Yunan, and Zhejiang provinces. From the records, we can find the ratios during 1930s: Gansu had 6.5%; Guangxi, 17.2%; Hebei, 15%; Heilongjiang, 5.3%; Hubei, 10.7%; Hunan, 3.9%; Jilin, 5.4%; Liaoning, 2.6%; Shaanxi, 5.4%; Shanxi, 11.3%; Sichuan, 13.2%; and Xinjiang, 19.2% of its arable land planted with corn. Only seven provinces had between 10% and 20% of their arable land planted with corn. Regarding sweet potatoes, Inner Mongolia, Ningxia, Qinghai, Gansu, and Shanxi had very little land to sow, and Shaanxi, Hebei, Shandong, Henan, Anhui, Guizhou, and Yunnan had 1%, Jiangsu, Hubei, and Zhejiang had 2%, Jiangxi and Guangdong had 3%, Hunan had 5%, Fujian and Guangxi had 6%, of its land planted with sweet potatoes.[1]

By Wu Hui’s estimate, the production of these two crops represented 4.63% of the total food production in tons in the Qing Dynasty.[2] Based on this, we can conclude that the new crops were not as important as scholars previously assumed.[3] Traditional food, including rice and wheat, was more important than the new crops in supporting such a huge population, from 100 million to 400 million.

Table 1.2 Average Population Density in the Qing Dynasty

Provinces	Area	1644	1776	1820	1851	1880	1910
Jiangsu	102,907	264	315	383	435	287	314
Zhejiang	100,474	198	223	272	301	160	184
Jiangxi	165,365	117	114	135	147	81	90
Anhui	143,475	189	180	224	261	149	176

1 Han Maoli, The Spread of Corn in Chinese Territory in Recently 500 years (近五百年来玉米在中国境内的传播), in *Zhongguo Wenhua Yanjiu* (Journal of Chinese Culture), vol.1, 2007.

2 Wu Hui, Study on the Grain Production per mou in the Ancient Dynasties of China (中国历代粮食亩产研究), Agriculture Press, 1985, p.197.

3 Chen Zhiwu, *What Does Quantitative Historical Research Tell Us?* in *Economic Observer*, Sep.16, 2013.

(Continued)

Provinces	Area	1644	1776	1820	1851	1880	1910
Shandong	151,547	86	184	213	235	257	290
Henan	167,761	50	138	164	183	156	185
Zhili	351,176	21	51	66	77	90	106
Hubei	184,359	34	88	106	120	103	120
Hunan	210,104	33	73	90	104	107	125
Shanxi	196,975	29	62	73	80	45	60
Sichuan	611,504	8	27	39	48	60	75
Guangdong	225,177	35	82	95	106	117	131
Fujian	159,016	55	87	104	116	89	97
Guangxi	220,950	16	35	43	50	57	66
Yunnan	410,124	6	19	25	31	28	33
Guizhou	177,083	14	32	42	50	58	68
Shaanxi	188,089	39	42	64	71	38	51
Gansu	530,294	5	30	33	36	9	14

Source: Cao Shuji, *Population History*, vol.4, pp.451–452; vol.5, pp.703–704.

The second solution to the demands of population expansion was to make new parcels of land available to the poor. In 1759, the Qing Dynasty recovered Xinjiang (new frontier or new borderland in Chinese characters), an area of 1.66 million km^2 in the northwest. The government attempted to welcome people who wished to settle there, and the emperors always issued an Imperial Edict in order to help poor citizens. It even provided migrants with seeds and tools and tax exemptions for a number of years. By a rough estimate, the land of the whole country reached 1 billion mou. However, as a whole, in 1773, Qianlong Emperor said that "land reclamation had been carried out everywhere on the mainland and one could hardly find more space. The only available land was in Xinjiang, such as Urumqi, which would still be able to accommodate some settlement."[1] However, due to the warfares and diseases in the 18th century, the population in

1 Veritable Records of the Qing Dynasty, in Qianlong Times (清高宗实录), vol.948.

Xinjiang was still decreasing. In the Late Qing, some poorer people also tried to go to Northeast China in the northeast, especially the Manchus people received help from and organisation by the State.

In the late 18th and early 19th centuries, population increased quickly in areas such as Sichuan, Shandong, Guangdong, Fujian, Guangxi, and Guizhou; but as a whole, the rate of population growth was still low compared to the Early Qing. The Yangtze Delta and North China were still the centres of the Chinese population, the most populated areas in China.

Another important indicator is population per unit of arable land in the Qing Dynasty.

Table 1.3 Population per Unit of Arable Land in the Qing Dynasty

Time	Population (million)	Million mu	Per mu
1661	153	645	4.22
1720	215	984	4.58
1850	436	1254	2.88

Source: Cao, *Population History*, vol.5, pp.703–704; Shi Zhihong (2015), Estimation of the Agricultural Production Indicators in the Qing Dynasty (清代农业生产指标的估计), *Jingjishi Yanjiu* (Researches in Chinese Economic History), 3:5-30.

From the table we can see that the units of arable land divided by population had a declining trend. This was also one reason why mandarins tried to carry out the policy of migration to Xinjiang and Northeast China, to increase the number of people per mou in these areas and lessening the population pressure in heartland China.

The third solution was birth control by the people themselves, without being encouraged but tolerated by the administration, just like Malthus’s preventive checks. In Malthus’s idea, there were two types of checks. The first ones are the positive checks, which arise from vice and misery and raise the morality rate. He wrote, “Under this head…may be enumerated all unwholesome occupations, severe labour and exposure to the seasons, extreme poverty, bad nursing of children, great towns, excesses of all kinds, the whole train of common diseases and epidemics, wars, plague and famine.” The second ones are the preventive checks, which have an effect on the birth rate and stem from moral restraint (e.g. the delay of marriage). Malthus said: “Promiscuous intercourse, unnatural

passions, violations of the marriage bed, and improper arts to conceal the consequences of irregular connections, are preventive checks that clearly come under the head of vice."[1] According to several works by James Lee, Cameron Campbell, and Bozhong Li, taking such measures was popular among poor families. James Lee showed that it was very common to apply infanticide, and the share of babies killed after birth was about 1/5 to 1/4 in rural villages.[2] They also found from their study of 33,000 cases of rich families from 1700 to 1830, that 1/10 of infants were killed during the early days of their lives.[3] However, the population growth still remained very high since the Chinese maintained their traditional belief that having more kids (especially boys) provided greater happiness.

The fourth way was disasters and wars, a positive check and has the effect of reducing the population number. Disasters were very common in Qing China. Based on the very rough statistics of *Qing Shi Gao* (Record of the Qing History), there were 2,681 counties (13.75 per year) that experienced big floods and 1,188 counties (6.09 per year) that had intensive droughts during the Qing Dynasty. Together, there were 3,871 counties that experienced a large disaster during the Qing Dynasty, reported by the administration with the tax reduction.[4] On average, there were 20 counties yearly that experienced disasters, with substantial losses in terms of material wealth and lives. As discussed later in this book, in 1823, about 20% of all counties were flooded, and about 50% of the government spending went to disaster relief, leading to great loss, both in terms of wealth and lives. The government started a war sometimes, probably mostly in defence, but also to obtain more territory for Han people. Of course, population loss caused by wars and disasters was not the intended goal of a policy, it was an unintended effect.

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1 Malthus, *An Essay on the Principle of Population*, Duke: Duke University Press, 1992, pp.15–16.

2 J. Lee, C. Campbell, *Fate and Fortune in Rural China: Social Organization and Population Behavior in Liaoning, 1774–1873*. Cambridge, England: Cambridge University Press, 1997, pp.58–70; Li, Bozhong. (1996) The Low Population Growth and Its Reasons of the Yangzi Delta Area in the Early and Mid-Qing Times (清代前中期江南人口的低速增长及其原因). Qingshi Yanjiu [Journal of Qing History Research], 2:10–19; J. Lee, Wang Feng, *One Quarter of Humanity: Malthusian Mythology and Chinese Realities*. Cambridge, Mass.: Harvard University Press, 1999, p.51.

3 J. Lee, C. Campbell, p.49.

4 As we showed before that the number of prefectures and countries varied in the Qing Dynasty. Generally speaking, there were about 1500 counties before 1850 and 1700 counties before 1911. See Qing History Record (清史稿), vol.54–81.

Aside from floods and droughts, all other kinds of disasters also happened frequently during the Qing Dynasty. I have published a paper on the topic of hail storms and found that there were more than 6,400 hail disasters throughout the Qing era if we counted one county or prefecture as one figure in one year.[1] This means that on average, there were 24 counties or prefectures that had hail storms per year with the consequential harvest loss. However, we hardly found information on the death rate due to hail storms, even though we found records about hails of more than 100 kg in the year of 1806, that led to deaths of farm cattle, which was much heavier than those on the records in the Western world.[2]

Jiang Tao found that from 1850 to 1877, due to the Taiping Rebellion and various disasters, the population loss was about 180 million (this tally includes age-related deaths and unrealised fertility). This significantly changed the trend of population growth. In fact, one can find a drop in the population during incidences of wars and disasters.[3] This war also shows a very interesting fact to discuss the existence of Malthusian positive checks. Generally speaking, if the population goes up, the likelihood of warfare and military conflicts should go up as resource scarcity increases, similarly when the population goes down the likelihood of warfare should also decline. The connection to natural disasters as an endogenous variable here is an even more interesting point because in the first place it appears to be exogenous.

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1 Ni Yuping (2012). A Preliminary Analysis of Hail Disasters in the Qing Dynasty (清代冰雹灾害统计的初步分析), in *Jiangsu Shehui Kexue Jiangsu Social Sciences*, 1: 218-224 (Jan, 2012).

2 In February 22th (Lunar time) of 1806, the hail storm happened in Xinhua county of Guangdong province, “it was more than several hundred *jin* (half kg) and there was a quake where it fell ”, see Huang Peifang, Gazetteers of Xinhua County, vol.14, 1841. A hailstone of 1 kg is a registered record in the modern world. http://www.severe-weather.eu/theory/hail-world-records-the-biggest-heaviest-and-deadliest-hail/ states: Heaviest hailstone: 1.02 kg (2.25 lb); Gopalganj District, Bangladesh, 14 April 1986.

3 Jiang Tao, The Population History in Modern China (中国近代人口史), Hangzhou, Zhejiang Renmin Press, 1993, pp.72–79.

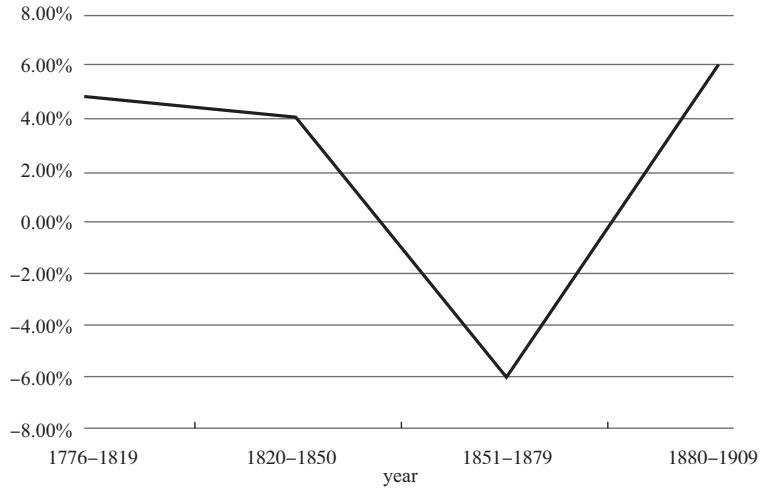

Figure 1.2 Population Growth Ratio in the Qing Dynasty

Source: Jiang Tao, The Population History in Modern China (中国近代人口史), Hangzhou: Zhejiang Renmin Press, 1993, pp.72–79.

If we checked every province, also by Jiang Tao's research, the picture will be as follows during the Taiping Rebellion.

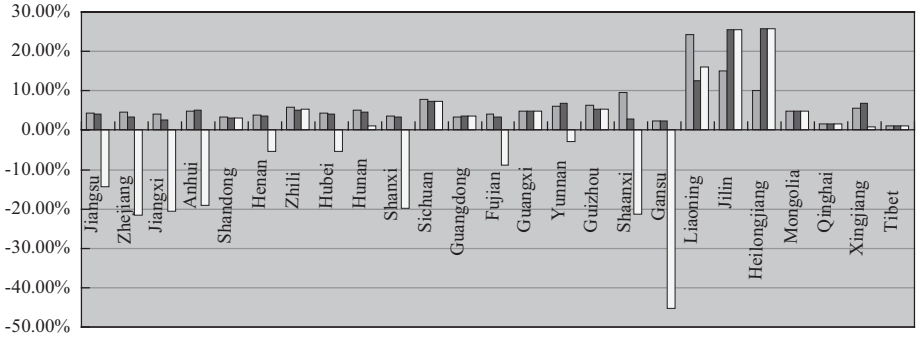

Figure 1.3 Provincial Population Growth Ratio in the Qing Dynasty

Figure 1.3 shows how Jiangsu, Zhejiang, Jiangxi, Anhui, Shanxi, Shaanxi, and Gansu were the most seriously affected areas, which is in line with their status as the foremost battlefields.

As expected, the government also undertook some measures to help poor people, which is not in line with the idea that during Qing the mandarins became

more reluctant to state intervention. For example, tax was reduced and other grain storage methods had been widely used.[1] The peasants also tried to improve land cultivation using new technologies. However, in Qing China the most effective limiting factor on population growth was war and disaster.

4. Conclusion

The debate about the population in the Qing Dynasty has lasted for a long time. From the discussion of the statistical standard of the population (including Ho Ping-ti, Cao Shuji and Jiang Tao), to the cultivated land area and yields (including Dwight Perkins, Li Wenzhi, Zhao Gang, Guo Songyi and Shi Zhihong), and to the discussion of the development of farming technology (including Philip Huang, Li Bozhong, Han Maoli and Hou Yangfang, etc.), all of the problems attracted attention from the academic community without finding the resolution of a certain conclusion.

In addition to population growth, inflation is another aspect of the Qing economy to be taken into account. Exact figures for inflation during the Qing Dynasty are perhaps even more difficult to come by than population estimates. The easiest way of getting an idea of inflation during the Qing Dynasty is to compare the various published estimates of changing price levels. Unfortunately the extent of inflation during the Qing period differs severely between the published estimates, and it is impossible to arrive at an index that is widely accepted.

Richard von Glahn has combined these arguments, and he thinks that there is no Malthusian subsistence crisis in the Qing Dynasty: “The price inflation of the eighteenth century most likely reflected the substantial growth of the total money supply rather than the stress of overpopulation. China did not yet face a Malthusian subsistence crisis.”[2] However, he also believes that “the efficiency of domestic markets, regional specialization of production, and an expanding money supply stimulated economic and demographic expansion in early Qing China.

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1 Carol Hua Shiue, Local Granaries and Central Government Disaster Relief: Moral Hazard and Intergovernmental Finance in Eighteenth- and Nineteenth-Century China, in *The Journal of Economic History*, vol.64 (01), 2004.

2 Richard von Glahn.(2016). *The Economic History of China: From Antiquity to the Nineteenth Century*, Cambridge: Cambridge University Press, p.330.

The steady rise in prices across the eighteenth century corresponded closely to the increase in population, suggesting that agricultural and industrial output kept pace with rapid population growth without any appreciable decline in per capita income. Yet the prosperity engendered by the quantitative growth in output masked the lack of significant innovation in productive technologies." [1] Therefore it is necessary to analyse and consider these arguments carefully.

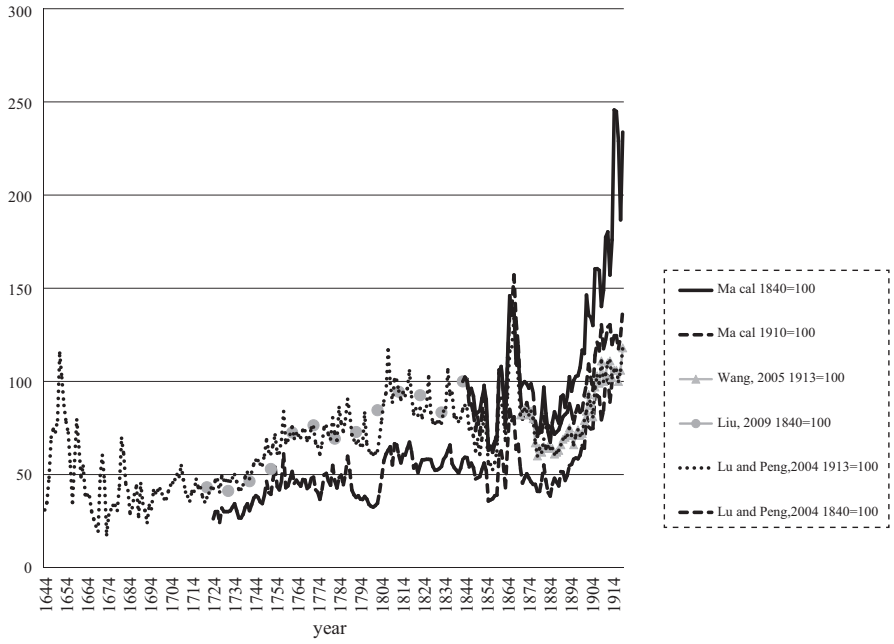

Figure 1.4 Estimates of Price Trends in the Qing Dynasty

Source: Ma, Y., de Jong, H. J. & Chu, T. 2014, Living standards in China between 1840 and 1912: A new estimate of Gross Domestic Product per capita, GGDC Research Memorandum no.147, Appendix B, Table B. 12.

Dwight Perkins concluded that per capita grain production remained stagnant during the Qing times, the increases in grain output occurred solely because the expansion in cultivated land, which allowed rising yields to keep pace with population growth.[2] In contrast, Li Bozhong's studies of Jiangnan agriculture

1 Richard von Glahn.(2016). *The Economic History of China: From Antiquity to the Nineteenth Century*, Cambridge: Cambridge University Press, pp.335–336.

2 Perkins, Dwight H. (1968). *Agricultural Development in China, 1368–1968*. Chicago: Aldine, pp.13–26.

have found substantial improvements in land utilization, capital investment, and labour productivity during the Ming-Qing era that raised agricultural output well beyond Song levels.[1] However, Richard von Glahn disputes this and states that “It should be noted that Li’s estimates for Song rice yields almost certainly are too low.”[2]

Another important topic is that a vast amount of the disputes concerning agriculture during the Qing Dynasty are concentrated in Jiangnan area. Of course Jiangnan was very important as a region, but it bears repeating that using Jiangnan as a proxy for the entirety of Qing China is not academically prudent. The development or involution in Jiangnan does not constitute proof that other areas had the same experience. Especially when we talk about the population expansion, huge swathes of the population migrated from Jiangxi to Hubei and then rushed on to Sichuan. Later, the White Lotus Uprising broke out and lasted from 1796 to 1804, during which farmers occupied 204 counties and prefectures and the Qing government spent 200 million taels of silver in military expenditure (equivalent to four years of fiscal revenue) in answer. As Hong Liangji had so tragically predicted it took the Taiping Rebellion to solve the population expansion in Jiangnan.

From our discussion above, there are no new arguments to state differently; seen in the lens of population development, China was the same as the West at that stage, not a special or different country. Thus, I maintain that Qing China was still in a regime described by Thomas Malthus, and clearly had not experienced a “Malthusian Miracle”. The wars and disasters can undoubtedly be interpreted as “positive checks,” and were thus the inevitable ways to reduce the population size. In other words, the same demographic laws applied to China as to the West, and more importantly, thinking about this had been developed contemporaneously and independently in China as well.[3]

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1 Li Bozhong: The Early Modern Economy of the Yangzi Delta in a New Perspective, *Social Sciences in China*, vol.1, 2015, pp.91–109.

2 Richard von Glahn.(2016). *The Economic History of China: From Antiquity to the Nineteenth Century*, Cambridge: Cambridge University Press, p.352.

3 Shou Chen, James Kai-sing Kung, Of Maize and Men: the Effect of a New World Cropon Population and Economic Growth in China, in *Journal of Economic Growth*, vol.1, 2016.

Chapter 2 Total Trade Value in the First Half of the 19th-Century Qing China

When studying the trajectories of the economic and political history of a major country such as China, the size of the population is always an important gauge of both its economic prosperity and the relationship between the economy and the state. These have been discussed in the first chapter. This chapter discusses the size of the economy itself in the context of its complex relationship with trade. Here we use the concept of "total trade value" to estimate the magnitude of commercial activities, including the value of both domestic trade and foreign trade. While its main contribution is the detailed presentation and discussion of a new data set, the discourse about trade and growth—however necessary—is painted with a broad brush only for reasons of focus.

The discussion begins with the question: is trade good for GDP growth?[1] The simple answer is that countries that engage in trade usually gain from it and historically grew faster than others. The two main reasons for not trading are—according to Acemoglu, Johnson and Robinson, a major contribution to this literature—either bad geography or bad institutions. Clearly, China has had both. In

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1 Frankel, J. A., & Romer, D. H. (1999). Does trade cause growth? In *American economic review*, 89(3), 379–399; Acemoglu, D., Johnson, S., & Robinson, J. (2005). The rise of Europe: Atlantic trade, institutional change, and economic growth, in *American economic review*, 95(3), 546–579. Keller, W., Li, B., & Shiue, C. H. (2012). The evolution of domestic trade flows when foreign trade is liberalized: Evidence from the Chinese Maritime Customs Service, in *Institutions and Comparative Economic Development* (pp. 152–172). Palgrave Macmillan, London.

the landmark paper of 2005, Acemoglu, Johnson and Robinson did not discuss China explicitly, but they included Maddison’s GDP estimates for China with 1820 being the only data point. Different from other less historically oriented contributions to this literature such as Frankel and Romer (1999), Acemoglu and his co-authors did not use trade data, they only used geography as proxy. One reason for this is the lack of historical data about trade transactions for a broad set of countries throughout history. This is where the present chapter offers a contribution.

In recent years, with the development of interdisciplinary communication, an increasing number of scholars with a background in economics have begun researching economic history, and theory-based historical research has become more and more popular. In addition, especially in the past 10 years, with the development of historical GDP research, the desire for access to sound historical data has become stronger. However, many time series data have their flaws, and much work is still required. The aim of this chapter is to establish insights into the value of goods traded in China in the first half of the 19th century.

Generally speaking, Chinese economic history data should be considered carefully. China has abundant economic data, but these data lack accuracy for various reasons. However, when supported by other sources and the ability for cross-checking, the historical records can be used to prove or reveal valid information.

