Quantification and Fiscal Governance in China, 1400-1800

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Declaration

I certify that the thesis I have presented for examination for the PhD degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

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Abstract

How did the state obtain, use, and keep numbers for governing purposes? State governance requires knowledge of those to be governed, and good governance requires the state to build up the capacity to gather and utilise knowledge in the form of numbers. In both the premodern and modern world, numbers and calculative practices serve as an instrument to visualise and capture the world far removed from the centre of administration on paper. They transform physical entities into abstract symbols, and they simplify complex things into readable marks.

To explore the roles of numbers and calculative practices in fiscal governance, I turn to early modern China as my case of study, tracing back to the fifteenth century when fiscal institutions began to develop alongside changes in social settings. From the mid-fifteenth century onwards, silver became a more stable numeraire for valuing transactions in the Chinese market. This changing socioeconomic circumstance initiated a century-long process of fiscal monetisation, transforming China's fiscal system from in-kind-based to money-based.

The introduction of silver *tael* as a standard numeraire in the state's statistical and accounting system enabled the central government in China to measure incomes and expenditures in local administration, to intervene in the details of fiscal management in local governments, to build up a local budget system, and to predict and monitor local spending with rigid regulations on the use of tax resources. In the face of warfare and fiscal pressure, local budget figures became the basis for actions, enabling the state to reconfigure fiscal revenues between the central and local authorities. When social order was eventually restored in the late seventeenth century, the Chinese state established a more centralised fiscal system. However, state investments in the local government became too low afterwards, causing fiscal governance in China to repeatedly linger between policy targets and real situations encountered in local administration.

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INTRODUCTION

I would like to begin this research with a quote from one of the most famous statesmen in Chinese history. In the fourth century B.C., when rulers in China fought for domination, Shang Yang, a reformer and legalist scholar, proposed to the king of Qin kingdom that,

> "To strengthen the state's power, one should have thirteen types of numbers: on barns, on coffers, on strong men, on strong women, on the old, on the weak, on bureaucrats, on soldiers, on lobbyists, on peasants, on horses, on cattle, and on forages. Despite the vast territory and population, the state would become weaker and weaker if one wanted to strengthen the kingdom without knowing these thirteen numbers."[1]

Why do these numbers matter so much? Why and how did the state obtain, use, and retain numbers for governing purposes? States in any part of the world would be immensely satisfied if they could manage their dominions from the vantage point of a god. However, they are unable to oversee every corner of their territory. Therefore, state governance requires knowledge of those to be governed and, as Shang Yang advised, good governance requires the state to build up the capacity to gather and utilise knowledge in the form of numbers.

Could we pursue a numerical logic that considers the roles of numbers in the capacity-building process of a state? In both the premodern and modern world, numbers and calculative practices serve as an instrument to visualise and capture on paper the world far removed from the centre of administration. They transform physical entities into abstract symbols and simplify complex things into readable marks. Numbers do

[1] "强国知十三数：境内仓口之数，壮男壮女之数，老弱之数，官士之数，以言说取食者之数，利民之数，马牛刍藁之数。欲强国，不知国十三数，地虽利，民虽众，国愈弱至削" from *Shangjun shu* 商君書 [The Book of Lord Shang] (Taipei: Taiwan shangwu yinshuguan, 1974), 44. The quote was argued to be the saying from Shang Yang, but disputes remain about whether the saying was from Shang yang himself or other legalist scholars.

not just capture society; they also form the bases of actions. When states obtain numerical information on society, they do not just do so for the sake of knowledge itself. More likely, states utilise this information and take actions accordingly.

The literature on state formation has long observed the importance of state capacity in the diverging historical trajectories between different parts of the world. A high-capacity state should be able to suppress those sovereignty challengers, enforce rules across the territory, and secure external security.[2] Fiscal capacity plays a key role in all these areas.