An important example involves the official government seal, which was the main symbol of the power of the government. Carving official seals privately was a serious challenge to public power and the rule of governance by documents. Still, it was not uncommon to carve official seals in the Qing China, which was an important manifestation of the lack of control of the governmental administrative system. Among the cases of the private production of the official seal during the Qing Dynasty, the Wang Li’nan case in the Zhili province in 1806 involved the largest amount of money, the largest number of people and the longest time. In order to alleviate repeatedly insufficient revenue from land tax, the Zhili authorities illegally sealed the land tax documents of various prefectures and counties, thereby deceiving the accountability apparatus of the empire proper. The resulting inquiries showed that there were many malpractices, such as false stamps and seals. Emperor Jiaqing sent imperial missions to handle the case. After checking one by one, it was found that there were 24

prefectures and counties involved and more than 310,000 taels of silver was stolen. Moreover, from 1796, the annual collection of land tax in Zhili had had the drawbacks of false income, offset, heavy collection and expenditure. That is to say, the warehouse clerk used loopholes of the fiscal system to privately engrave an official-looking seal, thereby turning public funds into private funds, either exclusively or in collusion with local officials. Their cheating methods consisted primarily of changing decimal numbers to large numbers, replacing number 1 with number 10,000 and number 2 with number 20,000 (taels of silver); reimbursement; the reproduction of official seals to use on false documents; and even destroying official documents directly. The occurrence of Wang Li'nan case demonstrates the overall corruption of the administrator in the Jiaqing era. So, after disclosing the illegitimate 310,000 taels of silver, the land tax could be regarded accurate.[1]

The first half of the 19th century was a key turning point in China's economic and social development. Before this period the Qing Dynasty can be regarded as a traditional agricultural society and at the end, it had started opening its market to the West. It is useful to model a total trade value for this period, because it will combine the value of domestic trade and the value of foreign trade into a single value. To estimate the total trade value at a particular time, a complete account of the amount of trade is needed, which is the total value of goods in the market, and from this the value added can be estimated. There are two ways to estimate the total value of trade. One is to estimate the value of the circulated quantity of commodities, and the other is to estimate the value of customs duties. In theory, both approaches should lead to the same outcome. Either method has its own advantages and disadvantages. Estimating the total trade value can be done using these two methods: first is to estimate the total trade value based on the trade volume; second is to use the data of customs duties to verify the result.[2]

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1 Ni Yuping, "Governance by Documents"or "Governance by Petty officials?" A Study on Wang Li'Nan Cases of Carving Official Seals Privately of Jiaqing Times, in *South China Quarterly*, vol.4, 2019.

2 Xu Dixin and Wu Chengming, *The Development History of China's Capitalism* (中国资本主义发展史), vol.1, *Sprout of China Capitalism*, Beijing: People's Publishing House, 1985.

1. Estimating the Market Circulation of Commodities

The main commodities of domestic trade in the Qing Dynasty were grain, cotton cloth, raw silk, silk Fabrics, tea, and salt. I will start with discussing the relevance of each.

(1) Grain

Grain was the most important commodity in the Qing Dynasty. In the middle of the 19th century, the population of China reached 436 million, nearly three times that of the Wanli Period (1573–1620, the peak of the Ming Dynasty's population). With the development of the commodity economy and the increasing number of towns, the social demand for commodity grain was much bigger than that during the Ming Dynasty. This led to grain trade in the Qing Dynasty that was far bigger than any other former periods of China's history. Earlier scholars have done quite detailed research on the domestic grain trade of the early Qing Dynasty. Xu Dixin and Wu Chengming, the editors of the book series, "*The Development History of China's Capitalism*," wrote in the first volume, *Sprout of China Capitalism,* that although in the early and middle periods of the Qing Dynasty the grain circulation was mostly based on the demand of small local markets, mainly to supply the local urban population, the long distance transportation had made great strides.[1]

At that time, long distance grain circulation could be divided into 10 routes from the south to the north as follows:

a. The grain from the southern provinces transported through the Grand Canal to the capital area, Shanxi, and Shaanxi provinces: 6 million *dan* annually;[2]

b. Wheat and beans from Fengtian shipped by sea to Tianjin and Shandong province, 1 million *dan* annually;

c. Beans and wheat from Fengtian shipped by sea to Shanghai, 10 million *dan* annually;

d. Wheat and sorghum from Henan province and Tianjin transported through the Grand Canal to Linqing of Shandong province, hundreds of thousands of *dan* annually;

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1 Xu Dixin and Wu Chengming, *The Development History of China's Capitalism*, vol.1, *Sprout of China Capitalism*, Beijing: People's Publishing House, 1985, p.517.

2 Each *dan* would be 142.9 *jin*, or 72.5 kg.

e. Wheat and grain from Hankou of Hubei province transported through the Hanzhong area of Shaanxi province, 600 thousand *dan* annually;

f. Rice from Anhui and Jiangxi provinces transported through the Yangtze River to Jiangsu and Zhejiang provinces, 5 million *dan* annually;

g. Rice from Hunan and Sichuan provinces through the Yangtze River to Jiangsu province, 10 million *dan* annually;

h. Rice from Jiangsu and Zhejiang provinces shipped by sea via Shanghai to Fujian province, 100 thousand *dan* annually;

i. Rice from Taiwan prefecture shipped by sea to Fujian province, 1 million *dan* annually;

j. Rice from Guangxi province transported through Xijiang River to Guangdong province, 2 million *dan* annually.

The total was about 36 million *dan* of grain circulated annually through the ten routes above. Moreover, Xu Dixin and Wu Chengming believed that "this was roughly representative of the long-distance distribution of the Middle Qing." Of this volume, excluding the transport of tribute grain and soldiers' grain, there was about 30 million *dan* of commodity grain, which was three times that of the late Ming Dynasty (about 10 million *dan*).[1]

Deng Yibing also estimated the grain circulation at that time. Her estimation included rice, wheat, corn, beans, sorghum, other kinds of grains, as well as bean cake. Her research focused on the nongovernmental food transport, excluding tribute grain, soldiers' grain, and grain purchased by officials. Her method of estimation mainly used customs duties data to calculate this number. Considering that not all the roads had ports to levy tax on grains, she also used the number of ships for an additional estimation. According to Deng, the rivers that allowed grain to be transported further inland and had the capacity to accommodate grain boats and ships during the early Qing Dynasty were predominantly: the Yangtze River, the Xijiang River, the Minjiang River, the Huaihe River, the Yellow River, the Haihe River, the Luanhe River, and the Grand Canal.[2]

Among them, the grain transport volume of the Yangtze River reached its

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1 Xu Dixin and Wu Chengming, *The Development History of China's Capitalism*, vol.1, *Sprout of China Capitalism*, Beijing: People's Publishing House, 1985, pp.272–277.

2 Deng Yibing. *Grain Marketing and Market in the Early Qing Dynasty* (清代前期的粮食运销和市场), in *Historical Research*, vol.4, 1995.

peak in the Qianlong period and was over 18.5 million *dan*, which included 3 million *dan* from Sichuan province, 8 million *dan* from Hunan province, 2 million *dan* from Hubei province, 4.5 million *dan* from Jiangxi province, and 1 million *dan* from Anhui province. However, due to the nine years' unrest caused by the White Lotus Rebellion in the early Jiaqing period (mainly in Hubei, Sichuan, and Shaanxi provinces), the Yangtze River transportation of grain suffered. Moreover, the population increase in the Daoguang period prevented further out-transportation from these provinces, and thus the grain transport of the Yangtze River decreased from the Qianlong period and onwards.

The grain transport volume of the Xijiang River should be at least 3.2 million *dan* annually and that of the Hanjiang River should be more than 100 thousand *dan* annually. The estimated number for the Minjiang River was also 100 thousand *dan* annually. For the Huaihe River, the grain transport volume was about 11 million *dan* in the Qianlong period and experienced the same downward trend as the Yangtze River after that.

The grain transport volume of the Yellow River was about 4 million *dan* in the Qianlong period, while that of the Haihe River was 1.5 million *dan*. It was about 100 thousand *dan* for the Luanhe River. Estimating the mass transported over the Grand Canal area was complicated. Deng estimated that during the peak of the Qianlong period, it was about 3.5 million *dan* in the north of Linqing Guan section, 5 million *dan* between Linqing and Huai'an section, 4 million *dan* between Huai'an and Yangzhou section, 6 million *dan* between Yangzhou to Xushu section, and 5 million *dan* below Xushu Guan section. In short, it was about 23.5 million *dan*. After the highpoint of the Qianlong period, this number also declined. Deng believed that the grain transport volume was over 62 million *dan* in the early Qing Dynasty. However, she stated that this number was the peak of that time, "before that it was an upward trend, which was followed by a downward trend." Grain however wasn't exclusively traded by river. If the volume transported by sea was included, that number for the whole country would be over 85 million *dan*. [1]

The above-mentioned research only relates to long-distance grain transport, excluding trade among local and regional markets. According to Xu Dixin and

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1 Deng Yibing. Grain Transport Volume and the Changing Trend in the Early Qing Dynasty (清代前期内陆粮食运输量及变化趋势), in *Researches in Chinese Economic History*, vol.3, 1994.

Wu Chengming's research, it was believed that the total amount of grain circulation through these 10 routes only accounted for about 20% of the total grain trade before the First Opium War. When estimating the total amount of grain traded as commodity at that time, they took into account the make-up of the population to determine grain consumption (i.e., the non-agricultural population and the agricultural population planting cash crops) and the production of industrial food (wine, butter, and others) for analysis. Their conclusion was that the total amount of commodity grain was approximately 24.5 billion *jin* (0.5 kg), accounting for about 10.5% of the total grain production.

However, by Shi Zhihong's estimation, the total grain production ranged from 24.3 billion to 28.1 billion *dan*, averaging 26.2 billion *dan*.[1] If we took 15% into account, the commodity grain would be 3.9 billion *dan*. Considering the average price of grain (1.1 tael of silver per *dan* of grain), the total value of commodity grain would be about 4.29 billion taels of silver.

(2) Cotton

Based on the research of Xu Xinwu, the cotton output amounted to 11 million *dan*. As a cash crop, assuming 30% of total production was grown for the commodity market, that would amount to 3.3 million *dan*.[2] The market price of cotton at that time, as estimated by Xu Dixin and Wu Chengming, was about 5 taels of silver; which was reasonable. Accordingly, the total value of the cotton commodity in the middle 19th century was about 16.5 million taels of silver.

(3) Cotton Cloth

In Xu Xinwu's book, *Jiangnan Tubu Shi* (History of Jiangnan Cotton Cloth), he estimated cotton production per capita in 1840. After that, he further estimated that approximately 45% of the total farming households were weaving households. We estimate the total cotton production at 345.2 million *pi* of cotton cloth. The commodity value was 0.3 tael of silver per *pi*, and the total value was 103.6 million taels.[3] From Xu Xinwu's research, we also have more interesting information: in 1840 almost half of the southern Chinese rural households

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1 Shi Zhihong (2015), Estimation of the Agricultural Production Indicators in the Qing Dynasty (清代农业生产指标的估计).

2 Xu Xinwu, History of Jiangnan Cotton Cloth (江南土布史), 上海 : Shanghai Academy of Social Sciences Press, 1992, p.163.

3 Xu Xinwu, History of Jiangnan Cotton Cloth (江南土布史), 上海 : Shanghai Academy of Social Sciences Press, 1992, p.136.

were engaged in rural industry: weaving cotton. This cotton was mainly for the Chinese textile consumption, it means that a large part of this rural population earned an income separate from their agricultural production.

(4) Silk and Silk Fabrics

The total output of raw silk in the year 1850 was 13.5 million *jin*. Since raw silk was mainly for sale, we could estimate that 90% of it, 12.2 million *jin*, were sold as goods. Out of that amount, 2.2 million *jin* was exported. The remaining 10.0 million *jin* was sold domestically. According to Yao Xiangao's statistics, the average price of raw silk in 1850–1851 was 2.62 taels of silver per *jin* according to customs in export ports. We estimate that the domestic price was 80% of the export price.[1] Based on these calculations, the value of domestic raw silk was 21.0 million taels of silver, and the value of exported raw silk was 5.8 million taels. Moreover, there were multiple different silk fabrics on the market: about 4.49 million *pi* of mulberry silk, 1.14 million *pi* of tussah silk, or 5.63 million *pi* altogether. Based on a production value of 30.3 million taels of silver and an increase by 20% to account for business profits our estimation arrives at a total value of 36.4 million taels of silver for the silk and silk fabric commodities.

(5) Tea

Tea was the main daily drink of Chinese people with a long history of planting. After the Qianlong reign with the population increasing, the domestic tea market expanded, and the European market grew simultaneously. Tea gradually became the largest export commodity of China to the West. In the first half of the 19th century, the scale of China's tea planting and tea making expanded rapidly with the growth of domestic and foreign markets. According to my estimates, in the middle of the 19th century the annual output of Chinese tea was 3 million *dan*. Out of that amount, 800 thousand *dan* was exported, valued at 19.2 million taels; 2.2 million *dan* was sold domestically, valued at 26.4 million taels. Since the tea farmers' personal consumption was limited, we could say the total commodity tea value was 45.6 million taels of silver. [2]

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1 Yao Xiangao: The Materials of Foreign Trade in Modern China (中国近代对外贸易史资料), vol.1, Beijing: Zhonghua Bookstore, 1962, p.582.

2 Yao Xiangao: The Materials of Foreign Trade in Modern China (中国近代对外贸易史资料), vol.1, Beijing: Zhonghua Bookstore, 1962, p.582.

(6) Salt

Salt was a necessity in daily life with a great demand. The Qing government, for financial purposes, formulated a special salt law to strictly control the production and sale of salt, and its ultimate purpose was to collect salt tax. This salt tax was an important revenue stream of the Qing government. After Qianlong, the Dynasties collected about 5 million taels of silver from salt yearly, accounting for about 12% of the total fiscal revenue of the Qing government. In 1850, the total salt production was 4 billion *jin*, valued at 68.9 million taels of silver.[1]

In short, we can estimate the total value of the main domestic commodities at 600 million taels of silver. However, this estimation of course has some problems. Specifically, some products only had a one-way flow, meaning that there was no corresponding exchange of commodities. As such, this portion should not be regarded as genuine commodity and their values should be deducted. According to Xu Dixin and Wu Chengming's analysis, the government taxes, landlords' rent fees in the towns, and profits and interest of the commercial and usury funds were appropriated from the countryside. Thus, Xu and Wu deducted 15% of the values of grain, cotton, silk, and tea, and 5 million taels of silver from salt.[2]

Considering the reasons above, we also make some adjustments. There is one more thing that needs to be considered. All the estimations above concerned the main commodities in circulation at that time. These six commodities represented most of the market transactions; however, they were not the only transactions. Aside from these commodities circulation, Tuhuo (local production such as eggs, fans, grass hats, bamboo baskets and all kinds of groceries) should also be included in the total trade value. There were hundreds of thousands kinds of Tuhuo and even though their circulation values may not be large, we should not underestimate their total value. Considering this point, this study assumes that the value of the six main commodities accounted for 70% of the total market and other commodities accounted for the remainder (30%). This is presented in Table 2.1.

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1 Xu Dixin and Wu Chengming, *The Development History of China's Capitalism* (中国资本主义发展史), vol.1, *Sprout of China Capitalism*, Beijing: People's Publishing House, 1985, p.336.

2 Xu Dixin and Wu Chengming, *The Development History of China's Capitalism* (中国资本主义发展史), vol.1, *Sprout of China Capitalism*, Beijing: People's Publishing House, 1985, pp.282–284, Table 4-1 and Table 4-2.

Table 2.1 Estimation of Main Domestic Commodities

Type of Commodity	Volume	Value		
		In taels	Adjusted	Ratio (%)
Grain	400 million *dan*	429,000,000	409,200,000	42.6
Cotton	3.3 million *dan*	16,500,000	15,340,000	1.6
Cotton cloth	345,200,000 *pi*	103,560,000	103,560,000	10.8
Raw silk	10,020,000 *jin*	21,040,000	19,570,000	2.0
Silk fabrics	5,630,000 *pi*	36,420,000	36,420,000	3.8
Tea	2,200,000 *dan*	26,400,000	24,550,000	2.5
Salt	4 billion *jin*	68,940,000	63,940,000	6.7
Others			288,250,000	30.0
Total		701,860,000	960,830,000	100

Source: see the explanation above. There were some differences between value in taels and adjusted, with considering the changing price from copper cash to silver.

From Table 2.1, we can recognise how the estimated value of main domestic commodities has expanded greatly from 349 million taels of silver according to Xu Dixin and Wu Chengming’s analysis, not only due to the different items but also due to the newest research results.[1] Due to the limits of the historical material, exact yearly figures will not be possible, but just a gross estimate of the total value in the first half of the 19th century. Aside from the domestic commodity circulation, Tuhuo exports should also be included in the total value, with items such as books, sugar, peanuts, medicines, paper umbrella, fruit, and so on. Before 1850, the commodity structure and scale of foreign trade did not change significantly. Tea and silk were the main export commodities and these accounted for about 90% of the total export value.[2] We estimated that the total value of tea and raw silk was 2.491 million taels of silver. Even if we consider the other

1 Xu Dixin and Wu Chengming, *The Development History of China’s Capitalism* (中国资本主义发展史), vol.1, *Sprout of China Capitalism*, Beijing: People’s Publishing House, 1985, pp.282–284, Table 4-1 and Table 4-2.

2 Such situation continued to 1870s, in 1868 was 94%, 1869 was 88%. From Yao Xiangao: the materials of foreign trade in Modern China (中国近代对外贸易史资料), vol.1, Beijing: Zhonghua Bookstore, 1962, p.1609.

commodities traded in the Sino-Russian trade and inland border trade, the export value would not exceed 3 million taels of silver, since the total value could not be bigger than the number of Yuehai Guan which represented the foreign trade business. Thus, we think that the total commercial commodity in 1850 was about 990 million taels of silver.

2. Verifying the Value of Commodities with Customs Duties

To check the value of commodities (domestic and abroad), we refer to the total revenues of the customs duties for verification.[1]

(1) Domestic Commodities

The Qing Dynasty established the customs duties system which taxed goods as they passed through ports (unloaded boats and ships were also taxed), which is a practice inherited from the Ming Dynasty. Since the tax ratio was levied on the quantity and price of the goods, in theory we are able to calculate the commercial volume based on the quantity and the tax rate. However, the system allowed for numerous tax-free goods such as salt and copper. During times of crisis, such as serious disasters, grain was also exempted from these port taxes. Of course, tax evasion and corruption of officials were a common phenomenon. It had an undoubtedly influence on the customs duties records. More importantly, customs ports only taxed the goods on long-distance transport and the short-distance trades were not included. We will have to account for the effect on the records accordingly.

The customs duties of the Qing Dynasty can be classified into two types: Huguan and Gongguan. Huguan means the taxes belonging to the Ministry of Revenue (Hubu), and all these taxes should be remitted to the Hubu. Gongguan means they belonged to the Ministry of Works (Gongbu), which mainly taxed bamboo and boats and ships, and the money should be sent to the Gongbu for construction needs. In the latter part of the Qianlong period, that is circa 1760–1795, there were more than 30 ports of Huguan as follows:

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1 Parts of this chapter are based on data used in my book, *Customs Duties in the Qing Dynasty, ca 1644–1911*, Leiden: Brill Publishing House, 2016.

Capital area: Chongwenmen, Zuoyi, Youyi, and Tongzhou (Zuo Liangting);

Zhili province: Tianjin Guan, Shanhai Guan, and Zhangjiakou;

Shengjing: Fengtian and Zhongjiang Guan;

Shandong province: Linqing Guan;

Shanxi province: Shahukou and Guihuacheng;

Jiangsu province: Jianghai Guan, Huai’an Guan, Xushu Guan, Yangzhou Guan, and Xixin Guan;

Anhui province: Fengyang Guan and Wuhu Guan;

Jiangxi province: Jiujiang Guan and Gan Guan;

Fujian province: Minhai Guan;

Zhejiang province: Zhehai Guan and Beixin Guan;

Hubei province: Wuchang Guan;

Sichuan province: Kui Guan and Dajianlu;

Guangdong province: Yuehai Guan and Taiping Guan;

Guangxi province: Wu Chang and Xun Chang.

Except for Huguan, there were also many other tax ports for Gongguan, which included Tongyong Dao, Chihli, Pantaokou, and Gubeikou of Zhili province; Shahukou Gongguan and Wuyuancheng of Shanxi province; Linqing Gongguan of Shandong province; Longjiang Guan and Suqian Guan of Jiangsu province; Wuhu Gongguan of Anhui province; Nanxin Guan of Zhejiang province; Jingzhou Guan of Hubei province; Chen Guan of Hu’nan province; and Yu Guan of Sichuan province. In the Northeast of China, there were also some small customs duties, such as Ningguta and Muqin, among others. Since their quota was so small and their material was rare, they have been omitted from this study. With regard to Gongguan, it was known that these areas were seldom managed by the officials from the Ministry of Works or by the local officials; they were mainly managed by Huguan officials. For example, Shahukou Gongguan was managed by Shahukou Huguan; Linqing Gongguan was managed by Linqing Huguan; Longjiang Guan was managed by Xixin Guan; Suqian Guan was managed by Huai’an Guan; Wuhu Gongguan was managed by Wuhu Huguan; Nanxin Guan was managed by Beixin Guan and Kui Guan was managed by the Chongqing prefecture. The effect of this tax managed by the Ministry of Revenue was that it became more efficient and economic.

The tax ratio was set by the Ministry of Revenue, whose rules were posted on the gate for the public’s information. From the reigns of Yongzheng and

Qianlong, tax was generally at 5% of the goods' value. However, this was only in principle; in reality, each port had its own tax rate. Sometimes, even in one port, the tax rates of different branches varied. Aside from the quota, there were all kinds of additional taxes with different names, such as stamp fees, inspection fees, office expenses, and others. Some ports levied taxes based on the style and volume of the ships. Sometimes, if there was a natural disaster, ships that transported grains to these areas would be tax-free. Moreover, if the ships transported goods for the government, such as copper and grains for tribute, there was also no tax charged. If the goods were very small and inexpensive and predominantly consumed by business people, there was also no tax charged.

There was a certain amount of tax required by the Qing government in the beginning of the dynasty that was named Zheng'e (the regular amount of government revenues and expenditures). With economic development, the tax collected was always over the quota of Zheng'e, and the excess was called Yingyu (surplus of Zheng'e). Zheng'e and Yingyu were both sent to the central government.

Although the amounts of Zheng'e and Yingyu experienced some adjustments, the total number of customs duties was about 2 million taels of silver in the early Qing Dynasty but varied yearly. In the early years of Qianlong, the amount of Yingyu was fixed, at the amount taxed in the 13th year of the Yongzheng Emperor (1735). After that, almost each port taxed more money than the amount of 1735. However, as time passed, almost all Yingyu coming from the ports either surpassed or fell short of Yingyu collected in 1735. In 1777, when Yangzhou Guan and Fengyang Guan once more experienced a gap as compared with the 1735 benchmark, the emperor had to admit that comparing with Yingyu collected in 1735 had not been a good idea. He instead created the three-year-comparison as follows: "Customs revenues are linked to harvests and cannot be changed spontaneously. If revenues in a year are lower than those of the previous year, they should then be compared with the preceding two years. If it is not smaller than in any of these three previous years, it will be acceptable. I had good intentions when ordering a comparison with Yingyu collected in 1735, but now I know it may not fit every port. Thus, the three-year-comparison will replace the comparison with Yingyu in 1735."[1] Nevertheless, in practice Hubu always compared Yingyu collected with the highest amount amassed in the pre-

1 SYD of FHAC: 3 August, 42nd year of Qianlong.

vious three years. If Yingyu was less, the responsible officials would have to make up for the shortfall from their private means.

Obviously, the system of the three-year-comparison was not a good policy because it did not take into account the reasons for increases or decreases in Yingyu. In practice, it drove officials to increase taxes by any means possible. Furthermore, trade patterns during the late Qianlong changed significantly and correspondingly the customs duties collected changed as well. There were some expected revenue increases by customs offices near the rivers and the coast. However, some other ports close to the Grand Canal experienced decreases in customs revenues, and nobody wanted to be an official at these ports since they would have to pay any shortfall out of their own pockets. As such, in 1799, during the reign of Jiaqing, the government was forced to adjust its policy and cancel the system of the three-year-comparison. Instead the new Yingyu was set at a fixed amount (Zheng’e was not changed). This was a very important event in the history of customs duties in the Qing Dynasty.