However, questions remain as to what exact mechanisms have led to this divergence. Those who take on institutional constraints on royal power view representative assemblies as the key factor in the rise of state capacity and the economy, whereas others regard fiscal fragmentation and a lack of coercion as the roots of a state's incapacitation.[3] Such explanations emphasise the interconnections between warfare, state formation, and economic development. However, an element that has received less recognition is the role of information, particularly quantified information, in a state's capacity-building process. People looking for more comprehensive investigations into this area may derive little satisfaction from existing answers. What we have learned from European experiences on capacity-building may not necessarily fit into the historical trajectories of other parts of the premodern world. Numerous scholars have assessed non-European societies based on their political or societal closeness to the European benchmark, attributing their economic similarities or differences to the presence or absence of certain features found in Europe. These approaches have generated more debate than consensus among scholars, and departures in the narratives are further intensified by ideological debates surrounding the constitutional and absolutist regimes. These issues inspired me to search for a rather different entry point

[2] Patrick O'Brien, "The nature and historical evolution of an exceptional fiscal state and its possible significance for the precocious commercialization and industrialization of the British economy from Cromwell to Nelson," *The Economic History Review* 64, no.2 (2011): 410.

[3] Philip Hoffman and Kathryn Norberg, eds., *Fiscal Crises, Liberty, and Representative Government, 1450–1789* (Palo Alto: Stanford University Press, 1994); Charles Tilly, *Coercion, Capital, and European States, AD 990-1992* (Oxford: Basil Blackwell, 1990).

to a study on state capacity, paying equal, if not greater, attention to numerical logic in the capacity-building process.

I turn to early modern China as my case study, starting from the fifteenth century when fiscal institutions began to develop alongside changes in social settings. From the mid-fifteenth century onwards, silver became a more stable numeraire for valuing transactions in the Chinese market.[4] This changing socioeconomic circumstance initiated a century-long process of fiscal monetisation, transforming China's fiscal system from in-kind-based to money-based. The imperial state in China not only began to count resources but also collect tax payments in silver.

These developments deeply reshaped the fiscal relationship between China's central and local governments over the following centuries. First, a standard unit for fiscal accounting, *tael* of silver, was employed to measure and count taxes paid in kind and corvée labours in their equivalent values in silver. This helped the state to utilise an enormous share of local resources that were previously unknown to the central authority. With these new statistics, the state began to regularise local incomes and expenses through traceable tax quotas, establishing a budget system monitored by the rules set up by the central authority. Over the seventeenth century, when wars and fiscal pressures constantly challenged fiscal governance, these institutional developments provided a statistical foundation for redistributions of tax between China's central and local governments. This eventually evolved into a high-level concentration of resources, prioritising the fiscal demands of the central government.

Over the centuries, the Chinese central authority achieved stronger control over local administration, distributing and redistributing resources between different sectors of the government. Wars and fiscal pressures played an important role in this process, although innovations and developments in numerical tools have also had a profound impact. Notwithstanding the gains, problems in China's fiscal system also emerged. From the perspective of local government, the gap between regulated budgets and actual fiscal needs was palpable in multiple respects, and the increasing control from

[4] Richard von Glahn, *Fountain of Fortune: Money and Monetary Policy in China, 1000-1700* (Berkeley: University of California Press, 1996), ch.3.

the top squeezed out a considerable part of the fiscal flexibility in local administration, constantly motivating bureaucratic agents to circumvent formal regulations in the face of administrative reality. In this sense, numerical tools adopted by the state were more successful in achieving what was desired by the central authority, rather than vice versa.

Through an analysis of the role of numbers in China's fiscal governance between the fifteenth and eighteenth centuries, Chinese experiences regarding the state's quantification behaviours provide us with a numerical logic. This research should serve to contribute to the library of literature on premodern China and other places where numbers have played a part in governance.