On March 18, 1799, Emperor Jiaqing declared: “The amount of customs duties collected has been judged according to a system of the three-year-comparison. If the revenues collected were considered to be insufficient, the responsible officials would be punished, and they would have to make up for the shortfall out of their own pockets. Obviously, this has already resulted in officials taxing the people heavier than their rulers have asked of them to avoid shortfalls from occurring. However, most of the time, the shortfall would not be made up so easily (since the volume of economic transactions fluctuated over time), and this system was based on guesses rather than estimates. I have examined the list of customs offices under the jurisdiction of the Ministry of Revenue and found that different offices face different sets of circumstances. I will introduce a new policy in which Yingyu for each port will be fixed and the system of the three-year-comparison will stop permanently. If tax revenues are too low, the responsible officials should then pay the shortfall. And this system is not only applicable for Huguan but also for Gongguan.”[1]

According to this new policy, a fixed amount of Yingyu was stipulated for each area as follows (in thousands of taels of silver): Zuoliangting, 6; Tianjin Guan, 20; Linqing Huguan, 11; Jianghai Guan, 42; Xushu Guan, 235; Huai’an Guan, 111; Miaowan Guan, 2.2 (under the jurisdiction of Huai’an Guan); Yang-

1 SYD of FHAC: 18 March, 4th year of Jiaqing.

zhou Guan, 68; Xixin Guan, 29; Fengyang Guan, 15; Wuhu Guan, 73; Jiujiang Guan, 347; Gan Guan, 38; Minhai Guan, 113; Zhehai Guan, 39; Beixin Guan, 6.5; Wuchang Guan, 12; Kui Guan, 110; Yuehai Guan, 855.5; Taiping Guan, 75.5; Wu Chang, 7.5; Xun Chang, 5.2; Guihuacheng, 1.6; Shanhai Guan, 49.5; Shahukou, 15.4; and Zhangjiakou, 40.5. In total these ports collected 2.4 million taels of silver as Yingyu.

Five years later, the government once more changed Yingyu of some ports. The Ministry of Revenue reported at the time that "After our examination, we find that since 1799, most customs ports have raised more taels of silver than their tax quota stipulates. At ports such as Yuehai Guan, Tianjin Guan, Beixin Guan and Gan Guan, custom duties collected have even doubled, thus meeting the 1799 quota with ease, so we need not worry about these ports any more. Moreover, customs collected at some places, such as Jianghai Guan, Taiping Guan, Wuchang Guan, and Guihuacheng have surpluses of 1 thousand to 10 thousand taels of silver each year, and that is alright too. However, there are still some offices, like Zhehai Guan, Yangzhou Guan, Fengyang Guan, Jiujiang Guan, Xushu Guan, Huai'an Guan, Kui Guan, and Linqing Guan, whose customs revenues are always short of the quota."[1] In keeping with this report, Jiaqing Emperor adjusted Yingyu of some ports as follows (in thousands of taels of silver): Xixin Guan's Yingyu was increased from 29 thousand to 33 thousand, Jiujiang Guan from 347.8 thousand to 367 thousand, Zhehai Guan from 39 thousand to 44 thousand, Yangzhou Guan from 68 thousand to 71 thousand, Fengyang Guan from 15 thousand to 17 thousand, Xushu Guan from 235 thousand to 250 thousand, and Huai'an Guan from 111 thousand to 131 thousand. Yingyu of the other offices was not changed. After this change, the total amount of Yingyu collected increased from 2.4 million to about 2.5 million taels of silver.[2]

Up until 1831, quotas set for Yingyu remained very stable. However, in 1831, because duties collected at the ports of Huai'an Guan and Xushu Guan always fell short of their fixed quotas, the government reduced Yingyu at these two ports from 131 thousand to 110 thousand, and from 250 thousand to 230 thousand taels of silver respectively.[3] From then on, till the end of the Qing Dy-

1 LFZZ of FHAC:3-1767-064.

2 Li Hongzhang (1908), vol.238.

3 SYD of FHAC: 13 August, 11th year of Daoguang.

nasty, there were no major changes in the Yingyu quotas. This means that the amount of Zheng’e and Yingyu of Huguan was about 4 million taels of silver and 400 thousand taels of silver of Gongguan.

Table 2.2 Customs Duty Quotas in the Middle Qing (before 1840, in taels of silver)

Port of entry	Zheng’e	Yingyu	Total
Chongwenmen*	102,175	212,789	314,964
Zuoyi	10,008	18,000	28,008
Youyi	10,005.12	7,321.4	17,326.52
Zuoliangting	6,339.26	6,000	12,339.26
Huai’an Guan	254,363.602	110,000	364,363.602
Xushu Guan	191,151.388	230,000	421,151.388
Yangzhou Guan	92,791.3	71,000	163,791.3
Wuhu Huguan	156,919.08	73,000	229,919.08
Xixin Guan	41,376.325	33,000	74,376.325
Fengyang Guan	90,159.6	17,000	107,159.6
Jianghai Guan	23,980.33	42,000	65,980.33
Tianjin Guan	48,156.313	20,000	68,156.313
Linqing Huguan	37,376.313	11,000	48,376.313
Jiujiang Guan	172,281.306	367,000	539,281.306
Gan Guan	46,470	38,000	84,470
Beixin Guan	123,053.65	65,000	188,053.65
Zhehai Guan	35,908.23	44,000	79,908.23
Minhai Guan	73,549.547	113,000	186,549.547
Taiping Guan	52,675	75,500	128,175
Yuehai Guan	43,564	855,500	899,064
Shanhai Guan	61,642.379	49,487	111,129.379
Zhangjiakou	20,000	40,561	60,561
Shahukou	16,919.95	15,414	32,333.95
Guihuacheng**	15,000	1,600	16,600
Tianjin Haiguan	26,000	14,000	40,000

(Continued)

Port of entry	Zheng'e	Yingyu	Total
Fengtian	3,307	Not fixed	3,307
Fenghuangcheng Zhongjiang	4,000	1,000	5,000
Wuchang Guan	33,000	12,000	45,000
Kui Guan	73,740.491	110,000	183,740.491
Dajianlu	20,000	Not fixed	20,000
Wuchang	60,913	7,821	68,734
Xunchang	43,741	5,565	49,306
Chen Guan	12,500	3,800	16,300
Wuyuancheng	1,231	2	1,233
Linqing Gongguan	4,572.74	3,800	8,372.74
Wuhu Gongguan	70,146.16	47,000	117,146.16
Longjiang Guan	57,607.225	55,000	112,607.225
Jinzhou Guan	17,687.156	13,000	30,687.156
Tongyong Dao	7,115	3,900	11,015
Yu Guan	5,000	No fixed	5,000
Nanxin Guan***	30,247.5	−77.981	30,169.519
Gubeikou	1,212.51	Not fixed	1,212.51
Shengjing Mushui	2,000	Not fixed	2,000
Jilin Mushui	656	Not fixed	656
Pantaokou	6,445	Not fixed	6,445
Yili Mushui	Not fixed	Not fixed	Not fixed
Total	2,206,991.475	2,792,982.419	4,999,973.894

* Chongwenmen's Zheng'e was 8,536 taels higher in the lunar month at 110.7 thousand taels of silver.

** Guihuacheng also had to tax coins, collecting some 9 million coins of Zheng'e and 137.6 thousand coins of Yingyu. These amounts were not included in the total quota.

*** Nanxin Guan's Yingyu was fixed at 3.9 thousand taels of silver, but each year it received an additional 4 thousand taels from Beixin Guan, so the Yingyu of Nanxin Guan would be negative.

Sources: Ni Yuping, *Customs Duties in the Qing Dynasty, ca. 1644–1911*, Leiden: Brill Publishing House, 2016, pp.21–22.

In addition to the ordinary Zheng’e and Yingyu, some offices also had to supply Ewai Yingyu (additional Yingyu), such as Tianjin Guan, which was required to send 12 thousand taels of silver to the Imperial Palace each year.

The analysis of customs duties between Jiaqing and Daoguang periods (1796–1850) in this chapter was based on data from two kinds of archives. The first was the First Historical Archives of China, including Palace Midrange Rescript Memorials (PMRM, film no.20, 21), Extra Copies of Grand Council Memorials (ECGCM, film no.126, 218–219), and Edict Records of Jiaqing and Daoguang Period (Guangxi Normal University Press, 2000). The second was Revenue and Expenditure Reports of Customs in the Qing Dynasty, accomplished by Tang Xianglong in the 1930s and now stored in the library of the Institute of Economics of the Chinese Academy of Social Sciences. It is open to question whether the data in these archives are flawed because for example, customs officials were corrupt or, more simply, because of poor reporting. However, since the reported money had to be sent to the court, the data can be interpreted as representing, at the very least, minimum numbers. The appendix shows all the customs duties in the first half of the 19th century.

Since the material of taxation rates is very scattered and recorded in an unsystematic manner, most scholars prefer to do case studies. Xu Tan and Jing Junjian wrote that “The customs rules and quotas of the Qing Dynasty were very stable as a whole, although the rate of taxation of the Qing Dynasty had a declining trend.”[1] However, it is difficult to tell the exact rate of duty at each port in the Qing Dynasty since rates were connected to customs rules, and each port had its own set of rules to apply. For instance, Yangzhou Guan levied a duty of 0.02 taels of silver in 1756 for each *dan* of beans, rice, wheat, and sesame that passed through it. At that time, the price of ordinary rice varied between 2.4 to 2.5 taels of silver and 3.1 to 3.2 taels of silver per *dan;* thus, the rate of taxation (duty) ranged between 0.63% and 0.83% of the value.[2] Although this was a special case, it does demonstrate the wide variation in rates.

During the reign of Yongzheng, the customs duty at Kui Guan was fixed such that “All goods with the price of 1 tael are taxed at 3 *fen* (0.03 taels).”[3] In

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1 Xu Tan and Jing Junjian. Commerical Tax in the Early Qing (清代前期商税问题新探), in *Researches in Chinese Economy History*, vol.2, 1990, p.95.

2 GZDQLC, vol.13, p.710.

3 Wo Ren (1865), vol.70.

other words, the taxation rate was 3% of the value. This rate was maintained during the Qianlong, Daoguang, and Tongzhi periods.

In 1728, Shandong province ordered that "All grains should be taxed at 0.011 taels of silver per *dan*, but taxes on rice and wheat are higher. Rice and wheat should be taxed at 0.022 tael per *dan*."[1] Considering the price of rice varied from 0.5 to 0.7 taels of silver per *dan*, Deng Yibing estimated the taxation rate of rice at Linqing Guan to have been about 2.2% to 5.5% of its value.[2]

Kishimoto Mio found that during the reign of Yongzheng, the rate of taxation for rice at Xushu Guan varied from about 3.7% to 6.7% of its value.[3] According to Deng Yibing's research, the rate of taxation for rice at Xushu Guan was about 2.2% to 4% of its value during the Qianlong and 2.5% during the Daoguan.[4] Takino Shojiro used the price of beans (1.2 taels of silver per *dan*) to estimate that the rate of taxation (0.05 taels) of Huai'an Guan was 4.2% in 1778; in the beginning of the 19th century the rate of taxation was even lower.[5]

He Benfang estimated that goods passing through the offices of Zuoyi, Youyi, Fengtian Niuma Shui, and Fenghuangcheng Zhongjiang were taxed at a rate of about 3% of the value, while the rate of taxation at Yuehai Guan was kept at about 5.76% for imported goods and 3.74% for exported goods.[6] Peng Zeyi calculated that the rate of taxation maintained at Jianghai Guan, Zhehai Guan, Minhai Guan, and Yuehai Guan would have been at about 2% of the goods' value.[7] Deng Yibing also estimated the taxation rate for white wax at Kui Guan (an example of the category "other goods") to have been 3.75% of the goods' value. For cotton at Xushu Guan, she estimated the rate to be 2.7% of the goods' value, and at Shanhai Guan the rate for green tea to be 1.8% to 2.4%.[8] Kosaka Masanori estimated the taxation rate for ordinary silk in the port of Beixin Guan to have been about 1.3%.[9]

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1 The Palace Museum of Taipei (1978), vol.11, pp.649–650.

2 Deng Yibing (2003), pp.217–218.

3 Kishimoto Mio (1997), pp.118–119.

4 Deng Yibing (2003), p.217.

5 Takino Shojiro (2001), pp.116–156.

6 He Benfang (1984), p.75.

7 Peng Zeyi (1984), pp.136–141.

8 Deng Yibing (2003), pp.219–220.

9 Kosaka Masanori (1991), pp.34–57.

The collective insight into these case studies provides us indicates that, in general, taxation rates on traded goods during the Qing Dynasty were somewhere between about 2% and 5%.[1] Now we could use this rate to estimate the total trade value of the first half of the 19th century.

Table 2.3 Estimated Total Trade Value Based on Domestic Customs Duties (in taels of silver)

Year	Income	At 2%	At 3%	At 5%
1796	4,279,912.80	213,995,640	142,663,760	85,598,256
1797	4,315,003.70	215,750,185	143,833,456.7	86,300,074
1798	4,074,699.50	203,734,975	135,823,316.7	81,493,990
1799	4,247,623	212,381,150	141,587,433.3	84,952,460
1800	5,111,177.70	255,558,885	170,372,590	102,223,554
1801	4,258,902.80	212,945,140	141,963,426.7	85,178,056
1802	4,287,650.50	214,382,525	142,921,683.3	85,753,010
1803	4,647,897.10	232,394,855	154,929,903.3	92,957,942
1804	4,276,438	213,821,900	142,547,933.3	85,528,760
1805	4,431,512.90	221,575,645	147,717,096.7	88,630,258
1806	3,953,921	197,696,050	131,797,366.7	79,078,420
1807	4,073,611.10	203,680,555	135,787,036.7	81,472,222
1808	4,411,767.80	220,588,390	147,058,926.7	88,235,356
1809	4,300,111	215,005,550	143,337,033.3	86,002,220
1810	4,295,398.80	214,769,940	143,179,960	85,907,976
1811	4,066,343.60	203,317,180	135,544,786.7	81,326,872
1812	4,026,879.30	201,343,965	134,229,310	80,537,586
1813	4,160,078.90	208,003,945	138,669,296.7	83,201,578
1814	4,602,858.40	230,142,920	153,428,613.3	92,057,168

1 Deng Yibing (2008). System of Customs Duties in the Early Qing Dynasty (清代前期关税制度研究), Beijing: Beijing Yanshan Press. pp.215–224.

(Continued)

Year	Income	At 2%	At 3%	At 5%
1815	4,105,222.80	205,261,140	136,840,760	82,104,456
1816	4,226,404.80	211,320,240	140,880,160	84,528,096
1817	4,265,727.90	213,286,395	142,190,930	85,314,558
1818	4,202,527	210,126,350	140,084,233.3	84,050,540
1819	4,478,290.70	223,914,535	149,276,356.7	89,565,814
1820	4,027,618.10	201,380,905	134,253,936.7	80,552,362
1821	4,045,148	202,257,400	134,838,266.7	80,902,960
1822	4,720,638.30	236,031,915	157,354,610	94,412,766
1823	3,981,066.60	199,053,330	132,702,220	79,621,332
1824	4,367,917.80	218,395,890	145,597,260	87,358,356
1825	4,033,414.70	201,670,735	134,447,156.7	80,668,294
1826	4,068,137.60	203,406,880	135,604,586.7	81,362,752
1827	4,178,583.30	208,929,165	139,286,110	83,571,666
1828	4,167,454.30	208,372,715	138,915,143.3	83,349,086
1829	4,194,929.60	209,746,480	139,830,986.7	83,898,592
1830	4,343,302.70	217,165,135	144,776,756.7	86,866,054
1831	3,953,880.70	197,694,035	131,796,023.3	79,077,614
1832	4,821,474.50	241,073,725	160,715,816.7	96,429,490
1833	3,697,609.90	184,880,495	123,253,663.3	73,952,198
1834	3,837,796.50	191,889,825	127,926,550	76,755,930
1835	4,392,103.80	219,605,190	146,403,460	87,842,076
1836	4,082,922	204,146,100	136,097,400	81,658,440
1837	4,060,062.90	203,003,145	135,335,430	81,201,258
1838	4,194,119.80	209,705,990	139,803,993.3	83,882,396
1839	3,929,040.20	196,452,010	130,968,006.7	78,580,804
1840	3,989,197.50	199,459,875	132,973,250	79,783,950

(Continued)

Year	Income	At 2%	At 3%	At 5%
1841	4,045,066.50	202,253,325	134,835,550	80,901,330
1842	3,474,314.40	173,715,720	115,810,480	69,486,288
1843	3,483,898.70	174,194,935	116,129,956.7	69,677,974
1844	3,669,176.50	183,458,825	122,305,883.3	73,383,530
1845	3,847,870.50	192,393,525	128,262,350	76,957,410
1846	4,277,447.40	213,872,370	142,581,580	85,548,948
1847	3,747,617.50	187,380,875	124,920,583.3	74,952,350
1848	3,870,426.30	193,521,315	129,014,210	77,408,526
1849	3,987,041.30	199,352,065	132,901,376.7	79,740,826
1850	3,898,583.20	194,929,160	129,952,773.3	77,971,664

Sources: Ni Yuping, *Customs Duties in the Qing Dynasty, ca. 1644–1911*, Leiden: Brill Publishing House, 2016, pp.173–219.

Due to the First Opium War, the customs ports, especially the coastal ports, were seriously affected by the military activities. Despite this, the trend was stable in general. From Table 2.4, we can draw some useful information as displayed below:

Table 2.4 Estimated Total Trade Value (in taels of silver)

Plan	Assumed Tax Rate		
	2%	3%	5%
Avg	207,716,202	138,477,468	83,086,481
Min	173,715,720	115,810,480	69,486,288
Max	255,558,885	170,372,590	102,223,554

From the table above we can see that if calculated at the rate of 2%, the circulated commodity value of the first half of the 19th century was about 170 million to 250 million taels of silver. If we estimate it at a rate of 3%, it would

be 110 million to 170 million, and if we estimate it at a rate of 5%, it would be about 69 million to 100 million.

There are issues however when using tax revenues for estimating commercial value. Of course, there were numerous recorded cases of tax evasion by businessmen in that era. Then again it was very difficult to collect all the data on tax evasion. However, we are lucky to have Huai'an Guan's records of penalties paid by those businessmen who evaded taxes but were caught, which went by the name of Beifa Yin (double penalty silver). This is shown in Table 2.5.

The penalty of Huai'an Guan was not included in the total number of customs duties, but was considered a part of the allowance for the minor officials. This was also the tradition of collecting customs duties in the Qing Dynasty. In view of this, when we use customs duties to estimate the domestic commodity circulation value, we should enlarge the number appropriately.

Table 2.5 Penalty of Huai'an Guan during the Jiaqing and Daoguang Times (1796—1850, in taels of silver)

Year	Number	Year	Number	Year	Number
1796	6,630.000	1813	8,433.982	1834	2,285.464
1799	8,204.034	1815	7,200.979	1835	3,627.769
1800	8,300.881	1818	11,410.294	1837	2,741.436
1802	10,836.157	1819	12,440.365	1839	7,211.314
1803	7,040.982	1820	7,830.515	1840	7,200.979
1804	11,759.841	1821	7,105.585	1841	8,669.630
1805	13,165.259	1822	6,155.969	1842	6,193.236
1806	8,820.875	1823	5,964.561	1844	7,559.739
1807	7,280.954	1824	7,446.875	1848	5,329.837
1809	14,993.613	1825	6,052.771	1849	8,660.402
1810	7,961.189	1828	4,012.807	1850	2,299.321
1811	9,010.083	1829	2,739.329		
1812	9,803.409	1830	3,358.486		

Source: Ni Yuping: Research on the Customs Duties in the Jiaqing and Daoguang Times of the Qing Dynasty (清朝嘉道关税研究), Beijing: *Science Press*, 2017, p.51.

The biggest issue in estimating the commodity circulation based on customs duties is that customs ports only taxed the goods on long-distance transport. Goods transported for short distances and those traded locally are not included in these tallies. Therefore the value of such trade was likely much higher than the customs duties, but academic prudence demands caution when neither primary nor secondary sources can be found. As discussed in an earlier paragraph, the long-distance transport of grain accounted for about 20% of the total commodity grain on the market. Even if other commodities saw a larger proportion of their goods traded over long distances, on average it still should not exceed 30%.[1] If we accept this percentage as the maximum and estimate the total value of goods traded, then we can say that the domestic circulation of goods was worth about 830 million taels of silver.

(2) Foreign Trade

The tax port of Yuehai Guan was located in Guangzhou prefecture, Guangdong province. Yuehai Guan was established in 1685, two years after Emperor Kangxi resumed Taiwan. Yuehai Guan had its own official Yuehaiguan Jiandu (manager of Yuehai Guan), who held a rank as high as governor. Before 1757, the Qing government permitted foreign boats to trade in Jianghai Guan, Minhai Guan, Zhehai Guan, and Yuehai Guan, which had the name Dongnan Si Haiguan (The Four Southeast Customs). However, other than Yuehai Guan, the tax revenues from these ports were very small. According to H. B. Morse’s research in the 90 years from 1664 to 1753, there were 199 boats from the East India Company that were active in China, and 153 of these boats traded at Yuehai Guan (i.e., 77% of all the company’s boats). Minhai Guan only received 26 of these boats, Zhehai Guan only 17 boats, and Jianghai Guan only one boat.[2] After 1757, Emperor Qianlong ordered that all foreign boats must trade only in Yuehai Guan. This situation continued until 1842 when the *Sino-British Treaty of Nanjing* arranged for five ports to be opened for foreign trade (including Yuehai Guan).

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1 Xu Dixin and Wu Chengming, *The Development History of China’s Capitalism* (中国资本主义发展史), vol.1, *Sprout of China Capitalism*, Beijing: People’s Publishing House, 1985, p.336.

2 H. B. Morse, *The Chronicles of the East India Company Trading to China (1635–1834)*, Oxford: Oxford Press, 1926, pp.309–321.

Table 2.6 Tax quota of Yuehai Guan in the Qing Dynasty (in taels of silver)

Tax	Year			
	Kangxi*	1688	1699	1799
Zheng'e	91,740.5	82,362	39,030	43,564
Yingyu				855,500
Total	91,740.5	82,362	39,030	899,064

Sources: Materials from *Shilu*, *Huidian*, *Hubu Zeli* and archives (see text for archival references). *Exact year is unknown.

Seen from a long-term perspective, Yuehai Guan was the only port that levied taxes on foreign trade.[1] Since it had monopolised foreign trade for such a long time, it is logical that before 1850 Yuehai Guan was the largest port in Qing China. There were two entries of tax data in 1814 and 1846 due to the use of the Chinese lunar calendar.

Table 2.7 Tax of Yuehai Guan (1796—1850, in taels of silver)

Year	Number	Year	Number	Year	Number
1796	981,186.690	1814(2)	1,185,461.826	1833	1,477,846.265
1797	973,172.975	1815	1,331,239.860	1834	1,669,712.641
1798	1,035,757.477	1816	1,446,979.965	1835	1,424,944.169
1799	937,073.000	1817	1,421,303.799	1836	1,674,851.728

1 Peer Vries (2015) explained the internat: onal trade between China and Russia (overland trade). He wrote: "Most calculations of China's international trade focus on its overseas trade. Including overland trade would definitely not change the overall picture. There are estimates of the value of trade with Russia, for example, for various moments in time. In the 1770s it had a total turnover of 2.5 million roubles. In 1800, that had increased to 7.5 million roubles. In the period from 1824 to 1830 it varied from 5.5 million to 7.8 million roubles per year. In the middle of the nineteenth century it had increased further to 16 million roubles per year. As a rouble at the time was roughly half a tael in terms of silver weight, even in the 1850s total trade between Russia and China amounted to only 8 million taels, or less than £3 million. These figures are not impressive. Central Asian trade was even less. Here the value of traded goods really was tiny, at least for the first half of the eighteenth century for which I found figures: its 'normal' value can be expressed in terms of tens of thousands of taels. I did not come across a year in which it was over 200,000 taels." p.170.

(Continued)

Year	Number	Year	Number	Year	Number
1800	1,201,246.537	1818	1,302,910.999	1837	1,789,424.322
1801	1,336,171.831	1819	1,380,097.088	1838	1,242,044.215
1802	1,540,773.092	1820	1,479,820.102	1839	1,448,558.993
1803	1,695,389.030	1821	1,497,022.492	1840	1,186,551.857
1804	1,555,586.405	1822	1,485,146.830	1841	864,232.169
1805	1,641,971.768	1823	1,404,913.160	1842	1,115,742.362
1806	1,621,375.998	1824	1,444,322.616	1843	1,182,488.993
1807	1,663,830.048	1825	1,298,828.962	1844	2,030,543.108
1808	1,470,460.226	1826	1,576,637.162	1845	2,360,832.158
1809	1,457,201.777	1827	1,850,045.992	1846(1)	2,186,530.442
1810	1,408,641.864	1828	1,441,924.596	1846(2)	1,972,089.803
1811	1,165,263.126	1829	1,499,580.743	1847	1,825,223.055
1812	1,347,936.891	1830	1,663,634.978	1848	1,424,045.916
1813	1,246,708.160	1831	1,461,806.163	1849	1,471,318.476
1814(1)	1,235,257.698	1832	1,532,933.249	1850	1,476,867.971

Source: Ni Yuping: Research On the Customs Duties in the Jiaqing and Daoguang Times of the Qing Dynasty (清朝嘉道关锐研究), Beijing: Science Press,2017, pp.369–374.

The trend is below:

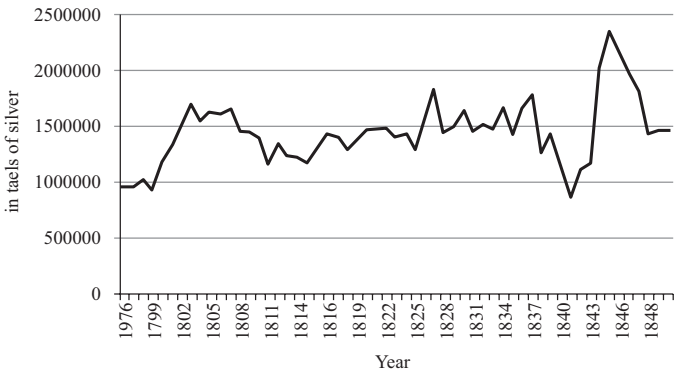

Figure 2.1 Tax of Yuehai Guan (1796–1850)

From Figure 2.1, we can see the trend of Yuehai Guan clearly. During the reigns of Jiaqing and Daoguang (1796–1850) a number of incidents interrupted this rising trend. For example, as a result of the wide-spread marauding by the pirate Cai Qian, in 1811 the viceroy of Guangdong decided to close all ports and forbade boats to leave.[1] Naturally, tax revenues declined as trading came to a halt. The First Opium War had a disastrous impact on Yuehai Guan's tax revenues. In 1839 Emperor Daoguang bestowed upon Lin Zexu (1785–1850) an imperial commission, to abolish the opium trade, which he promptly set about doing. After he forbade the importation of opium the number of foreign vessels visiting Yuehai Guan declined from 138 to 93 (i.e. 45 fewer vessels), which led to a fall in tax revenues from 1,440,000 to 1,180,000 taels of silver (i.e. 260 thousand taels of silver less).[2] Soon afterwards the First Opium War broke out, the number of foreign vessels calling at Yuehai Guan declined even further to 13, since British warships blockaded the port.[3] Taxes collected in 1841 dropped to half of what they had been before the hostilities, reaching their lowest point during the reigns of Jiaqing and Daoguang.[4] Under the conditions of the *Sino-British Treaty of Nanjing*, the Qing government was forced to adopt a more open policy towards foreign trade and as result tax revenues of Yuehai Guan increased in the years that followed. In 1846, due to the use of the Chinese lunar year, there were two periods of taxation—revenues in those periods were 2,186,530 and 1,972,089 taels of silver respectively—it is not surprising to find such high results for this year as a whole.[5]

Table 2.8 Taxes of Four Foreign Ports (1844—1850, in taels of silver)

Year	Jianghai	Zhehai	Fouzhou and Xiamen	Total
1844	42,617.306	6,264.468	15,134.438	64,016.212
1845	187,960.792	6,885.047	48,275.940	243,121.779
1846	1,229,628.420	2,173.379	62,767.480	1,294,569.279
1847	680,295.190	1,571.926	29,136.252	711,003.368

1 ZPZZ of FHAC: 04-01-35-0366-007.

2 ZPZZ of FHAC: 04-01-35-0379-028.

3 ZPZZ of FHAC: 04-01-35-0379-049.

4 ZPZZ of FHAC: 04-01-35-0379-049.

5 ZPZZ of FHAC: 04-01-35-0380-043.

(Continued)

Year	Jianghai	Zhehai	Fouzhou and Xiamen	Total
1848	587,984.925		24,599.767	612,584.692
1849	670,603.018	419.885	30,655.622	701,678.525
1850	704,000.000	117.630	33,684.396	737,802.026

Source: Ni Yuping: Research On the Customs Duties in the Jiaqing and Daoguang Times of the Qing Dynasty (清朝嘉道关税研究), Beijing: Science Press, 2017, pp.135–150.

In 1843, according to the *Sino-British Treaty of Nanjing*, four new ports were opened to foreigners: Jianghai Yangguan, Zhehai Yangguan, Fouzhou Yangguan, and Xiamen Yangguan. However, at the beginning, there was no requirement regarding the quota of these four new ports.

Here is a very interesting comparison between domestic customs duties and foreign customs duties:

From Figure 2.2, we can see that during the Jiaqing and Daoguang times, domestic customs duties is far bigger than foreign customs duties, which means that the internal trade was far more important than international trade.

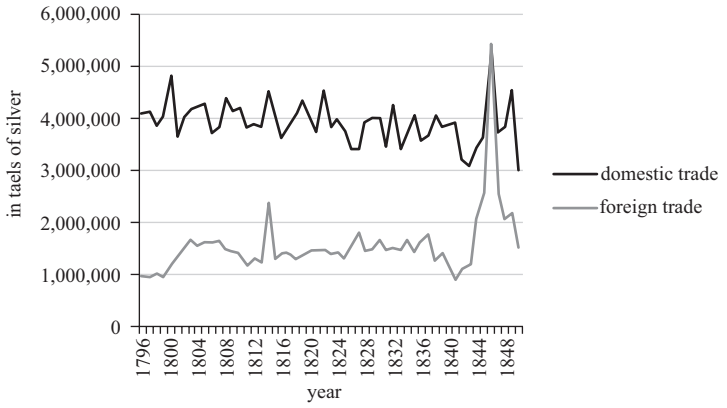

Figure 2.2 Domestic Trade and Foreign Trade (1796–1850)

Peng Zeyi estimated that the tax rates for Jianghai Guan, Zhehai Guan, Minhai Guan, and Yuehai Guan was about 2% of the goods' value. What is known is that goods transported from around the globe (through Jianghai, Zhehai, Minhai and Yuehai customs) were taxed at around 2%. Additionally the

four major sea-ports (specifically Jianghai customs, Zhejiang customs, Fujian customs, and Guangdong Customs) all generally held a rough 2% tax rate.[1] Here is an illustration of what the international trade value would amount to based on that estimated 2% to 3% rate.

Table 2.9 Foreign Trade Value Based on Customs Duties (in taels of silver)

Year	Tax Amount	By 2%	By 3%
1796	981,186.690	49,059,334.500	32,706,223.000
1797	973,172.975	48,658,648.750	32,439,099.170
1798	1,035,757.477	51,787,873.850	34,525,249.230
1799	937,073.000	46,853,650.000	31,235,766.670
1800	1,201,246.537	60,062,326.850	40,041,551.230
1801	1,336,171.831	66,808,591.550	44,539,061.030
1802	1,540,773.092	77,038,654.600	51,359,103.070
1803	1,695,389.030	84,769,451.500	56,512,967.670
1804	1,555,586.405	77,779,320.250	51,852,880.170
1805	1,641,971.768	82,098,588.400	54,732,392.270
1806	1,621,375.998	81,068,799.900	54,045,866.600
1807	1,663,830.048	83,191,502.400	55,461,001.600
1808	1,470,460.226	73,523,011.300	49,015,340.870
1809	1,457,201.777	72,860,088.850	48,573,392.570
1810	1,408,641.864	70,432,093.200	46,954,728.800
1811	1,165,263.126	58,263,156.300	38,842,104.200
1812	1,347,936.891	67,396,844.550	44,931,229.700
1813	1,246,708.160	62,335,408.000	41,556,938.670
1814	2,420,719.524	121,035,976.200	80,690,650.800

1 Peng Zeyi, Researches on the Places and Trade Volumes of the Four Coastal Ports in the Early Qing (清初四榷关地点和贸易量的考察), in *Social Science*, vol.3 (June, 1984).

(Continued)

Year	Tax Amount	By 2%	By 3%
1815	1,331,239.860	66,561,993.000	44,374,662.000
1816	1,446,979.965	72,348,998.250	48,232,665.500
1817	1,421,303.799	71,065,189.950	47,376,793.300
1818	1,302,910.999	65,145,549.950	43,430,366.630
1819	1,380,097.088	69,004,854.400	46,003,236.270
1820	1,479,820.102	73,991,005.100	49,327,336.730
1821	1,497,022.492	74,851,124.600	49,900,749.730
1822	1,485,146.830	74,257,341.500	49,504,894.330
1823	1,404,913.160	70,245,658.000	46,830,438.670
1824	1,444,322.616	72,216,130.800	48,144,087.200
1825	1,298,828.962	64,941,448.100	43,294,298.730
1826	1,576,637.162	78,831,858.100	52,554,572.070
1827	1,850,045.992	92,502,299.600	61,668,199.730
1828	1,441,924.596	72,096,229.800	48,064,153.200
1829	1,499,580.743	74,979,037.150	49,986,024.770
1830	1,663,634.978	83,181,748.900	55,454,499.270
1831	1,461,806.163	73,090,308.150	48,726,872.100
1832	1,532,933.249	76,646,662.450	51,097,774.970
1833	1,477,846.265	73,892,313.250	49,261,542.170
1834	1,669,712.641	83,485,632.050	55,657,088.030
1835	1,424,944.169	71,247,208.450	47,498,138.970
1836	1,674,851.728	83,742,586.400	55,828,390.930
1837	1,789,424.322	89,471,216.100	59,647,477.400
1838	1,242,044.215	62,102,210.750	41,401,473.830
1839	1,448,558.993	72,427,949.650	48,285,299.770
1840	1,186,551.857	59,327,592.850	39,551,728.570
1841	864,232.169	43,211,608.450	28,807,738.970
1842	1,115,742.362	55,787,118.100	37,191,412.070

(Continued)

Year	Tax Amount	By 2%	By 3%
1843	1,182,488.993	59,124,449.650	39,416,299.770
1844	2,094,559.320	104,727,966.000	69,818,644.000
1845	2,603,953.937	130,197,696.900	86,798,464.570
1846	5,453,189.524	272,659,476.200	181,772,984.100
1847	2,536,226.423	126,811,321.200	84,540,880.770
1848	2,036,630.608	101,831,530.400	67,887,686.930
1849	2,172,997.001	108,649,850.100	72,433,233.370
1850	2,214,669.997	110,733,499.900	73,822,333.230

From the table above we can see that if we put aside the years after the First Opium War and constrain ourselves to the assumed 2% rate, we get a middle value of about 70 million to 90 million taels of silver for the international commercial trade. Moreover, if factors that changed after the Opium War had been considered, the international trade value would have increased to 100 million to 130 million taels. By instead applying a 3% rate, the middle value for the international commercial trade would be about 50 million to 60 million taels of silver; after the Opium War that number would have increased to 70 million to 80 million taels of silver.

Considering that in real life, tax officials misbehave, and businessmen smuggle goods, it would appear that the data reported to the court was too low. Thus, to offset this we take the rate of 2% and use the highest data-point, resulting in an estimated value for the international commercial trade before and after the Opium War at about 100 million and 150 million taels of silver each year.

(3) Total

As discussed above, the domestic goods transported by long-distance was valued at 250 million taels of silver yearly in the mid-19th century.

The overall minimum was 434 million and the overall maximum was 1,278 million. If we took 30% as the proportion of these goods out of total domestic trade, the average total commodity value would be valued about 692 million taels of silver.

Table 2.10 Assumed Share of Taxed Trade in Total Trade

	Ratio		
	20%	30%	40%
Avg	103,8581,010	692,387,340	519,290,505
Min	868,578,600	579,052,400	434,289,300
Max	1,277,794,425	851,862,950	638,897,213

Source: original data come from tax rate 2% of the customs duties above.

When we calculated the value of the circulated goods, one important item was not included. As a special commodity, the salt industry had been monopolised by the Qing government, and its tax was not carried out through the customs duties. From Xu and Wu’s research (1985), it came up with a market value of 63.9 million taels of silver for salt.[1]

If we added the 150 million taels of silver for the foreign trade commodity value and the 63.9 million taels of silver for the salt value, the total commodity value for the first half of the 19th century would be 906 million, which is very close to the 990 million estimated in the first part of this chapter.

3. Conclusion

From this total trade value of commodities, we cannot exactly measure the value-added of the commercial industry. Zhang Zhongli, an economic historian, calculated that it was about 20% of the total value of commodities in the 1880s when he tried to calculate the value-added of the commercial industry from agricultural products.[2] If this ratio was correct, the value-added of the commercial industry of the mid-19th century domestic and foreign trade would be 200 million taels of silver.

From the estimation of total traded value based on domestic trade and customs duties, there was a slow decrease. At the same time, we could find that

1 Xu Dixin and Wu Chengming, *The Development History of China’s Capitalism* (中国资本主义发展史), vol.1, *Sprout of China Capitalism*, Beijing: people’s publishing house, 1985, p.284.

2 Chang Chung-li, *The Chinese Gentry*, Seattle: University of Washington Press, 1955, p.313.

the internal trade was far more important than international trade. China's total economy is large, but domestic trade is larger than foreign trade, and a lack of trade-friendly policies has played a role in this. The population at that time was roughly 400 million, which means that the annual traded value per capita was only 2.5 taels of silver. This is really too low, just as to be in line with what Peer Vries wrote: "By not fully opening up their economy China's governing elites created a situation in which their country did not optimally profit from what modern economists call 'the gains from trade'". [1]

Based on the data available of customs duties of the Qing, I have made an estimate of the total trade value per capita in real terms in these benchmark years which can be obtained from a combination of the price index data and population figures.[2]

Figure 2.3 clearly shows that before 1850, in real terms the highest trade value per capita was achieved in the mid-Qianlong, a period regarded as the peak of *Kang Qian Sheng Shi* (flourishing ages during Kangxi and Qianlong eras, 1681–1796). Following that, with the expansion of the population the per capita trade value entered the period of slight decline. After 1850, as a result of the modernization of industry, per capita trade value recovered, climbing to reach its highest point in 1887, several years before the First Sino-Japanese War and the Boxer Rebellion. Under the influence of war the subsequent fall in per capita trade value is, of course, to be expected.

Also from our recent research on Chinese GDP per capita between 1661 and 1933, it appears that the trend of per capita commerce closely followed that of the per capita gross domestic product. The lowest point of the latter was occurring between 1812 and 1850.[3] Although per capita GDP was higher than before and after that period, its rise after 1850 was not as sharp as that of per capita commerce. Of course, this is only a very simple estimate based on customs revenues collected. Nevertheless, in the future it may help to estimate historical GDP

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1 Peer Vries (2015). *State, Economy and the Great Divergence: Great Britain and China, 1680s–1850s*. London: Bloomsbury Publishing. p.379.

2 Sources: Ni Yuping, *Customs Duties in the Qing Dynasty, ca 1644–1911*, Leiden: Brill Publishing House, 2016, pp.165–166.

3 Yi Xu, Zhihong Shi, Bas van Leeuwen, Yuping Ni, Zipeng Zhang, Ye Ma: *Chinese National Income, ca. 1661–1933.,* in *Australian Economic History Review*, vol.57, 3:368–393 (Nove. 2017). This paper won Sir Timothy Coghlan Prize of 2017. I was responsible for the service part.

more precisely.

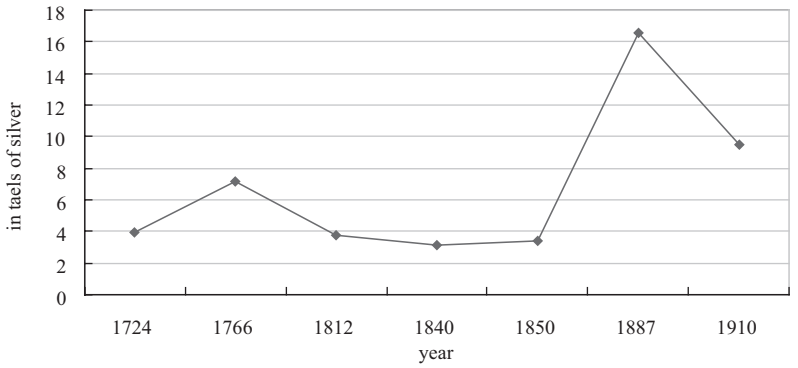

Figure 2.3 Trade Value per Capita in Real Terms During the Qing Dynasty

China is a large economy with a short coast line relative to its size as compared to Japan, Britain, US or France.[1] It is safe to conclude that the Chinese economy in the first half of the 19th century was mainly based on agriculture. Although the door of China had been opened to the West, this trading relation was obviously based on the traditional agricultural society rather than a mercantilist society with a developed commercial economy. However, this situation could not continue on, and the central government had to make momentous adjustments, especially in the fiscal system, which will be discussed in chapter 3.

1 Frankel, J. A., & Romer, D. H. (1999). Does trade cause growth? in *American economic review*, 89(3), pp.379–399.

Chapter 3 The Fiscal Transformation of the Qing State in the Middle of the 19th Century

After the First Opium War, the Qing Dynasty had to open its doors to the West. Since then, China (in China's scholars' thinking) entered modern society, changing its society in every aspect: its economy, government, politics, military, culture and others, of course, with a heavy price. In this transformation, who exerted the biggest influence? Was it the foreigners or the mainland people?

In this chapter, the concept of the "fiscal state" will be used to show the change in attitude the Qing government took toward its fiscal affairs. The idea is that the emergence of the "fiscal state" forms an essential condition for the development of the modern state. Tilly and Bonney use the concept to underline the growth of the state's capacity to innovate tax collection and to create new taxes.[1] In general, these developments originated in highly urbanised Western Europe. Other European countries in the East and South are less inventive. Tilly also states that cities were able to collect copious amounts of taxes from their citizenry (based on their wealth and trade) and that they provided citizenship in return. Later on, states in turn started demanding more taxes in return for democratic institutions. A second argument is that warfare made it necessary for states to collect new taxes, marking a phase in the development of the fiscal state.[2]

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1 Charles Tilly. *Coercion, Capital, and European States, AD. 990-1992*. Edinburgh: Blackwell Publishers Inc., 1990. Richard Bonney. *The Rise of the Fiscal State in Europe c. 1200–1815*, Oxford: Oxford University Press, 1999. Bonney Richard and Ormrod W. Crises, *Revolutions and Self-sustained Growth: Essays in European Fiscal History, 1130–1830*, Stamford: Shaun Tyas Press, 1999, p.11.

2 Charles Tilly. Social Boundary Mechanisms, in *Philosophy of the Social Sciences,* vol.34, 2004.

Similarly, in the mid-19th-century China, the government tried its best to collect as much taxes as possible, in order to pay for its military activities.[1]

Because of Europe’s and China’s different geographies, violent conflicts led to autocracy and extraction in China, rather than to democracy or representation like in Europe. The question during the 19th century, was higher taxation possible without allowing for more political representation.[2] A state’s fiscal structure provides the foundation for its survival and the means to properly operate the nation. In order to manage income and realise the objectives and functions of the state, the government enacts various activities of a fiscal nature. Studying the fiscal structure thus involves the investigation of government revenues and expenditures.

In the early Qing Dynasty, the government’s revenues consisted of: land tax, salt tax, customs duties, miscellaneous tax, monetary contributions, and services. Expenditures were divided into the royal family funds, officials’ salaries, soldiers’ pay, coaching inns, imperial examination and education fees, and wages for river maintenance works. In the Daoguang period (1821–1850), the land tax was still the most important and most stable source of income. Notwithstanding the relatively large increase in spending, generally speaking, the budget had not yet come to the brink of collapse.

1. The Fiscal Structure of the Jiaqing and Daoguang Times

The fiscal system of the Qing Dynasty (1644–1911) before 1850 comprised two basic elements: conventional financial revenue and expenditure, as well as

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1 However, He Wenkai still believes that China failed to “develop into a modem fiscal state”. He compares England, Japan and China, and his conclusion is: “England became a modem fiscal state by the 1750s when its government used the revenues from excises and the customs to service its massive long-term debt. Japan made the leap in the late 1880s when tax revenues were employed to back up paper money, i.e., banknotes issued by the Bank of Japan. China, however, failed to develop into a modem fiscal state.”See He Wenkai, *Paths toward the Modern Fiscal State*, Cambridge: Harvard University Press, 2013, Abstract.

2 Mark Dincecco and Yuhua Wang, Violent Conflict and Political Development Over the Long Run: China Versus Europe, in *Annual Review of Political Science*, vol.21, 2018.

temporary financial revenue and expenditure. Conventional financial revenue came from five main sources: Tianfu (田赋 land tax), Caoliang (漕粮 tribute grain), Yanshui (盐税 salt tax), Guanshui (关税 customs duties), and Zafu (杂赋 miscellaneous taxes, including fish tax, tea tax, mineral taxes, and others).[1]

Land tax was assessed on the land according to the area and the required fertiliser. In the early Qing Dynasty, the government levied taxes on the population. To recover from the war and encourage population growth, the Court announced that the population tax would be used as a standard for the population during the 50th year of the reign of the Kangxi Emperor (1711) and after that the population tax would be permanently fixed. Subsequently, the Court also factored in the population into the land tax. Therefore, the land tax was also called Diding yin (地丁银 Land and population silver). Before 1840, the land tax quota was about 25 million *dan*. Most land tax was assessed in terms of silver; however, some parts were taxed in kind, such as dry grass, medicinal material, silk, tea and others. Among them, the most important was Caoliang, which was part of the land tax. From a tax perspective, this was derived from the land tax and was a special system. Tribute grain collection was limited to eight provinces, namely Shandong, Henan, Jiangsu, Zhejiang, Anhui, Jiangxi, Hubei, and Hunan. The amount of tribute grain was more or less fixed at 4 million *dan* annually.