CHAPTER 1
Quantification and Fiscal Governance

Fiscal governance involves the use of numbers and statistics. To obtain numbers, government organisations need to classify resources into groups, recording tax items that are spatially and temporally diverse into a readable form on the state's fiscal account. To use numbers, the government needs to repeatedly calculate fiscal needs in different domains, weighing and deploying resources according to policy priorities. In addition, the state often develops new techniques and numerical tools when social and geopolitical circumstances change, abstracting new information to create space for government interventions. To a large extent, fiscal governance is closely linked to the way the state quantifies information.

Over the past few decades, research on state formation has initiated a series of discussions on the relationship between the political system, fiscal capacity, and economic development. Some institutions are believed to generate favourable environments for governance and economic growth, while others are not. Some of these narratives clearly explain the role of organisational changes in the growth of the economy and fiscal capacity, but tend to emphasise coercive control over fiscal resources. This renders the state's capacity to collect and process information a secondary form of explanation.

The premodern Chinese state is at the centre of numerous debates, and scholars often come to different conclusions regarding the same set of records left by the state. In terms of taxation, for example, the evidence suggests that the tax level in eighteenth century China was much lower than in its counterparts in north-western Europe.[5] Estimations of China's GDP between the fifteenth and nineteenth centuries also suggest that the share of national product appropriated by governments was at a low level (no more than 8 per cent of the economy).[6] However, interpretations of China's lower tax

[5] Debin Ma, "State capacity and great divergence, the case of Qing China (1644–1911)," *Eurasian Geography and Economics* 54, no.5-6 (2013): 484-499.

[6] Peer Vries, *State, Economy and the Great Divergence: Great Britain and China, 1680s-1850s* (London: Bloomsbury Publishing, 2015); Stephen Broadberry et al., "China, Europe, and the Great Divergence: A study in historical national accounting, 980–1850," *The Journal of Economic History* 78, no.4 (2018): 955-1000.

level tend to diverge. Some scholars argue that the absolutist regime hampered the state's ability to collect tax revenues.[7] Others contend that the physiocracy and ideology of *light tax* from the Confucian doctrines restrained the state's willingness to tax.[8] Questions also remain regarding the governing capacity of the Chinese state. Despite its small size, historians have noticed that the government in eighteenth-century China was responsive when it came to providing disaster relief, mobilising and redeploying resources across regions.[9] During the territorial expansion of the empire in Central Asia, the state also displayed its capability with respect to massive logistical preparation, military strategy, and diplomacy.[10] However, the evidence also indicates that the state's control over local tax behaviours was far from efficacious. Notwithstanding the strict regulations on taxation and budget planning, the extraction of non-statutory tax revenues was widespread across the empire.[11]

Given that most of these discussions are centred on the government's fiscal records, is it possible to construct a research framework that connects the quantification behaviours of the state with its fiscal governance capacity? In the following sections of this chapter, I review some of the popular narratives on the state's capacity-building process in premodern times. I then discuss the paradigm issues with these narratives and propose my own research framework, which applies a numerical logic to capacity-building. Finally, I explain my research structure, justifying the selection of the three cases studied in this research.

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[7] Ma, "State capacity and great divergence."

[8] Kent Deng, "The continuation and efficiency," in *The Rise of Fiscal States: A Global History, 1500-1914*, eds. Bartolomé Yun-Casalilla and Patrick O'Brien (Cambridge: Cambridge University Press, 2012), 335-352; Roy Bin Wong, "Taxation and good governance in China," in *The Rise of Fiscal States*, eds. Yun-Casalilla and O'Brien, 353–377.

[9] Pierre-Etienne Will, *Bureaucracy and Famine in Eighteenth-Century China* (Palo Alto: Stanford University Press, 1990); Lillian Li, *Fighting Famine in North China: State, Market, and Environmental Decline, 1690s-1990s* (Palo Alto: Stanford University Press, 2007); Roy Bin Wong, *China Transformed: Historical Change and the Limits of European Experience* (Ithaca: Cornell University Press, 1997).

[10] Peter Perdue, *China Marches West: The Qing Conquest of Central Eurasia* (Harvard University Press, 2009), 521-523.