Salt tax was a resource tax levied indirectly on each salt consumer, and its administration was also quite complicated. The Qing government had a vast territory, and its salt production areas were also numerous. Even in Mongolia, Xinjiang, and other areas, there was also "prolific salt," and "in the mainland, there were 11 salt production sites, which were very useful for the country".[2] In the Qing Dynasty, it took a special guild system named Piaoyan (票盐 salt ticket) to administer the tax. All the salt had to be sold in special fixed areas, and only specifically selected businessmen had the right to own salt tickets. Under this system, the Qing Dynasty divided the whole country into several salt areas, and each region had a fixed number of merchants who received salt, transported salt, and sold salt in a special area. The government would tax these merchants directly. The salt districts of the Qing Dynasty basically followed that of the Ming

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1 Ni Yuping, *Customs Duties in the Qing Dynasty, ca. 1644–1911*, Leiden: Brill Publishing House, 2016, p.1.

2 The Qing History Record (清史稿), vol.123, Salt.

Dynasty, mainly based on the administrative area. Only Fengtian was a new salt area, and Guangdong and Sichuan provinces expanded their salt areas.

Customs duty was a kind of commodity passage tax in the Qing Dynasty. At the beginning of the Qing Dynasty, the government did not pay much attention to this type of income, and during the reign of the Kangxi Emperor, it was only taxed at about 1 million taels of silver. “Every custom port had Zheng’e at the beginning of our dynasty. With the passage of time and the development of goods, it began to have Yingyu.”[1] The quota for each port had been adjusted in the Qing Dynasty, but with modest changes on the total number of 1.9 million taels of silver.

In the early years of the Qianlong period, the amount of Yingyu was fixed as the number taxed in the 13th year of the Yongzheng Emperor (1735). In 1777, the Emperor ordered that all the ports should adopt a three-year-comparison method. This meant comparing the taxes with those of the three preceding years, and the responsible officials would have to make up for the shortfall from their private means. In the year of 1799, the government abolished this three-year-comparison method. In both 1804 and 1831, the government adjusted some ports’ Yingyu. After the reign of the Qianlong Emperor, the annual total profit from customs duties was about 5 million taels of silver.

The last category was Zafu (杂赋 miscellaneous taxes). Wang Qingyun, a famous official and scholar in the 1850s said, “all the taxes, except for land taxes, taken from the people were miscellaneous taxes.”[2] However, this is far from the truth when delving into the actual collection process. Miscellaneous taxes were entirely separate, both in different areas as well as different types of taxation. According to *Daqing Huidian Shili*[3], there were four types of miscellaneous taxes. The first type was Ke (课 a small kind of tax), such as Luke (芦课 tax on reed), Chake (tax on tea), Yuke (渔课 tax on fish), and taxes on gold ore, silver ore, copper, iron ore, tin ore, and others. The second type waszu (租 rent), such as Qizu (旗租 tax on people who rented the land belonging to Manchu Banner men), Xuetian Zu (学田租 tax on the land belonging to the school), and Guan-

1 Yao Yuanzhi, Miscellaneous Records of Bamboo Leaf Pavilion (竹叶亭杂记), Beijing: Zhonghua Bookstore,1997, p.118.

2 SQYJ, vol.6.

3 Edited by Li Hongzhang, Shanghai: Commerical Press, 1908.

tian Zu (官田租 tax on the land belonging to the government). The third type was Shui (税 tax), such as the tax on house sales, real estate tax, and tobacco tax. The fourth type was Gong (贡 tribute), mainly assessed on the ethnic minority areas, such as Magong (马贡 horses tribute) and Hupi Gong (狐皮贡 fox fur tribute). The modes and uses of miscellaneous taxes were varied, some made use of a fixed quota and some went without. The revenue from miscellaneous taxes was 673 thousand taels of silver in 1685, 698 thousand taels of silver in 1724, and 1.05 million taels of silver in 1753. Because of the complicated and convoluted nature of these miscellaneous taxes, some financial statistics often did not get recorded.

It was an interesting comparison between China and Europe when determining how tax payment was organised. In England, France and the Netherlands around 1800–1850, a new system of tax collection spread. Taxes became increasingly more collected by state officials and were levied per capita or per purchase. Less and less taxes were collected by tax-mongers or tax-farmers, those individuals who rented the right to levy tax and paid the expected quota in advance, and who subsequently taxed the population heavily. Tax-farming guaranteed the state an income, but had the disadvantage that people were exploited by the tax farmers, who sought to maximise their profit. As a result taxpayers tended to arrange their activities in a way that became less taxable. In general tax-mongering stifled economic growth by restricting investment, and consequently also hampering any rise of state revenues in the long run. However, the government always controlled the power to tax by itself in the Qing China. If more money was extracted by officials, this surplus had to be sent to the Court, and was not a reward for these officials.

In addition to the conventional fiscal revenues stated above, there were two kinds of temporary expenditures, Juanna (捐纳 a private donation to a public cause with a predetermined official reward) and Baoxiao (报效 a similar donation of private funds to a public good but instead without reward). In the Qing Dynasty, Juanna could be divided into four types based on the reason and purpose: military donation, river maintenance donation, disaster relief donation, and land reclamation donation. Among them, military donation and river maintenance donation were the biggest. Baoxiao was a kind of extortion method adopted by the rulers to address imminent fiscal difficulties. According to Chen Feng's statistics, during the reigns of Qianlong and Jiaqing, the salt merchants

donated 65 million taels of silver that were labeled Baoxiao, which were mainly used in the military, river maintenance, and disaster relief.[1] This demonstrated that Baoxiao played a very important role in solving the fiscal difficulties of the rulers. However, both Juanna and Baoxiao had enormous negative effects. It was because that in general the government would reward these generous donors with official positions from which they would quickly extract more money from the ordinary people. Xiao Yishan, one of the first generation of Qing history researchers said that “When the Daoguang period began, the seeds of fiscal crises already existed, and the government was not as rich as before. The government relied on no other sources except Juanna and Baoxiao.”[2]

With regard to fiscal expenditure, according to *Daqing Huidian* of the Jiaqing period, “The country has 12 annual expenditures. The first is the fee for the sacrifice; the second is the fee for the guard; the third is the salary for the officials; the fourth is the fee for examination and education; the fifth is the salary for the soldiers; the sixth is for the Yizhan (驿站 courier station, station to transport official letters); the seventh is the fee to the students; the eighth is the fee for reward and pension; the ninth is the fee for building; the tenth is the fee to buy goods for the government; the eleventh is the fee for weaving clothes for the emperors; and the twelfth is the allowance for the officials.”[3] The Qing court also divided them into three parts based on a fiscal management perspective: the capital’s expenditures, the provinces’ expenditures, and miscellaneous expenses. Among these items, the biggest expenditures were the officials’ salaries, military expenses, river maintenance costs, and Yizhan.

According to Wei Yuan’s research, the number of Manchu and Han soldiers was 800 thousand, and the annual expenditures (in taels of silver) on rice, beans, and grass was 17.04 million; the officials’ salary was 938.7 thousand; the allowance for the civil service officials was 3.47 million and for the military officials 800 thousand; the reward for soldiers was 300 thousand; the special allowance for Manchu soldiers was 422 thousand, for the students and teachers in provin-

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1 Chen Feng, Salt Administration and Salt Tax in the Qing Dynasty (清代盐政与盐税), Zhengzhou: Zhongzhou Ancient Books Publishing House, 1988, p.220.

2 Xiao Yishan, General History of the Qing Dynasty (清代通史), Taibei: Taiwan Commercial Press, 1993, p.358.

3 Rules of the Qing Dynasty (嘉庆大清会典), vol.12.

cial school was 140 thousand; and the Yizhan fee was 2 million. To transport grains for tribute, the government built 5,688 boats, which required repairs every ten years at a price of 1.2 million taels. To help the Manchu soldiers repurchase their land and add one more month of salary for them, the government spent 380 thousand taels of silver annually. The second part of the expenditures related to the maintenance of rivers. There was about 800 thousand taels of silver put aside for the Yellow River of Shandong and Henan provinces and 3 million taels of silver allocated for the south part of the Yellow River. There was no quota for the imperial clan pension, but the number would be more than 2 million taels. "It was a large number in the annual expenditures. However, the disaster relief, exemption, and accident affairs were not included."[1]

Here we analyse the fiscal structure of the Daoguang period. When it comes to the land tax of that time, researchers usually directly quote Wang Qingyun's book Fiscal Data Collections:

Table 3.1 Land Tax of Daoguang Period by Wang Qingyun (in taels of silver)

Kind	Old Quota	New Tax Quota	1841	1842	1845	1849
Total	32,724,702	33,348,037	29,431,765	29,575,722	30,213,800	32,813,304

Source: Wang Qingyun. Fiscal Data Collections (石渠余纪), vol.3, "local provinces".

Obviously, there were two problems in Wang Qingyun's statistics. First, due to the system of the Qing Dynasty, the land tax that was collected generally included the quota of the current year (known as Xinfu, 新赋 new tax) and the number which had not been taxed from the previous years (known as Jiufu, 旧赋 old tax). Whether for new tax or old tax, these figures were related to the size of the lands and again with an exemption during periods of natural disasters. Thus, the quota could not be the same for every year. As such, the numbers under the "old quota" and "new tax quota" in the table above are doubtful. Second, if we check the archive we can find that after the Qianlong period, each province had different naming conventions and particulars in their version of the land tax. In some provinces the land tax included miscellaneous parts, or tribute grain, or reed tax. In general, the data can't be transposed directly into a general analysis

1 Wei Yuan, Record of Millitary Affairs in the Qing Dynasty (圣武记), Appendix vol.11

of the land tax without a careful analysis going province by province. To avoid these problems, the author took the data from the Chaodang by Tang Xianglong (stored in the library of the Economy Institute, Chinese Academy of Social Sciences) and the data from the archives in the First Archives Museum in Beijing to offer a time series of land tax data for the years 1821–1850 (more details are provided in the Appendix).

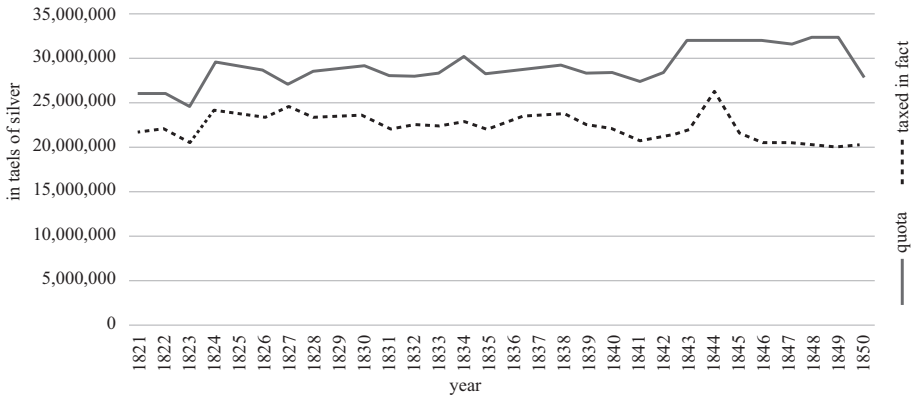

Figure 3.1 Land Tax in 1821–1850

From Figure 3.1 we can see that the actual collection of land taxes ranged between 20 million to 25 million taels of silver and generally, with a slightly downward trend. There was only one exception in 1844, with taxes valued at 26 million taels of silver, which might have been connected with the increase in government spending after the First Opium War.

Tribute grain was the biggest type of income for the court. Concerning this vital statistic there are three relevant data sets available. The first is the actual amount of tribute grain collected in the eight provinces. The second is the actual amount of tribute grain transported by these eight provinces.[1] The third is the actual amount of tribute grain received in Tongzhou by the court, which was the final transportation point of the Grand Canal. The data of each group are interrelated but have their own connotations. Obviously, the first must have been bigger than the second and the second bigger than the third. To determine the fiscal burden of the people, the first data should be most useful. Meanwhile, the

1 In the Qing China, the Court only taxed tribute grain in kind from eight provinces: Shandong, Henan, Anhui, Jiangsu, Zhejiang, Jiangxi, Hubei and Hunan.

third data set would be most useful if we want to know the income of the central government. Below are the data following from the third set of data (the actual volume of tribute grain received in Tongzhou by the court).[1]

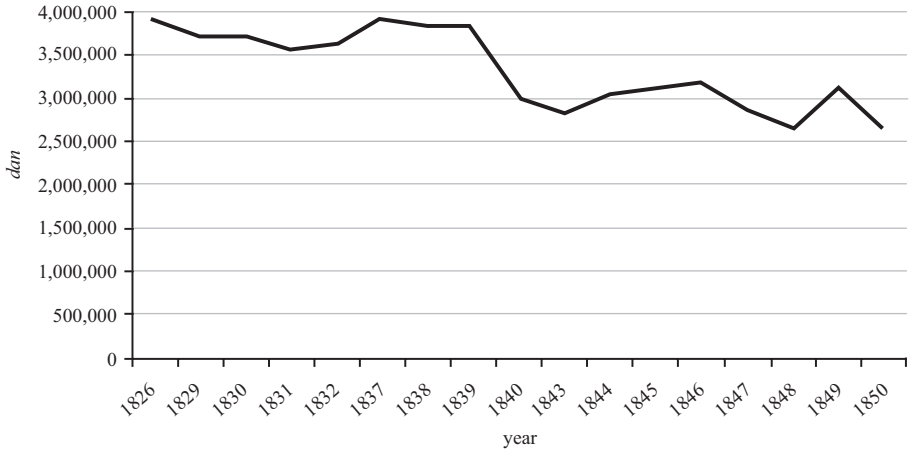

Figure 3.2 The Tribute Grain Received in Tongzhou (1826–1850)

From Figure 3.2 we can see that the amount declined gradually in the Daoguang period, which was likely connected with frequent natural disasters and the subsequent inability of the citizenry to pay tax in the late Daoguang period. It is necessary to point out that in the process of grain collection in the Qing Dynasty, the government also collected other fees in order to transport tribute grain, due to the highly localised nature of this fee that amount of money was difficult to determine.

When it came to salt tax, Wang Qingyun wrote in his book that the quota was 4.1 million taels, the surplus was 2.6 million taels, and with other income the total salt income was about 7.5 million taels.[2] However, this number was not the exact number the court received. Based on Wang Qingyun's statistics, the total revenue of the government was 38.6 million taels of silver in 1841 and the salt tax accounted for 12.85% of the total. In 1842, the number was 38.7 million taels of silver and salt tax accounted for 12.87%. In 1845, it was 40.6 million taels of silver and salt tax accounted for 12.49%. In 1849, it was 37.0 million

1 Chaodang, vol.23–24.

2 Wang Qingyun, Fiscal Data Collections (石渠余记). Taipei: Wenhai Press, 1966.p.470.

taels of silver and salt tax accounted for 13.47%.[1] In this sense, we can speculate that the ratio of the salt tax out of the total conventional fiscal revenue was about 10% to 15%.

The analysis in this chapter of customs duties in the Daoguang period (1821–1850) was based on data from two kinds of archives: 1) the First Historical Archives of China, including Palace Midrange Rescript Memorials (PMRM, film no.20, 21), Extra Copies of Grand Council Memorials (ECGCM, film no.126, 218–219), and *Jiaqing and Daoguang Period Edict Records* (Guangxi Normal University Press, 2000); and 2) *Revenue and Expenditure Reports of Customs in the Qing Dynasty*, finished by Tang Xianglong in the 1930s and now stored in the library of the Institute of Economics of the Chinese Academy of Social Sciences.

Za Fu was a relatively stable income source that amounted to more than 1 million taels of silver annually. However, due to the data limitations we are still unable to provide accurate statistics.

Regarding donations, according to Tang Xianglong’s research, there were 33.8 million taels of silver of Juanjian (捐监 donation for Jianshen, which were students of the Imperial College in the Ming and Qing Dynasties) during 30 years of the Daoguang period, which translates to about 1.1 million taels of silver each year. Among the provinces, Jiangsu, Guangdong, Jiangxi, and Zhejiang provinces were the most important donors.[2] Needless to say, Juanjian income was just one type of donation. It was not easy to estimate the total value of donations. However, we can illustrate the importance of donations in the total revenues based on its ratio as recorded by the Ministry of Treasury. The Ministry of Revenue was responsible for the management of donations and afterwards taking care of standing expenses, the remaining funds were sent to the Treasury of the Ministry of Revenue. According to the statistics of the Ministry of the Treasury in the Qing Dynasty, from 1724 to 1842, there were 182.6 million taels of silver sent to the Treasury of the Ministry of Revenue, six times the value of the land

1 The author is skeptical about the precise data provided by Wang Qingyun. According to Chaodang (vol.7–33), collected by the Institute of Economics of the Chinese Academy of Social Sciences, we can get some real numbers of salt tax collected in the Lianghai Area and Zhejiang provinces in sporadic years, which were quite different from Wang Qingyun’s data. The reasons need to be examined.

2 Tang Xianglong, Statistics of Donation Supervision in the Daoguang Reign of the Qing Dynasty (道光朝捐监统计), Chengdu: Southwest University of Finance and Economics Press, 1987.

tax and clearly a significant amount of income.[1]

Baoxiao in the Daoguang period was very popular with the salt merchants. In theory this extraordinary revenue did not form an extra burden for ordinary people, nor was levied by force. Sometimes, the local government even used the funds of the treasury in advance and waited for the merchants to replenish the amount. However, wool comes from the sheep's back, as the Chinese saying is; the money the government received through Bao Xiao will eventually be at the cost of ordinary people. As the situation during the Qing Dynasty changed, more and more Baoxiao was apportioned by the local government.

With regard to expenditures, a very important type was the cost of maintaining the royal family members, which included acquisition, weaving (for the Emperor's and his family's clothes), and housekeeping funds which were generally managed by the Neiwu Fu (Imperial Household). The fund was in part from the land tax belonging to the emperor, and partly taken by appropriation from the Ministry of Revenue. Feng Guifen, a famous scholar in the late Qing Dynasty once said, "The state funds are regular, but the expense for the royalty has no quota. I heard that each year there are more than 3 million taels of silver appropriated for this, which was 10 times the amount at the beginning of the Qing Dynasty. We should have some limit on this. Another thing is that the number of Manchu soldiers increased day by day, generation by generation, making this an even bigger expense than the royalty expense. As such, how could we feed such a huge number of people?"[2] In any circumstance relating to fiscal matters, be it public or private, this was a big number but difficult to measure.

As derived from the statistics of 1812, the aggregate salary for officials was 1.9 million taels, the Yanglian Yin (养廉银 allowance for the officials) of civilians was 2.8 million taels of silver cumulatively, and the Yanglian Yin of the military netted 1.4 million taels. Together these amounted to 6.1 million taels of silver each year, excluding the rice salary of 957 thousand *dan*.[3]

In 1727, the soldiers' salary would have cost the state approximately 13.9 million taels of silver, 3.2 million *dan* of grain, wheat, and bean, and 6.4 million bunches of dry grass. Even in the Daoguang period, this would have amounted

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1 Luo Yudong, Likin History of China (中国厘金史), Shanghai: Commercial Press, 1936, pp.6–7.

2 Feng Guifen, School Protest (校邠庐抗议), Zhengzhou: Zhongzhou Ancient Books Publishing House, 1998.

3 Rules of the Qing Dynasty (嘉庆大清会典), vol.12–13.

to about 20 million taels of silver with little change.[1] The expansion of military expenditure during wartime was a very noticeable phenomenon in the Daoguang period. According to Chen Feng's statistics, during the war in Xinjiang from 1820 to 1828, 12.4 million taels of silver was spent. The second war in Xinjiang cost 9 million. The rebellion in Hu'nan and Guangdong cost 1.5 million taels.[2] During the First Opium War, it was recorded in the *Qing Shilu* (Record of the Emperor), "this war cost more than 20 million taels, and we still receive new reports."[3]

River maintenance was the second biggest component of fiscal expenditures. Wei Yuan, a very famous scholar, said in 1842: "There was no year without river maintenance since the beginning of the dynasty. We have seen that the cost after 1783 was double that of the early years of the dynasty. In 1806, the cost was even double that of 1783. Now, with the bottom silted up, the risk of damage had increased, the cost was double that of 1806. It was even bigger than the royalty cost."[4] In Yongzheng times, the regular river fee was 600 thousand taels. In the Jiaqing era, with the sand in the Yellow River increasing, the cost was already 2 million taels. In addition to normal maintenance, the cost for exceptional engineering projects raised the total cost even more. The court spent 5.2 million taels of silver to repair the south part of the Grand Canal in 1826, 5.5 million taels of silver to repair the east part of the Grand Canal in 1841, 6 million taels of silver in 1842, 5.2 million taels of silver in 1843, and about 11.9 million taels of silver in 1844. According to Wang Qingyun's records, aside from regular engineering, the court also spent 2.1 million taels of silver in the east and 3.3 million taels of silver in the south in 1845; 1.9 million taels of silver in the east and 2.9 million taels of silver in the south in 1846; and 1.8 million taels of silver in the east and 2.8 million taels of silver in the south in 1848.[5] The Grand Canal required approximately 5 million taels of silver each year in expenses. Seawall building and maintenance expenses were also extremely large. For example, just

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1 Zhang Tingyu, General Examination of Documents in the Qing Dynasty (清朝文献通考), vol.42.

2 Chen Feng, Military Expenditure Research in the Qing Dynasty (清代军费研究), Wuhan: Wuhan University Press, 1992, pp.266–275.

3 According to Mao Haijian's estimation, the fiscal and military expenditure of the First Opium War was about 25 million yuan [Mao Haijian, The Collapse of the Chinese Empire (天朝的崩溃), SDX Joint Publishing Company, 1995, pp.420–421].

4 Wei Yuan, Special Edition of Research Ancient China (古微堂外集), vol.6.

5 SQYJ, vol.3.

in 1833 the court spent 1.6 million taels, and in 1834, it was once again 1.6 million taels.

Yizhan was the main way to transport documents and military commands in the Qing Dynasty. These stations were located all over the country (in thousands of locations), and had both a military and civil nature. The costs associated with Yizhan included salaries of the postal workers, feeds for the horses, and boats, totaling about 2 million taels of silver each year.

Examination and education fees were mainly used in the Empire Examination and for students. The annual examination expense was approximately 300 thousand taels of silver. There were all kinds of schools at the central, provincial, prefecture, and county levels. According to Chang Chung-li's estimate, before the Taiping Rebellion (1850), there were 1,741 official schools and 25,089 students. It was estimated that the schools' budget and annual expenditure of an examination was at least 1 million taels of silver.[1]

Aside from the six items above, there were still other items such as sacrifice, reward, and others, which cost about 500 thousand to 600 thousand taels. Each year, the Ministry of Revenue also needed to give 1.0 million to 1.2 million taels of silver to Jilin and Shengjing as these places were "the place of Dragon Appearance", the hometown of the emperors and the Manchu.

Disaster relief and tax exemptions were also very important fiscal expenditures. Our research of the 1823 flood (chapter 5) establishes how much money was used for disaster relief. In the book of *Qing Shigao*, other big natural disasters were studied, such as the 1831 flood in Jiangsu that cost 1 million taels, the 1847 drought in Henan that also cost 1 million taels, and the 1848 flood in Zhili that cost about 1.4 million taels. There were also a lot of exemptions granted during this period, even though not as much as in the Kangxi and Qianlong eras. In 1840, the imperial court ordered a tax exemption for all the provinces amounting to 9.3 million taels of silver of land tax.[2] In Wang Qingyun's records, it was documented that within the Jiangnan area, there was a land tax of 5.3 million taels of silver that was exempted. In 1836 (1846), there was a debt of 5.6 (10.1) million taels of silver that was forgiven by the emperor. This however was no permanent solution as within the next 10 years the debt again accumulated

1 Chang Chung-li, *The Chinese Gentry*, Seattle: University of Washington Press, 1955, p.141.

2 Veritable Record of the Emperor Daoguang (清宣宗实录), vol.460.

to 10.1 million taels of silver in 1846. Then in 1850, the debt had reached about 13.9 million, and this was similarly expunged by the emperor.[1] From these figures, we can imagine how huge the total was.

From the research of Wang Qingyun we have data on the total revenue and expenditure of the Daoguang period.[2]

Table 3.2 Revenue and Expenditure of the Daoguang Period (in taels of silver)

Year	Revenue	Expenditure	Balance
1838	41,272,732.659	36,209,382.386	5,063,350.273
1839	40,307,372.410	34,787,590.447	5,519,860.960
1840	39,035,229.796	35,805,162.109	3,230,067.687
1841	38,597,458.730	37,341,583.492	1,255,875.238
1842	38,715,060.818	37,149,811.287	1,565,249.531
1843	42,264,528.629	41,904,903.693	359,624.936
1844	40,163,854.832	38,651,694.514	1,512,160.318
1845	40,612,280.774	38,815,891.185	1,796,389.589
1846	39,222,630.420	36,287,159.329	2,935,470.713
1847	39,387,316.116	35,584,467.837	3,802,848.279
1848	37,940,093.827	35,889,872.079	2,050,221.748
1849	37,000,019.041	36,443,909.923	556,109.118

From Table 3.2, we can see that the revenues and expenditures in the Daoguang period were balanced and some years even had some slight surplus. However, it is difficult to determine the actual source of the data, as Professor Chen Zhiping had pointed out, the 1849 data provided by Wan Qingyun in 1848 might be incorrect.[3] As any historical data, this should also be handled with cau-

1 Biographies of Wang Qingyun, in the book of *Biographies of History of the Qing Dynasty* (清史列传), vol.46.

2 Financial Historical Materials in the Council Office of the People’s Bank of China, Modern Monetary History of China (中国近代货币史资料) vol.1, Beijing: Zhonghua Bookstore, 1964,p.172.

3 Chen Zhiping, *The Number Correction of Fiscal Annual Revenue and Annual Expenditure in the 29th Year of Dao Guang Reign* (清道光二十九年财政岁入岁出数字厘正), in *Research on the History of Social Economy in China*, no.2, 2009.

tion and examined with a critical eye.

During the Daoguang period the Treasury of the Ministry of Revenue was the main agency in charge of receiving funds and making payments for the country. In this way it performed a function similar to that of a national treasury, and so it was an important indicator of fiscal balance. We should point out that the records of the Treasury of the Ministry of Revenue did not represent a complete image of the total national fiscal revenue and expenditure because it operated mainly based on the taxes sent to Beijing. Much of the total revenue was instead kept and set to use in the local province or sent directly to other provinces. However, during the early Qing, the main portion of the revenue was absolutely controlled by the Court and local government had no power to intercept funds. No more than 20% of the proceeds of the land tax could be kept in their local provinces. Because data from the Treasury of the Ministry of Revenue has been preserved and is now available, this has allowed us to determine an estimate of the real number of the total national fiscal revenue during the Qing period. According to Shi Zhihong's research, there was 9.9 million taels of silver worth of income annually in the Daoguang period, accounting for about 22% of the total national revenue. This remained stable as compared with 26% for the Kangxi period, 33.3% for the Yongzheng period, 24.8% for the Qianlong period, and 23.2% for the Jiaqing period.[1]

Following are the data we collected from the archives and Chaodang.[2]

Table 3.3 Revenues during the Daoguang Period (in taels of silver)

Year	Land tax	Customs duties	Juanjianyin	Yinku income	Yinku expense	Yinku surplus
1821	21,607,658	5,154,635.800	1,528,598	7,630,388.956	11,351,701.120	27,489,790.103
1822	21,894,605	5,878,812.683	1,490,371.2	7,060,251.329	11,210,691.122	23,339,350.310
1823	20,455,728	4,868,783.643	10,43,626	8,022,729.099	9,948,689.111	21,413,390.299
1824	23,955,498	4,770,416.114	1,921,774	6,979,498.300		

1 Shi Zhihong, Statistics of the Income and Expenditure of the Treasury and Inventory of the Ministry of Household Affairs in the Qing Dynasty (清代户部银库收支和库存统计), Fuzhou: Fujian People's Publishing House, 2008, pp.40–42.

2 Chaodang, vol.1–8.

(Continued)

Year	Land tax	Customs duties	Juanjianyin	Yinku income	Yinku expense	Yinku surplus
1825	23,823,963	4,426,222.023	1,951,433	8,507,035.548	9,218,327.770	
1826	23,304,982	4,276,750.536	2,042,534.2		10,935,444.760	
1827	24,458,490	4,936,506.389	1,254,509.2	23,802,617.220	11,373,705.050	30,009,705.849
1828	23,305,751	4,520,912.241	1,413,666.4	14,422,806.341	10,951,956.194	33,480,555.996
1829	23,506,229	4,608,886.514	1,149,558	11,557,958.780	11,713,016.780	33,325,497.989
1830	23,477,485	4,909,004.952	1,173,688	11,289,651.043	12,575,834.261	32,039,314.771
1831	22,024,406	4,440,735.269	1,170,988	7,010,524.090	10,392,799.300	28,657,039.556
1832	22,413,419	5,036,156.363	1,172,617	8,019,700.574	10,987,586.250	25,689,153.883
1833	22,297,593	4,108,735.555	1,074,308	7,160,868.728	10,886,615.761	21,963,406.850
1834	22,756,019	4,442,944.229	1,365,102	15,522,249.804	10,773,738.669	26,711,917.985
1835	21,781,675	4,733,339.056	1,062,270			
1836	23,053,143	4,675,642.575	966,572	9,551,051.470		
1837	23,579,481	4,854,040.647	1,094,028		9,627,520.753	
1838	23,569,752	4,448,389.581	866,072		10,651,476.160	
1839	22,247,221	4,398,491.226	869,666	8,682,740.926	11,590,119.790	24,511,409.860
1840	21,815,510	4,137,588.848	902,104	10,350,259.800	10,312,240.880	24,549,428.777
1841	20,491,003	4,264,322.139	741,804	6,796,037.933	15,733,178.080	15,612,288.630
1842	20,894,664	4,203,919.116	896,167	10,914,110.600	13,519,846.630	13,006,552.601
1843	22,006,097	3,267,632.329	1,215,134	7,919,692.645	10,992,455.454	9,933,789.792
1844	26,056,515	4,603,793.663	1,021,138		7,609,984.665	
1845	21,208,648	5,991,007.966	825,488	9,069,653.822	8,737,518.874	
1846	20,261,681	8,697,238.086	840,928	9,044,024.206		
1847	20,224,568	4,874,386.840	686,802		8,479,905.436	
1848	20,006,462	4,879,912.937	698,208	8,872,939.635		
1849	19,764,924	5,620,980.681	872,720	8,781,377.978	9,340,394.584	
1850	19,990,057	4,449,242.682	574,456	7,748,584.997	9,531,910.219	

The figure below illustrates the trends based on the data above.[1]

1 Due to the incomplete and limited amount of donation data, the accumulated amount of silver was omitted in the schematic diagram due to the occurrence of the late Daoguang bank case.

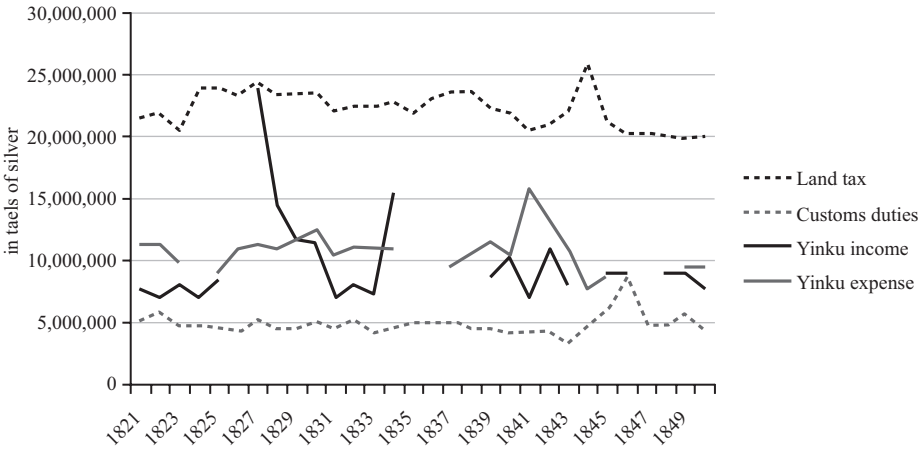

Figure 3.3 The Trends of Revenues during the Daoguang Period

From Figure 3.3 above, we can see that the land tax was still the most important and stable revenue source for the country. It is a pity that we do not have records of the population per year during this time. If these records were available it would be possible to provide per capita tax revenues which would show a decreasing trend. Although other revenues had some fluctuations, their contributions as part of the whole were limited. This shows that even though China had begun to move towards modernising its society, the basic structure of the fiscal revenues had not yet changed with it. The Treasury of the Ministry of Revenue had changed greatly, and when the deficit happened, the Court would remedy the gap by saving on expenditure or fund projects through donations and Baoxiao. Wu Tingxie wrote in his book *Qing Caizheng Kao* that, "The fiscal expenditure increased sharply during the Daoguang period, which had never happened before, especially in the military and river engineering. At that time, the Ministry of Revenue had no good solution, and people's livelihoods declined. Therefore, the court began to cultivate Xinjiang and Fengtian provinces,[1] reformed the salt policy, adopted the sea transport of tribute grain, and cut administrative expenses. After the First Opium War, the door was opened, and more silver was moved abroad." Usually, it was the Ministry of Revenue that sent silver to the Neiwu Fu, but in the Daoguang period, it was Neiwu Fu that sent 7.3 million taels of

1 In the Late Qing, Fengtain changed the name to Liaoning.

silver to the Ministry of Revenue.[1]

Meanwhile, with significant changes in the social situation, the Qing government maintained the principle of “living within one’s income.” According to this principle, the fiscal system must be based on controlling existing sources rather than on opening new sources. At that time, the amount of revenue controlled by the Qing court had been reduced greatly. Even though there was a huge amount of expenses for military activities, river engineering, and disaster relief, the court still relied on temporary solutions (i.e., donations) to support the lack of funds; it had no long-term plans. Emperor Daoguang even said, “If we consider our country a big house, it has survived for a long time. Even though the eastern part of the wall has not collapsed, the western part of the wall could still collapse. If the people continue to repair the wall now and then, the house would be like new. We really do not need to build a new house.”[2] At that time, the West had entered the era of capitalism; taxation had changed from being the source of current financial expenditure to being a means for meeting production requirements, thus affecting the structure and direction of production. The Qing court was faced with new problems concerning the fiscal situation, such as how to adjust regular taxes in line with an expansion of spending, and how to adjust the amount of tax required when the value of the currency changed. However, the court did not properly communicate any feasible countermeasures. It is highly likely that even in a hypothetical scenario where the Taiping Rebellion did not happen, the fiscal system of the Qing Dynasty would still need to make major adjustments.

However, on the whole, the fiscal situation during the Daoguang time had not yet reached the edge of collapse. If we increase the time-horizon and compare the fiscal situation with the situation after this period, the superiority of the former would be evident. From this point of view I consider the Daoguang period as a transitional fiscal situation “with quantitative changes but no qualitative change.”

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1 Wu Tingxie, Research on the Fiscal Situation of the Qing Dynasty (清财政考), p.12.

2 Zhang Jixin, Records of Officials Times During the Daoguang and Xianfeng Times (道咸宦海见闻录), 22th of August, 1847.

2. War: An Almost Collapse of the Fiscal System

The Taiping Rebellion was the largest peasant rebellion in Chinese history. Hong Xiuquan, the leader of Taiping Rebellion, established its capital in Tianjing (天京, now Nanjing). The Taiping Rebellion was very strong in the early stage and took the provinces of Jiangsu, Zhejiang, Anhui, Jiangxi, Hubei, and Hunan, the richest provinces of the Qing. Later, it was finally destroyed by Zeng Guofan and Li Hongzhang, new military leaders of the Qing government.

The Taiping Rebellion broke out in Guiping county, Guangxi province on January 11, 1851 and quickly developed into a large-scale war against the Qing Dynasty. In the first eight months, the rebels continuously captured multiple counties such as Guiping, Pingnan, Wuxuan, Xiangzhou, Yong'an, and others nearby. In 1852, the Taiping army rushed into Hunan and Hubei and even occupied Wuhan, the capital of Hubei. In 1853, the Taiping army had several hundred thousands of troops that moved along the Yangtze River and occupied most parts of Jiangxi, Anhui, and Jiangsu. In October, the Taiping army broke into Jiangning (today Nanjing, the capital of Jiangsu) and renamed it "Tianjing," the Capital of the Taiping Kingdom. Afterward, the Taiping army sent troops (i.e., Beifa, the Northern Expedition) to the north in order to eliminate the Qing court, passing through Anhui, Henan, Shandong, Shanxi, and Zhili within half a year. It even reached Tianjin, which is very close to Beijing. Emperor Xianfeng was ready to go north of Rehe (热河 today's Chengde). Due to the lack of back-up, the Northern Expedition finally failed. However, the other rebel groups, such as the Nian army, continued to be active in Henan, Anhui, Jiangsu, and Shandong provinces until 1868, when these rebellions were completely suppressed. During the Northern Expedition, the Taiping army captured most parts of Anhui, Jiangxi, Hunan, Hubei, and Zhejiang province, which were at the time the most prosperous area of China.

Upon the capture of these provinces, the Taiping Kingdom's rebels who led the uprising experienced serious internal strife. Yang Xiuqing, the secondary leader of the Taiping Kingdom was killed, and Tianjing was surrounded by the Qing army. However, with the rise of young generals such as Chen Yucheng and Li Xiucheng, the Taiping forces were restored. In 1860, during the Second Opium War (1856–1860), the Qing army and the Western powers joined together to

suppress the Taiping army and the situation on the battlefield reversed. In 1864, the topmost leader of the Taiping Kingdom, Hong Xiuquan, committed suicide. Several months later, Zeng Guofan captured Tianjing, which symbolised the failure and the end of the Taiping Kingdom movement. Beyond that, the Qing Dynasty spent another two years to eliminate the rest of the Taiping kingdom’s military force.

During the Taiping Rebellion, there were many other rebellions that broke out, such as those called Nian (in Anhui), Henan, and Shandong provinces; those of the Tiandi Hui (天地会 The Heaven and Earth Society) in Guangdong, Guangxi, and Fujian provinces; the Miao and other minorities’ rebellions in Yunnan, Guizhou, and Sichuan provinces; and the Hui minority’s rebellion in Shaanxi and Gansu provinces. With all these rebellions, the Qing regime nearly collapsed.

At the same time, the fiscal system of the Qing Dynasty was also challenged in an unprecedented manner. Initially, the Taiping army was quite successful and the Qing government’s military spending had been huge. In 1851, only several months after the Taiping rebellion started, when the battles were still limited to Guangxi, the Guangxi province needed monetary support from other provinces, valued at 700 thousand taels of silver per month.[1] The Ministry of Revenue reported in 1851 that, “in the spring, we only had 640 thousand taels of silver available. Now in August, we only have 1 million in revenues and no other income. We have no money to pay for disaster relief and exemptions from land tax.”[2] According to Wang Qingyun’s records, from 1851 to 1852, the court’s expenses amounted to a total of 22.6 million taels of silver, specifically 4.5 million taels of silver for river engineering and 18.1 million taels of silver for the military. The spending for military activities comprised 11.2 million taels of silver for Guangxi, 4.2 million taels of silver for Hunan, 1.9 million taels of silver for Guangdong, 450 thousand taels of silver for Hubei, 200 thousand taels of silver for Guizhou, and 100 thousand taels of silver for Jiangxi.[3] This means that a significant amount of funds were spent in just the first two years of the war.

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1 Veritable Record of the Emperor Xianfeng (清文宗实录), vol.47.

2 Xu Daling, Donation System in the Qing Dynasty (清代捐纳制度), Beijing: Harvard-Yenching Institute Press, p.60.

3 SQYJ, vol.3.

In 1853, the Taiping army achieved great momentum and the budget of the Qing government had become ever more strained. In June, the Ministry of Revenue reported that it had spent 29.6 million taels of silver in these three years of war. "We have tried our very best to fill the budget."[1] However, every province still asked for money from the central government. At the same time, the Yellow River flooded once again, requiring a large sum of money for rescue and repair. "Money is needed everywhere, especially by the military actions. However, the provinces at war have no way to collect land taxes, and the provinces not at war have already asked for an exemption. We have no way to achieve the quota in land tax." With regard to the salt tax, Yangzhou of Lianghuai had been occupied by the Taiping army for quite some time. Hankou, the most important market for selling salt, had been repeatedly hit by the enemy. The Nanhai Sea, the biggest salt producer, was also destroyed by the war. Thus, the salt tax lost half of the potential income. With regard to customs duties, the famous ports of Wuhu Guan, Jiujiang Guan, Fengyang Guan, Xushu Guan, Kui Guan, and the other ports along the Yangtze River had been destroyed by the war. Even the Chongwenmen port, located in Beijing and far from the war, was still affected by the war since the goods that needed to be transported could not. As such, the income quota of customs duties "existed only on paper."[2]

All the problems involved conventional revenue sources. Even if the taxes would meet the quota, it would still not be enough to meet the demand. Therefore, the Ministry of Revenue attempted to take donations, but at that time donations were not as popular as they used to be. Subsequently, the Ministry of Revenue also executed other methods to address the shortage of funds, such as stopping Yanglian Yin (allowance for the officials), mining silver ore, and taxing shops. "We have done everything we could but need time to see results. At the same time, all the provincial governors could not offer good suggestions, and they even did not respond to our advice." On June 12, 1853, the Treasury of the Ministry of Revenue only deposited 227 thousand taels of silver, which was not even enough for the next month's salary. "We have worked in the Ministry of

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1 Financial Historical Materials in the Council Office of the People's Bank of China, Modern Monetary History of China (中国近代货币史资料) vol.I, Beijing: Zhonghua Bookstore, 1964, p.175.

2 Financial Historical Materials in the Council Office of the People's Bank of China, Modern Monetary History of China (中国近代货币史资料) vol.I, Beijing: Zhonghua Bookstore, 1964, p.175.

Revenue for a long time, some of us for more than decades, some for one or two years. However, we have never experienced such a distressed situation as today. If the military activity will not stop quickly, the money for foreign and domestic needs would be exhausted at the same time. We dare not estimate the result if no good solution is offered.”[1] From this report we can see how difficult the fiscal situation was during this period. Even the Ministry of Revenue officials admitted that such a serious situation had never happened before.

The fiscal difficulties would inevitably lead to payment in arrears. A direct consequence of non-payment for soldiers was that in this period, most of them had difficulty in buying food. We could just imagine their ability to fight. “Since they had not received their salary, it was very difficult for the general to command and rule these soldiers.”[2] The camp generals could not face the soldiers, issue orders and expect those to be followed. “If we had a huge sum of money, our soldiers would be very brave.”[3] However, if the soldiers had no money, they would not fight. If the soldiers could not fight, the war would continue, and the fiscal problem would become more serious, which was really a vicious circle.

The central government continued to have no money, and the local provincial treasury was also empty. For example, after years of war, the provinces of Hunan and Hubei had been badly hurt. Zhang Liangji, the Viceroy, reported to the court that the treasuries were totally empty, especially Hubei, whose treasury did not even have any coins. “What we could do only is to wait for the help from Guangdong treasury to survive.”[4] The treasury of Hubei only had several thousand taels of silver, and Zhang also said that such a situation had never happened before. In November of 1853, Emperor Xianfeng ordered the Hunan militia deputy, Zeng Guofan, to send troops to rescue Anhui, which was under attack by the Taiping army. However, Zeng Guofan rejected the order directly. He reported that the treasury of Hunan “only has five thousand taels of silver, which is even insufficient for preparing food for the soldiers for one month (…) we also have no hope of getting support from other provinces.” Zeng Guofan used this reason

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1 Financial Historical Materials in the Council Office of the People’s Bank of China, Modern Monetary History of China (中国近代货币史资料) vol.I, Beijing: Zhonghua Bookstore, 1964, p.176.

2 Zhao Liewen, Diary by Zhao Liewen (能静居日记), February 25th, 1864.

3 Zhao Liewen, Diary by Zhao Liewen (能静居日记), February 25th, 1864.

4 Zhang Liangji, Zhang Liangji Manuscripts (张大司马奏稿), vol.IV, August 13th, 1853.

to decline the command, and Emperor Xianfeng had no means to make him do it.[1]

The fiscal system also encountered issues when the government did find a way to pay the money, especially in terms of reporting. Since the war lasted too long the provinces had no time to report each budgetary item to the Court, as the system had previously ruled should be the case. In most cases, the court only had a general budget without a more detailed accounting of what payments had been made. The court also had no way of checking the validity of the actual payments. The Ministry of Revenue could not calculate the total sums to be expected beforehand. Bao Yun, the Ministry of Revenue reported that "In the recent ten years, supporting the military cost more than thousands of thousands taels of silver."[2] This implies that they also did not have the actual amount.

Certain people made some estimation of the total expenditure associated with the Taiping Rebellion. Wang Kaiyun, a scholar from the late Qing Dynasty, said that the government spent 280 million taels of silver, 7.6 million paper money and 8.8 million *guan* (1,000 coins per guan) to suppress the Taiping rebellion.[3] Liu Jinzao said that "the battle cost more than 200 million taels of silver."[4] However, the real number is very difficult to determine. Peng Zeyi, according to Chaodang which was stored in the library of the Economy Institute, Chinese Academic of Social Sciences with other materials (such as the books and drafts by all kinds of provincial governors), estimated that the Qing government spent 170 million taels of silver to eliminate the Taiping army and 31.7 million taels of silver to put an end to the Nian rebellion, together costing about 200 million taels.[5] Peng also estimated all other military cost incurred at that time.

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1 Zeng Guofan, Zeng Guofan's Complete Works (曾文正公全集), vol.1, Changchun: Jilin People's Publishing House, 1995.

2 Chaodang, December 10, 1867.

3 Wang Kaiyun, Diary of Wang Kaiyun (湘绮楼日记), vol.7, October 24, 1878.

4 Liu Jinzao, Continued Examination Edition of the Documents in the Qing Dynasty (清朝续文献通考), vol.74.

5 Peng Zeyi, *Quartermaster Reporting Statistics in Xianfeng and Tongzhi of the Qing Dynasty* (清代咸同年间军需奏销统计), in *Collection of Economic Research Institute in Chinese Academy of Social Sciences*, vol.3, 1981. The suppression fee in Xinjiang ended in 1877, so this table was only a rough estimate but still included in the Xianfeng and Tongzhi period.

Table 3.4 The Expenses of the Taiping Rebellion as Estimated by Peng Zeyi (in taels of silver)

Items	Taels	Percentage
Taiping Rebellion	170,604,104	40.4
Nian Rebellion	31,730,767	7.5
Northwest Hui Rebellion	118,887,653	28.2
Southwest Rebellion	78,736,500	18.6
Southeast Rebellion	22,336,935	5.3
Total	422,295,959	100

Source: Peng Zeyi, *Quartermaster Reporting Statistics in Xianfeng and Tongzhi of the Qing Dynasty* (清代咸同年间军需奏销统计), in *Collection of Economic Research Institute in Chinese Academy of Social Sciences*, vol.3, 1981.

However, Peng also said that “The number in the table is over 422 million, but we should point out that this number is far from complete. The real number should be over and cannot be lower (…) If we took into account the missing parts, the lowest estimated amount at that time would be over 850 million taels.”[1] I believe this estimate is reasonable. If we allocated this amount to each year and considered the spending during the Second Opium War (1856–1860), there would be over 40 million taels of silver annually. This means that the military expense was over the total revenue during the Daoguang period. With this figure we can start to imagine the fiscal difficulties the Taiping Rebellion represented for the Qing government.

3. Structural Change

The early Qing Dynasty implemented a new tax administration, which was roughly equivalent to the annual final accounts. Within a prescribed time limit, the provincial chiefs and commissioners were required to prepare a general tax

1 Peng Zeyi, *Quartermaster Reporting Statistics in Xianfeng and Tongzhi of the Qing Dynasty* (清代咸同年间军需奏销统计), in *Collection of Economic Research Institute in Chinese Academy of Social Sciences*, vol.3, 1981.

book based on the drafts made by the prefectures and counties. Such a book was divided into four categories: Qiyun (起运, which part of taxes should be transported), Cunliu (存留, which part should be kept local), Boyong (拨用, which part had been appropriated by the Court for the local expense), and Yusheng (余剩, which part had been left). The Governor was required to report this book to the Ministry of Revenue, and the Ministry of Revenue would check every detail. If there were discrepancies, the province should send another report within four months. The Ministry of Revenue was required to report the books to the emperor by the end of the year. Through this system, the Ministry of Revenue was informed about the fiscal situation of each province.

The Taiping rebellion, the Nian rebellion, the Second Opium War, and the Shaanxi and Gansu Hui rebellion lasted as long as 14 years and covered more than ten provinces. Because of the interference of war, this old Zouxiao (奏销 the previously discussed system of submitting financial reports to the throne for approval) was difficult to sustain. For instance, from the beginning of the war, the court had stopped the Zouxiao system for more than ten years. Guangdong province stopped implementing the system in 1852, and until 1861 the province did not report anything. In 1861, the Qing court repeatedly urged that "all the provinces are required to comply with the Zouxiao system without delay."[1] However, Guangdong did not answer back. In 1864, Guo Songtao, the Governor of Guangdong, reported that "the report of Guangdong province could not be sent on time since the war started. We have to wait for several years."[2] This was a common situation among the other provinces as well.

In the Xianfeng period (1851–1861), the Qing court repeatedly tried to restore the Zouxiao system but did not succeed. In the early years of the Tongzhi period, with the Taiping Army gradually becoming extinct, the court tried again to resume the Zouxiao system. The Ministries of Revenue, Works, and Military received the news in advance. They immediately sent servants to the provinces to discuss the matter with the provincial governors in an attempt to prepare.

Faced with such a situation, Wang Wenshao, a member of the Ministry of Revenue, believed that it had become impossible to re-establish the system. He

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1 SYD of FHAC: 17 September, 11nd year of Xianfeng.

2 Guo Songtao, Guo Songtao's Reports (郭侍郎奏稿), Taibei: Institute of Modern History, Academia Sinica of Taipei, 1971, p.428.

proposed to suspend the Zouxiao system. Later, he discussed this suggestion with Wo Ren, the Prime Minister and obtained Wo’s agreement. When the Qing soldiers captured Nanjing, the capital of the Taiping rebellion, a moment which signified the failure of the Taiping movement and the victory of the Qing Dynasty, Wo summoned all the officers to the office of the Ministry of Revenue. He ordered them to prepare a report to the court to stop the Zouxiao system.[1] In his own report, Wo argued that the Taiping rebellion had lasted for decades and several provinces had become extremely poor. If the Zouxiao system was strictly followed, most of the battlefield heroes would be punished after their victory. “It really is not a good way to do so.” He suggested that all the expenses before this month (June of 1864) be cancelled without any reimbursement.[2] This move was justified and reasonable under the circumstances. The Empress Dowager agreed to this request. As a result, the more than ten years’ history of expenses, amounting to hundreds of billions of silver, hastily ended. Some officials’ dreams of gaining huge amounts of money came to an end, “Some even cried when they heard the news.”[3]

In fact, the abolition of the Zouxiao system was the last resort. Even so this change had far-reaching consequences. With the change in the power structure between the central and local governments during this period, the intent of the court to restore the old system met a lot of opposition. Zeng Guofan had the following analysis: “The previous system ordered all the revenues of the state to be arranged by the central government. However, after the Taiping rebellion, each province tried their best to stop the money from being sent to the central government and kept it for local use, be it land tax or tribute grain. Since then, the power of the central government diminished little by little and the provinces’ power gained strength.”[4]

After 1864, although the provinces gradually submitted financial reports to the court, this submission became merely a formality. In particular, the important local fiscal sources for Likin were not controlled by the central government.

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1 Wu Qingdi, Collections under Banana Area (蕉廊脞录), Beijing: Zhonghua Bookstore, 1990, p.39.

2 Wang Yanxi and Wang Shumin, *A Commentary on the Four Dynasties of Emperor Daoguang to Guangxu* (皇清道咸同光四朝奏议), vol.26, Taibei: Wenhai Publishing House, 1966, pp.1860–1861.

3 Wu Qingdi, *Collections under Banana Area* (蕉廊脞录), Beijing: Zhonghua Bookstore, 1990, p.39.

4 Zeng Guofan, *Zeng Guofan’s Complete Works* (曾文正公全集), vol.20, Changchun: Jilin People’s Publishing House, 1995, p.995.

In October of 1868, the court said: "Since the Taiping rebellion, we had a long time to use the money without justification. Now, we order the provinces of Jiangsu, Jiangxi, Anhui, Hubei, Guangdong, Zhejiang, and Fujian to report the total income of Likin to the central government. The reports should include the computation of salt tax."[1] However, historical records showed that the provinces apparently did not implement this order seriously.

Similar to the fate of the Zouxiao system, the systems of Jing Xiang (京饷 the transportation of provisions to the capital in lieu of the province's money being sent to Beijing) and Xie Xiang (协饷 provisions sent to other provinces, not to the capital) were also failing. In the early Qing, all of the taxed silver should either be sent to the Capital (Jing Xiang) or assigned by the Court for special purposes within the province (Xie Xiang) save for a part of taxed silver that ought to be left within the local province. After the rise of the Taiping rebellion, due to the large amount of war-related expenses and the failure to book tax revenues, the Ministry of Revenue could no longer control and allocate the fiscal revenues uniformly in the way it used to do. In 1852, Jiang Wenqing, the Anhui Governor, stipulated that all the land tax, customs duties, and miscellaneous taxes be left in Anhui province for military expenses. Although this move was inconsistent with the system, due to insufficient funds, the Ministry of Revenue had to agree. Since then, the generals and governors frequently took action to keep their province's tax revenue.[2]

In addition to keeping the money in the local provinces, more and more generals and governors tried to stop the money from passing through their areas. In 1853, 70 thousand taels of silver were stopped by the Anhui governor, the money was intended to be sent from Zhejiang to Hubei. In August of the same year, Zhang Fu, the Jiangxi Governor, stopped 150 thousand taels of silver that was being sent from Guangdong to the Jiangnan area. Although the Ministry stressed that "We should never permit provinces to stop the delivery of land tax, salt tax, and others. This will lead to dangerous situations and shortcomings." However, despite the dangerous situation, the court had no choice and only said that "it was temporary permitted."[3] With similar incidents continuing to increase

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1 Veritable Record of the Emperor Tongzhi (清穆宗实录), vol.244.

2 Veritable Record of the Emperor Xianfeng (清文宗实录), vol.139.

3 Veritable Record of the Emperor Xianfeng (清文宗实录), vol.104.

in frequency, the Ministry of Revenue, the nation’s previously supreme fiscal authority, was a mere figurehead gradually.

With the reduction of income the Ministry of Revenue had to change its ways, it would now require taxes to be levied with a quota and all the money to be arranged by the court. They began to apportion quotas, which meant the Ministry of Revenue determined the income quotas in the winter and all provinces were required to send the respective amounts the next year. In the beginning, the quota apportioned to Beijing was 4 million taels of silver. In 1860, this increased to 5 million taels, and it was 7 million taels of silver in 1861. From 1867, this number grew to 8 million taels, and this practice continued until the end of the Qing Dynasty, with which becoming the most important source of income for the Ministry of Revenue in the late Qing Dynasty.

In addition to the quota allocation, the government also added new expense items whose payment was allocated to the provinces. These items included Neiwu Fu’s annual expense funds, the Emperor’s marriage fee, Capital defence funds and others.

Generally speaking, the Ministry of Revenue represented the public ledger of the state and the Neiwu Fu represented the private finances of the emperor and his family. In the Qianlong period, the Ministry of Revenue sent 600 thousand taels of silver to the Neiwu Fu annually. In the Tongzhi period, the Neiwu Fu frequently borrowed money from the Ministry of Revenue. Unable to face such a disturbance on the budget, the Ministry of Revenue asked to send 300 thousand taels of silver to the Neiwu Fu from the salt, tea, and customs duties. In 1868, although very poor, the Ministry of Revenue also added 300 thousand taels of silver (together totaling 600 thousand) to the Neiwu Fu, in keeping with traditions of the Qianlong period.[1] However, although there was direct funding, the Neiwu Fu still forcefully borrowed money from the Ministry of Revenue. In the last years of the reign of Tongzhi, these sums of money ranged from 1.3 or 1.4 million and up to 1.8 or 1.9 million taels. The Ministry of Revenue had again petitioned the court to fix its frivolous spending habits, “We have had less revenue in recent years; however, the expenditure has increased greatly. If we cannot

1 ZPZZ of FHAC: 13 November, 27th year of Guangxu, no.04-01-35-1058-016.

fix the amount for Neiwu Fu, we will be in a dilemma."[1] However, based on the behaviour of the Empress Dowager, who was simultaneously embezzling from the Navy's funds, this request had not been received favourably and would never be seriously implemented.

In 1871, the court started to prepare for the marriage of the Tongzhi Emperor. The imperial court apportioned "the wedding funds" to the whole nation. This apportionment was in addition to the 4.5 million taels of silver the court expected from the Ministry of Revenue, 550 thousand taels of silver from Jiangning and Suzhou weaving, 1.8 million taels of silver from Hangzhou weaving, 370 thousand taels of silver from Guangdong and Guangxi authorities, 1.2 million taels of silver from customs duties. "The amount in total was more than 10 million taels of silver."[2]

The quota apportionment to Beijing (Beijing funds) began in 1863. To guard Beijing, a new army was set up in Zhili and Beijing. In Zhili there were 40 thousand soldiers stationed and in Beijing there were 20 thousand soldiers. The fixed fee for this number of troops was 650 thousand taels of silver, and each province had to pay this new tax.

The adoption of all these new fiscal measures had special significance. It created more than before a clear division between the central and the provincial fiscal systems, particularly in the case of unforeseen difficulties. After these adaptations, the province had much more control over its local income. However, sometimes these changes remained in the blueprint. In 1863, the Edict said that "in recent years, we have allocated revenues from land tax, salt, customs duties, and miscellaneous taxes, with the quota of 7 million taels of silver annually. However, only Shanxi province could meet its quota. Other provinces always had deficits. Even after the requirement by the court, the deficits still existed."[3]

Before 1851, the fiscal revenue of the Qing Dynasty was from land tax, salt, and customs duties, among which land tax was the most important. After the rise of the Taiping rebellion, the fiscal revenue structure quickly changed.

The Taiping rebellion swept through Jiangsu, Zhejiang, Anhui, Hunan, Hu-

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1 Wang Yanxi and Wang Shumin, A Commentary on the Four Dynasties of Emperor Daoguang to Guangxu (皇清道咸同光四朝奏议), vol.26, Taibei: Wenhai Publishing House, 1966, p.1265.

2 LFZZ of FHAC: 25 April, 11nd year of Tongzhi.

3 Veritable Record of the Emperor Tongzhi (清穆宗实录), vol.85.

bei, Jiangxi, and other provinces. Together with the Nian rebellion, it resulted in a large population decline and widespread destruction of the land. In particular, the Jiangnan area, the most important region for the Qing government as far as taxes were concerned, was instead taxed by the Taiping army. During and after the occupation, the Qing government lost this income and the aggregate land tax was affected greatly. From the Chaodang the extent of this impact can be read. Below were the eighteen provinces' cumulative land tax values with their corresponding years as reported in the Chaodang.

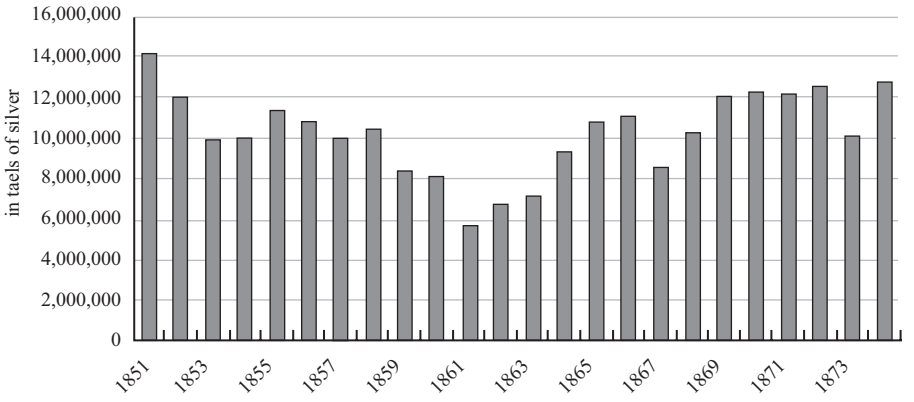

Figure 3.4 The Land Tax in 1851–1874

Source: Ni Yuping, *Cong Guojia Caizheng Dao Caizheng Guojia: Qingchao Xiantong Nianjian De Caizheng Yu Shehui* (From State's Fiscal To Fiscal State: Finance and Society in the Xian Feng and Tong Zhi Times of the Qing Dynasty), in Science Press, 2017, p.110.

Figure 3.4 shows that during the periods of the Xianfeng and Tongzhi reigns (1851–1874), the land tax declined sharply before 1861 and ranged from 6 million to 14 million taels of silver. Taking into account the missing data from a number of provinces, I estimate that the real tax revenue ranged from 10 million to 16 million taels. However, during the Jiaqing and Daoguang periods (1796–1850), the land tax was about 20 million to 25 million taels.[1] Considering this, it can be deduced that affected by the war, the land tax declined by about 50%.

Similar to the land tax, the customs duties were also affected greatly. The Qing government had to agree to tax some ports (such as Chongwenmen Guan

1 Ni Yuping, Fiscal and Society in the Jiaqing and Daoguang Reigns of the Qing Dynasty (清朝嘉道年间的财政与税收), Beijing: Commercial Press, 2013, p.174.

and Linqing Guan) without quota but tax them as much as possible. More ports had to close, temporarily or permanently, due to the raging war, such as Longjiang Guan, Xixin Guan, Xushu Guan, Nanxin Guan, Beixin Guan, Wuchang Guan, Wuhu Guan, Yangzhou Guan, Jiujiang Guan, and Fengyang Guan. Based on the archives, the customs duties declined from more than 5 million taels of silver to between 1.5 million and 2 million taels.[1]

Different from the customs duties, the marine ports experienced another trend. In 1853, Shanghai was occupied by the rebellion and Jianghai Guan turned into chaos. Britain, France, and the United States took the opportunity to control Shanghai port. In the second year of occupation, the Qing court was forced to accept the proposal from the British and appointed T. Wade (British), L. Caar (American) and M.A. Smith (French) as the managers of the Shanghai port. At the same time, a "Customs Management Committee" was also established. In 1860, the Gong Prince Yi Xin set up the Prime Minister Yamen as the foreign affairs office. H. N. Lay (British) was appointed as the "Inspector General" of the marine ports. Immediately after, Robert Hart took over this position. With the tax system changed, the administrative power of China's customs had also been transferred to the West. Robert Hart established the modern customs tax system and since then, the collection rose in a straight line.

Likin was a commercial tax and was first adopted and applied in Yangzhou in 1853. After that, it spread throughout the nation. At its root Likin tax was 1% of the goods' value. It was a more complex system however, not only did the tax ratio range from 1% to 8% of the goods' value, but the tax was also assessed on the stores (Zuo Li 坐厘, a sitting li) and merchants (Xing Li 行厘, a walking li). Not only ordinary goods were taxed with Likin, but salt, tea, medicine, opium, and other goods were also taxed. According to the collection places, Likin could be divided into production Likin, pass-through Likin, and point of sale Likin. It was taxed by the government directly or by an intermediary, who were generally merchants themselves. There were differences between Likin and customs duties. Likin was taxed on everything and everywhere, whereas customs duties were only levied when a good passed through a fixed place. Even when the goods had been taxed through customs duties, a Likin could still be collected on

1 Ni Yuping, *Customs Duties in the Qing Dynasty, ca.1644–1911*, Leiden: Brill Publishing House, 2016, p.168.

those same goods. The Likin system survived until 1930, when it was abolished by the government of the Republic of China. With increases in the marine tax and the Likin, the fiscal structure was changed greatly in the late Qing Dynasty.

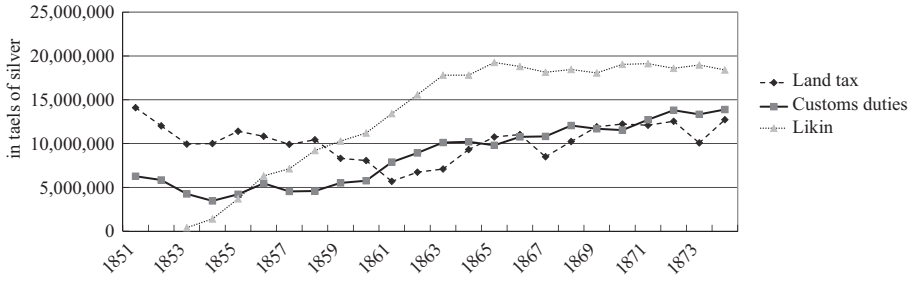

Figure 3.5 Main Fiscal Revenues in 1851–1874

Source: Ni Yuping, Modern Transformation of the Fiscal System in the Qing Dynasty (试论清代财政体系的近代转型), in *Zhongguo Jingjishi Yanjiu* (Researches In Chinese Economic History), vol.4, 2018.

From the figure above, we can see that during the Taiping rebellion, land tax revenues decreased rapidly, while customs duties and Likin had a certain degree of growth. Especially in the Tongzhi reign, customs duties and Likin had exceeded the land tax and became the most important source of fiscal revenue.

Meanwhile, with frequent production of large bills and paper cash, the Qing government also gained large amounts of income. There was a cost in casting money, and the profit came from the difference between cost and face value. According to the historical records, in the fourth year of Xianfeng (1854), the Ministry of Revenue decided that the production of each of the higher denominations of currency should come at a standardised cost when it came to salary and materials. “A thousand-wen-value large money was paid the casting money 76 wen, while a 500-wen-value large money was paid 60 wen. A hundred-wen-value large money should be paid with 30 wen of casting money and 20 wen as salary.”[1] Some scholars have made analysis about the profit of casting money.

1 Financial Historical Materials in the Council Office of the People’s Bank of China.(1964). Modern Monetary History of China (中国近代货币史资料), vol.I, Beijing: Zhonghua Bookstore. 1964, p.218.

Table 3.5 Price and Profit of Casting Money (in wen)

Face value	Salary	Price	Cost in total	Profit rate (%)
1000	68.4	12.7	81.0	91.9
500	54.0	10.0	64.0	87.2
100	27.0	6.7	34.0	66.0
50	14.4	5.3	20.0	60.0
10	6.3	2.3	9.0	10.0

Source: Shi Zhihong and Xu Yi, Fiscal in the Late Qing,1851–1894 (晚清财政: 1851–1894), Shanghai: Shanghai University of Finance and Economics Press, 2008,p.80.

Table 3.5 shows that the bigger face value of larger denominations of money casting, the more profitable its creation was for the government. According to incomplete statistics, from 1853 to 1861 the Ministry of Revenue issued 9.8 million taels of silver paper money, 87.6 billion wen of big coins, and 30.7 billion capital wen coins, together as 61.3 million taels of silver. At the same time, the Ministry of Revenue only had an income of 86 million taels of silver.[1] This means that through these activities, the government gained an extra 70% of wealth, or nearly 10 million taels of silver of income annually. This additional sum alleviated the tense budgetary situation greatly.

Now we examine the change in the fiscal expenditure. In the early Qing Dynasty, the military salary, river engineering, and officials' salary were the main components of fiscal expenditures. From 1851 to 1874, the Yong soldiers' salary, military salary, Westernisation Movement expenditures, and compensation for the West became the main components of the state's fiscal expenditures.

During this period, some of the more regular activities were still in progress, but the amount appropriated to them was scant and not nearly as much as these activities had cost before. For example, in the early Qing, river engineering was considered very important. In 1853, the Nanhe Governor Yang Yizeng petitioned the Ministry for 500 thousand taels of silver as the annual fee as it used to be. This petition angered Emperor Xianfeng, "In a situation where the fight against the rebellion is ongoing and funds are insufficient, how could you ask for such

1 Peng Zeyi, China's Fiscal and Economy in the Late Half of the Nineteenth Century (十九世纪后半期的中国财政与经济), Beijing: People's Publishing House, 1983, p.114.

money, even if your plan is real. You should share the burden for my sake and that of the Ministry of Revenue. I am truly ashamed of you!”[1] In 1855, the Yellow River of Tongwaxiang flooded, but with the state’s financial crisis, the court was still not able to repair the damage. In 1866, the governor asked for money to rebuild flood protections along the Yellow River and was again rejected by the court.[2]

The military expenditure was about 23 million of taels of silver in the early Qing Dynasty, a cost which was shared among the Eight Banners and Lüying (绿营 Green Camp). In the Xianfeng and Tongzhi periods, the Eight Banners and Green Camp had lost their fighting capacity due to the corruption and seldom military training. Yongying (勇营 Yong soldiers) was the main force that fought against the Taiping soldiers. The salary of the Yong soldiers was higher than that of the Eight Banners and Green Camp members, with a monthly salary of 4.5, 4, and 2 taels, respectively. Yong soldiers were recruited during the war; however, after the Taiping and Nian soldiers were suppressed, the Yong regional armies remained. They only changed their name to Fangjun (防军 troops for local safety). In addition to the soldiers’ salary, the purchase of weaponry was also a very important expenditure. For example, the Huai army, which belonged to Li Hongzhang, spent 650 thousand taels of silver to buy foreign weapons and equipment in 1862.[3] The provincial governors also bought large amounts of weapons from abroad. The total amount of money spent on Yong soldiers was about 20 million.

With the money used on the Eight Banners, Green Camp, and Yong soldiers, the total military expenditure doubled. As time passed, these expenditures continued to increase. In 1885, it was reported that “the Eight Banners and Green Camp had no remaining use in fighting but still needed 14 million taels. After the Taiping rebellion, there were about 540 thousand Yong soldiers, incurring 34 million taels of silver in expenses annually. In short, there were more than 1 million soldiers and 50 million taels of silver spent. There was about 80 million taels of silver worth of revenues annually, but 80% of this was spent on the military.”[4]

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1 Veritable Record of the Emperor Xianfeng (清文宗实录), vol.90.

2 LFZZ of FHAC: 28 August, 11nd year of Xianfeng, no.03-4456-030.

3 Sun Yutang, Materials of Modern Industrial History of China (中国近代工业史资料), vol.1, Beijing: Science Press, 1957, p.262.

4 Chinese History Society, Westernisation Movement (洋务运动), vol.3, Shanghai: Shanghai People’s Publishing House, 1961, p.541.

After the Second Opium War, the Qing rulers pursued power and prosperity. It set up the Zongli Yamen to coordinate the relationship with other countries. Among its duties it also held a series of military and economic activities, such as purchasing guns, training the new army, and establishing industrial and other new projects. This represented a new type of fiscal expenditure.

The Jiangnan Manufacturing Bureau, Jinling Machinery Bureau, Fuzhou Dockyard, and Tianjin Machinery Bureau were some large-scale enterprises established under the Westernisation Movement (Yangwu Yundong, 洋务运动). Most of the funds were allocated by the central government, and a small segment was raised by the provinces. Take the Jiangnan Manufacturing Bureau as an example, it was the largest and most advanced military enterprise at that time. Its set-up fund was 540 thousand taels of silver. From 1867, it had 400 thousand taels of silver worth of expenses from Jianghai Guan annually.[1]

In 1863, Li Hongzhang set up the Suzhou Machine Bureau as an official military enterprise. By May of 1865, it had already spent 288 thousand taels of silver. In 1866, the Fuzhou Dockyard was established by Zuo Zongtang, with expenses totaling 470 thousand taels of silver. After that, its monthly expense was 40 thousand taels of silver. In 1874, it had spent 5.3 million taels of silver in manufacturing costs and 621 thousand taels of silver in repairs, which meant that the annual expense was more than 700 thousand taels of silver.[2] The Tianjin Machinery Bureau was set up in 1867 by Chong Hou, with funds totaling 495 thousand taels of silver. After that, it needed 200 thousand to 500 thousand taels of silver.[3] During the period from 1862 to 1874, the expenditure on shipbuilding was huge. In the records of *Qing Shi Gao*, it was written that "in 1874, it spent about 5.2 million in shipbuilding and 190 thousand in repairs."[4] At the end of

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1 Wei Yungong, Records of Jiangnan Manufacturing Bureau (江南制造局记), vol.4, Taibei: Wenhai Publishing House, 1969, p.1.

2 Sun Yutang, Materials of Modern Industrial History of China (中国近代工业史资料), vol.1, Beijing: Science Press, 1957, p.431.

3 According to the materials, we could see that Tianjin Machinery Bureau had a total income of 4,853,332 and expenditure of 4,839,742 from 1867 to 1870; income of 2,560,802 and expenditure of 2,449,882 from 1870 to 1871; income of 3,952,692 and expenditure of 3,947,002 from 1872 to 1873; income of 5,846,172 and expenditure of 575,494 from 1874 to 1875 (edited by Chinese History Society, *Westernization Movement* (洋务运动), vol.4, Shanghai: Shanghai People's Publishing House, 1961, pp.243–286.

4 Record of the Qing History (清史稿), vol.136.

the Tongzhi period, as the fiscal revenues improved, the amount of expenditures related to the Westernisation Movement increased. On average, the Qing court spent more than 1 million taels of silver each in the Jiangnan Manufacturing Bureau and the Fuzhou Dockyard.

Indemnity for the West was also a big expense during this period since the Court had no ability to pay the indemnity in time and had to resort to payment in installments and eventual loan repayment. After the First Opium War in the Daoguang time, the Qing government continued to indemnify the foreign countries. The cost of indemnity related to the First Opium War with Britain was 21 million dollars, about 14.7 million taels of silver. For the Second Opium War, the cost of indemnity to France and Britain was 16 million taels of silver.[1] Japan's invasion of Taiwan in 1774 cost 500 thousand taels of silver in indemnity. On average, the court needed to pay 2 million taels of silver to foreign countries annually.

In 1866, there were also special expenses. The embassy fund was a new type of expenditure at that time. In 1866, Robert Hart helped to bring more students into the then recently established Tong Wen Guan and spent about 25 thousand taels of silver. In 1867, Anson Burlingame, the U.S. Ambassador to China, was appointed by the Qing government as an Imperial Envoy to visit Europe and the United States, spending 160 thousand taels of silver.[2] In 1872, the Qing government sent children to study in the United States with an annual fee of 60 thousand taels of silver.[3]

Now we estimate the total revenue and expenditure of the Qing Dynasty during the period from 1851 to 1874. As previously mentioned the Treasury of the Ministry of Revenue in the early Qing Dynasty acquired, maintained, and redistributed the 10 million taels of silver of annual income and expenses; which amounted to about one quarter of the national fiscal revenue. This situation changed in the Xianfeng period: not only was the budget far smaller than before, but also in most of the years, the income fell short to the expenditure. In 1857,

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1 After the Second Opium War, there were also pensions for the British Army of 52,000 and for the French Army of 22,000.

2 Institute of Modern History, A cademia Sinica of Sciences of Taipei, *Haifang File* (海防档), Taipei: Institute of Modern History, A cademia Sinica of Sciences of Taipei, 1957, p.694.

3 Shu Xincheng, Materials on the History of Modern Chinese Education (中国近代教育史资料), Beijing: People's Education Press, 1981, p.166.

the Treasury of the Ministry of Revenue only had a deposit of 110 thousand taels of silver and 60 thousand taels of silver for the next year. It was the lowest record in the Qing Dynasty.

Wang Zhenji in the Qing Dynasty estimated that in the early years of the Xianfeng period, the fiscal revenue was over 30 million taels of silver; Wang Donghuai estimated the number would have been at about 39 million taels of silver.[1] In 1874, the court had the first national fiscal statistics after the Taiping Rebellion. According to Wu Tingxie's records, it had approximately 20 million taels of silver in land tax and salt tax, and the salt likin tax was about 8 million taels; domestic customs duties was 2 million taels; tribute grain silver was 2 million; marine customs was 12 million taels; Likin was 15 million taels; and the surplus tax of Sichuan land was 1.8 million taels. The total was 60 million taels, 20 million taels of silver more than the later years of the Daoguang period. Including the winnings of Zuo Zongtang expedition to Xinjiang, the total was about 70 million taels of silver.[2] If we consider the income from donations and the money borrowed from foreign banks, we can say that the revenues and expenditures were balanced.

However, from our research, we found that the land tax at that time was about 15 million; customs duties (including domestic and foreign ports) were increased to 12 million; Likin brought in 20 million; and the income from coin and paper money production was 10 million.[3] Here we still regard salt tax as 5 million (Wu Tingxie's number included salt Likin tax). It was rather complex to estimate the tribute grain value since it had been split into two. Some part had been taxed in kind and another part had instead been taxed in the form of silver. The quota was about 3 million *dan* and this can be regarded as 6 million taels of silver in total. Including donation and miscellaneous levies, the estimation is that at the end of the Tongzhi period, there was about 75 million taels of silver of revenue. With regard to expenditures, the traditional Eight Banners and Green Camp expenses was 25 million taels; the Yong soldiers' expense was 34 million

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1 Sheng Kang, ed.: *Continuation of Emperor Jingshiwen* (皇朝经世文续编), vol.30.

2 Wu Tingxie, *Research on the Fiscal Situation of the Qing Dynasty* (清财政考), p.18.

3 Ni Yuping: *From State's Fiscal To Fiscal State: Finance and Society in the Xian Feng and Tong Zhi Times of the Qing Dynasty* (从国家财政到财政国家：清朝咸同年间的财政与税收), Beijing: Science Press, 2017, p.273.

taels; the expense for the Westernisation Movement was 10 million annually; and indemnity expense was 2.5 million taels. Based on this information, we can roughly estimate the scale of fiscal revenue and expenditure at the end of the Tongzhi period being as follows.

Table 3.6 Fiscal Revenue and Expenditure at the End of the Tongzhi Period (in taels of silver)

Revenue	Amount	Expenditure	Amount
Land tax	15,000,000	Military Expenditures	25,000,000
Likin	20,000,000	Yong soldier (new military type) Expenditure	34,000,000
Domestic customs	2,000,000	Westernisation Movement	10,000,000
Foreign customs	10,000,000	Indemnity to the West	2,500,000
Coin and paper money	10,000,000		
Salt tax	5,000,000		
Tribute grain	6,000,000		
Total	68,000,000	Sum	71,500,000
Estimation	75,000,000	Estimation	80,000,000

Source: Ni Yuping, From State’s Fiscal To Fiscal State: Finance and Society in the Xian Feng and Tong Zhi Times of the Qing Dynasty (从国家财政到财政国家：清朝咸同年间的财政与税收), Beijing: Science Press, 2017, p.273.

It should be said that the above figures are only rough estimates. There were still some deficits in the later years of the Tongzhi period, which could have been fixed by taking out loans, apportionment, and other ways. It is certain that the fiscal revenues and expenditures of this period have nearly doubled that of the time before the Taiping rebellion.

4. Conclusion

Through the material I have presented in this and the former chapters, I have shown that the history of customs revenues collected during the Qing Dynasty reflects the development of the Qing Dynasty’s fiscal system. It shows its transition from a rather traditional, to a more modern economy. It shows how the

Qing state changed from a state with a tax system to a fiscal state.

I readily admit that the data in the records I have accessed may be imperfect, due to some customs officials being corrupt or, more simply, because of reporting errors. However, since the reported amounts of money had to be sent to the Imperial Court, the data can be interpreted as representing, at the very least, minimum amounts of revenue, and the errors can be treated as unsystematic and thus, of no significant impact on the general picture.

For the period before 1795, it is useful to consider the customs duties of the early Qing in two parts. The first concerns the years before 1723 (which includes the reigns of Shunzhi and Kangxi), for which many data points are missing. The second part concerns the period from 1723 to 1795 (which includes the reigns of Yongzheng and Qianlong). Results from former research on the fiscal revenue of the early and middle Qing periods are summarised here.

Table 3.7 Fiscal Revenue of the Early and Middle Qing Dynasty (in million taels of silver)

Year	Total	Land Tax		Salt Tax		Customs duties		Miscellaneous taxes	
		Amount	Proportion of total (%)	Amount	Proportion	Amount	Proportion of total (%)	Amount	Proportion of total (%)
1652	24.38	21.26	87	2.12	9	0.64	2.6	0.36	1.6
1685	31.90	27.27	85	2.76	9	1.20	3.8	0.67	2.1
1725	36.53	30.07	82	4.43	12	1.35	3.7	0.68	1.9
1753	41.74	29.38	70	7.01	17	4.30	10.3	1.05	2.5
1766	42.25	29.91	71	5.74	14	5.40	12.8	1.20	2.8
1812	40.13	28.33	71	5.79	14	4.81	11.9	1.20	3.0
1841	42.45	29.43	69	7.47	18	4.35	10.2	1.20	2.8

Source: He Benfang (1987), pp.78–81.

As the table shows, customs duties before 1850 still accounted for only a very small part of fiscal revenues. They represented no more than 15% of total revenues and were even smaller than the salt tax. The major contributor to fiscal revenues was land tax. The figures clearly demonstrate that the Qing society before 1850 was still agricultural in nature, with an agricultural fiscal structure.

With this perspective in mind, it is easy to see that the Qing fiscal system could be typified as traditional and conservative.

From the end of the 17th century until 1840, the function of levying customs changed substantially in the West, aiming to ensure the stimulation of manufacturing and commerce. However, the Qing government still wanted to use customs duties to safeguard the political system and stimulate its agricultural sector.

From 1840 to 1860, the Qing customs system underwent a process of change, especially due to the Taiping Rebellion, which had an unmistakable negative impact on trade and hence, customs revenues. The rebellion forced the Qing government to find all kinds of ways of generating tax revenues. One by one, fiscal innovations were created, including the system of Likin and Yangguan ports. Among the domestic turmoil and foreign threats the dynasty was facing, its officials came to realise more and more the potential benefits that a comprehensive system of customs duties offered. From Table 3.8 we see that a new tax system emerge, triggered by the Taiping wars.

Table 3.8 Sources of Fiscal Revenue in the Late Qing Dynasty (in taels of silver)

Year	Land Tax		Salt Tax		*Likin*		Customs duties	
	Amount	Proportion of total (%)	Amount	Proportion of total (%)	Amount	Proportion of total (%)	Amount	Proportion of total (%)
1842	29,575,722	76	4,981,845	13			4,130,455	11
1885	32,356,768	48	7,394,228	11	12,811,708	19	14,472,766	22
1888	33,243,437	42	7,507,128	10	13,600,733	18	23,167,892	30
1894	32,669,086	43	6,737,469	9	13,286,816	18	22,523,605	30
1903	37,187,788	38	13,050,000	13	16,252,692	17	30,530,699	32
1911	48,101,346	27	46,312,355	26	43,187,097	24	43,139,287	23

Source: Deng Shaohui (1997).

Finally, from 1860 through to the early 20th century, the Qing customs system gradually—step by step—came under the control of Western powers.

The trends are below:

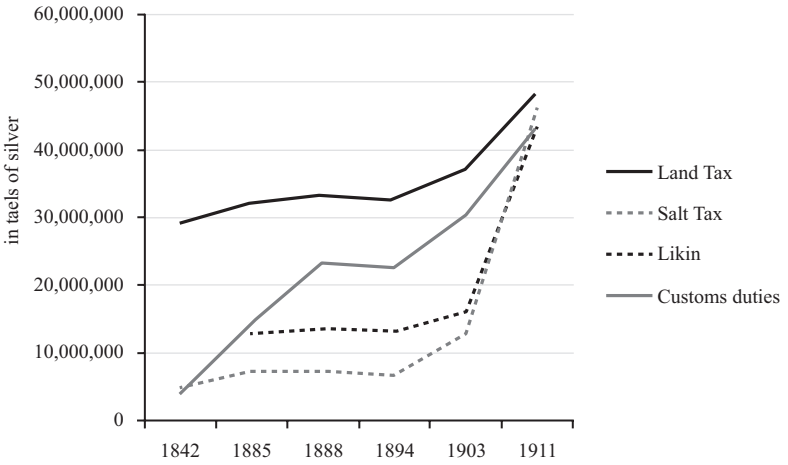

Figure 3.6 Sources of Fiscal Revenue in the Late Qing Dynasty

Figure 3.6 illustrates how the fiscal structure underwent great changes in the 19th century. Customs duties, together with Likin and salt taxes, were almost three times as large as the land tax. At the same time, customs duties had become one of the most powerful fiscal instruments at the Qing government's disposal, and it was to be an indispensable tool in the struggle to keep the government alive in the latter part of the Qing Dynasty. Thus, we can say that in the late Qing, China was in the process of changing from a traditional agricultural society that depended on a mainly land-based system of taxation to a modern commercially-based society with a complementary fiscal system. The understanding about the function of customs systems evolved rapidly, and people began to accept Western ideas about its value.

However, due to insufficient development of the production of handicrafts and manufacturing, and in the face of great difficulties in maintaining an agriculture-based fiscal system, the government had little choice but to embrace a commercial fiscal system. Regarding Yangguan, Tang's book offers a detailed explanation. Of the income sourced from Yangguan, between two-thirds and four-fifths would be sent to the central government and used to pay government salaries, military expenditures, indemnities, and external debt.[1]

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1 Tang Xianglong: Statistics of Customs Revenue and Its Distribution: 1861–1910 (中国近代海关税收和分配统计:1861–1910), Beijing: Zhonghua Bookstore, 2005, pp.25–43.

A second part was sent to the local province. Tang writes that before 1867 the proportion would be 20-30 percent of the total income, while after 1867 it declined quickly, “From 1861 to 1910 provincial expenditures were about 72.3 million taels, which represented about 7.94% of all the Yangguan”.[1]

A third, smaller part, amounting to no more than 15% of total revenues, was set aside to meet administrative overhead and agency expenses (a 63.2% share), which were mainly the salaries (including the Western administrator’s fee) and daily working expenses of the Customs Revenue Division. From 1861 to 1910 this part totalled 127.7 million taels of silver, representing 14.03% of all expenditure. Tang also writes that there were 910 million taels of silver worth of income from Yangguan, of which the central government took 694.7 million taels, which was used to meet a variety of expenses including military expenditures, indemnities, and external debt.

As a result of his research, Tang arrived at the conclusion that “From these figures, we can see clearly the areas in which the Chinese Customs Service was mainly used and whom it serviced. These data of 50 years on the distribution of customs revenues prove that the Chinese customs system had a semi-feudal nature”[2].

Affected by the big influence of strong centralisation, sometimes China’s fiscal history data may not reflect the real economic development. Sometimes it remained so stable that one cannot directly estimate economic development from the data, which merely demonstrate the fiscal ability of the country without saying much about its economic and social development. However, in the long run the data do, in fact, reflect changes that were taking place in terms of economic development and in the social system. They clearly show that traditional Qing China still followed the rule of the “natural economy” and that nobody had the power to challenge the rule of nature.

Joseph Schumpeter had the concept of tax state and state tax, and he believed that the former would transform to the latter and the latter would eventual-

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1 Tang Xianglong: Statistics of Customs Revenue and Its Distribution: 1861–1910 (中国近代海关税收和分配统计：1861–1910), Beijing: Zhonghua Bookstore, 2005, p.44.

2 Tang Xianglong: Statistics of Customs Revenue and Its Distribution: 1861–1910 (中国近代海关税收和分配统计：1861–1910), Beijing: Zhonghua Bookstore, 2005, p.47.

ly become extinct.[1] Here the state tax referred to the state form of taxation as the main source of income. Later, R. Bonney and Ormrod W. Crises used this theory to explain the history of European countries and societies, and they came up with the concept of "fiscal state."[2] From 1796 to 1874, the fiscal transformation of the Qing was not exactly the same as the development of the West. However, during this period, with the rise of Likin and marine customs, they eventually surpassed the relevance of land tax, which was very similar to the evolution of many Western fiscal systems.

There were several examples of fiscal changes in the Xianfeng and Tongzhi periods. Both types and items had been expanding, and the structure of revenue and expenditure also underwent fundamental changes. In the early Qing Dynasty, the revenue and expenditure had been fixed in terms of scope and amount. With the outbreak of the Taiping rebellion, the increasing expenditure was so huge and so new that the government had to rely on new types of tax. Even so, the speed of increasing expenditure was still far faster than that of the revenue. At the end of the Qing Dynasty, the changes in the fiscal structure went even further. In addition to increasing the amount of Likin tax and customs duties, modern corporate tax had become another new type of tax, mainly referred to the railway, ships, post, and telegram businesses, known as the "official business income." In the late Qing Dynasty, to maximise the revenue, a variety of miscellaneous tax increased rapidly. "The tax had been on tobacco, wine, salt, and other ordinary goods."[3]

On this basis, the fiscal income of the late Qing Dynasty continued to increase. From Liu Jinzao's book, we know that the fiscal revenue in 1903 was about 105 million taels; in 1908 it was 234 million taels; in 1909 it was 263 million taels; and in 1911 it was 297 million taels, with significant increases. The fiscal expenditure also expanded accordingly, for the military, diplomatic, debt, enterprise, and the Royal funds. The fiscal expenditure had increased from 40 million taels of silver before 1850 to 101 million taels of silver in 1899, 237 mil-

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1 Joseph A. Schumpeter, The Crisis of the Tax State, in International Economic Association, ed., *International Economic Papers*, no.4 (1954), pp.5–38.

2 R. Bonney and Ormrod W. Crises, *Revolutions and Self-sustained Growth: Essays in European Fiscal History, 1130–1830,* Stamford: Shaun Tyas Press, 1999, p.11.

3 Liu Jinzao, Continued Examination Edition of the Documents in the Qing Dynasty (清朝续文献通考), vol.71.

lion taels of silver in 1908, and 338 million taels of silver in 1911.

In conjunction with this transformation, the guiding ideology of fiscal policy changed from “Liang Ru Wei Chu” (To decide the expense according to the income, 量入为出) to “Liang Chu Wei Ru”(To decide the income according to the expense, 量出为入). Since the Western Zhou Dynasty, “Liang Ru Wei Chu” had been the basic fiscal policy and “Liang Chu Wei Ru” was regarded as representing tyranny. Taking the principle of “Liang Ru Wei Chu” as the fiscal principle, the government generally will focus on saving. “Liang Chu Wei Ru” will generally focus on opening new sources to tax. At first, the Qing government also followed the rule of “Liang Ru Wei Chu.” The fiscal revenue mainly came from the land tax and tribute grain. Since the income and the amount had been fixed, the government could arrange regular expenditure in advance, and the total revenue was usually bigger than the expenditure. With huge surplus year after year, the Ministry of Treasury had more and more silver deposit. In 1777, the number was 81.8 million taels. In 1789, it was still 70 million taels. If unexpected events such as war or serious natural disasters should happen, the government could use that money.

Even though we still see a lot of archival sources repeating the name of “Liang Ru Wei Chu,” the government had already used “Liang Chu Wei Ru” to get revenue when there were fiscal problems, which changed the old way to allocate and plan the revenue. “Liang Ru Wei Chu” was just a shell. In 1873, the Imperial Household reported that “‘Liang Ru Wei Chu’ had failed to feed our need.”[1] Because of the influence of traditional Confucianism, the guiding principle of “Liang Ru Wei Chu” persisted until the destruction of the Qing Dynasty and was not abandoned by the rulers of the Qing Dynasty. However, since the “Liang Chu Wei Ru” had been the real guiding principle, the government could be so self-confident to rely on Likin tax and marine customs and generate income by producing big coins and paper money.

However, we should say that even in this period, when the government began to evolve “from state that raises taxes to a fiscal state,” it was still at the beginning step. Since industrialisation had not totally begun and maintaining the people’s needs was difficult relying only on agriculture, the government had to tax commerce excessively, thinking that all the problems should be solved by the

1 LFZZ of FHAC: 14 April, 12nd year of Tongzhi.

later successors. From a historical perspective, perhaps this was just the historical status of the Xianfeng and Tongzhi periods.

Van Zanden and Fritschy agree on the idea that taxes on basic consumption goods (like custom duties, salt tax) but also taxes on property (like the Land Tax or Tian Fu) were part of these new tax regimes. But the so-called "tax-revolution" that started in England and the Low Countries in the late 16th century shifted the burden to the taxes on basic consumption goods and less on property. However, in the Netherlands a second stage was reached in the tax revolution when, within this category of consumption goods, a change occurred from "basic" to "luxurious". This laid the basis of a Dutch Fiscal-Military state a process similar to the development in England after the Civil War there.[1] It didn't happen in the first half of the 19th century, but something seemed to happen in the Late Qing.

Taxes do not just take away resources from the economy but under specific conditions they are returned in the form of public goods: security, rule of law, property rights, education, health services and the like. In the 19th century, most Western European states witnessed an increasing citizens' participation in the political process and an intensification of taxation. Where do we position China in this? Based on our data the Tax-regime was quite light, although it became a bit more severe during the Taiping rebellion but afterwards, the tax collection remained rather decentralised. This is also in contrast with the hypothesis of Charles Tilly (1990), who predicts that taxes rise during wars and that this adds to state formation.[2] From the difference about the attitude of debt will show the great difference between China and the west, and the difficulty of Qing government's transformation.

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1 van Zanden Jan Luiten. *The Long Road to the Industrial Revolution*. Leiden: Brill Publishing House, 2009. Fritschy Wantje. Taxation in Britain, France and the Netherlands in the eighteenth century. In *Economic and Social History in the Netherlands*. vol 2. 1990. Patrick K. O' Brien. The Political Economy of British taxation, 1660–1815, in The Economic History Review, vol.41, 1988. Patrick K. O' Brien. Fiscal Exceptionalism: Great Britain and its European Rivals from Civil War to Triumph at Trafalgar and Waterloo, working paper no.65/01, http://www.docin.com/p-724464629.html,2001.

2 Charles Tilly. *Coercion, Capital and European States, AD 990–1990*, Cambridge: Cambridge Presss, 1990.