[11] Ray Huang, *Taxation and Governmental Finance in Sixteenth-Century Ming China* (Cambridge University Press, 1974), 82-98; Yeh-chien Wang, *Land Taxation in Imperial China, 1750–1911* (Cambridge: Harvard University Press, 1973), 20-39; Madeleine Zelin, *The Magistrate's Tael: Rationalizing Fiscal Reform in Eighteenth-Century Ch'ing China* (Berkeley: University of California Press, 1992).

1.1 Capacity-building: coercion and organisational changes

Studies on fiscal history in premodern society indicate that tax revenues in several European states such as England, France, and Spain have continued to grow to various degrees since the fifteenth century, and that the sovereign debt market became a more accessible source of income when tax revenues were not able to meet fiscal demands.[12] Because the expansion in fiscal revenues was largely driven by growing military expenditure, states with stronger capacity to raise revenue incomes were more capable of suppressing domestic rivalries and defeating external threats.[13]

In premodern Europe, taxation was closely connected with state capacity. But what made the state more capable to tax? Established answers can be summarised in the form of two narratives – one emphasises the institutional constraints on the monarchical power and the other the expansion of the state's coercive capacity. In terms of common ground, both locate the key changes in state organisations, addressing the importance of the growing legitimacy and efficiency of fiscal institutions in tackling tax resistance and disciplining local authorities.

Institutional constraints view the representative assembly as the key factor in the rise of fiscal capacity. In the case of England, the transition of power from the king to the parliament is considered by many as the key to tackling the problem of tax resistance.[14] As parliamentary control over taxation held the king's arbitrary power to impose taxes in check, the English state established a credible commitment to protect property rights and acquired greater legitimacy to collect taxes and take out loans with fewer service costs.[15] By comparison, the lower tax level in other states, such as Spain and France, is attributed to their failure to constrain absolutism.[16] This view is

[12] Richard Bonney, ed., *The Rise of the Fiscal State in Europe c. 1200-1815* (Oxford: Clarendon Press, 1999); Hoffman and Norberg, eds., *Fiscal Crises*.
[13] O'Brien, "The nature and historical evolution," 410.
[14] Douglas North, *Institutions, Institutional Change and Economic Performance* (Cambridge university press, 1990).
[15] Douglas North and Barry Weingast, "Constitutions and commitment: The evolution of institutions governing public choice in seventeenth-century England," *The Journal of Economic History* 49, no.4 (1989): 803-832.
[16] North and Weingast, "Constitutions and commitment," 808; Daron Acemoglu, Simon Johnson, and James A. Robinson, "The colonial origins of comparative development: An empirical investigation," *American Economic Review* 91, no.5 (2001): 1369-1401.

commonly seen in scholarly works that view state functions as market-centred, where states are grouped into rent-seekers and service providers; into predatory governance and promotive governance.[17] In the predatory type, states restrict public access to economic opportunities, whereas in the promotive type, state institutions are designed to provide and protect the economic interests of the public.[18]

However, this institutional supremacy argument raises several controversies among historians, and many consider the abuse of power by rulers with respect to the state's fiscal system ahistorical.[19] Recent research on the European tax database identified a higher tax level in societies with representative assemblies in control, such as England and the Netherlands, while a lower level of taxation was commonly found in absolutist regimes, such as France and Spain.[20] In France, for example, the tax burden was lower in both absolute and per capita terms, reaching only about a half of that in Britain by the eve of the French Revolution.[21] In the Spanish case, the central authority was much less absolutist than some believed as it lacked a strong coercive power and constantly encountered coordination problems throughout its claimed dominion.[22] Thus, it is the parliamentary supremacy argument that may help explain the capacity-building process in England and its fiscal exceptionalism, but it has yet to provide an answer to the roots of tax inefficiency in other premodern states.

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[17] Douglass North, John Joseph Wallis, and Barry Weingast, *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History* (Cambridge University Press, 2009); Daron Acemoglu and James A. Robinson, *Why Nations Fail: The Origins of Power, Prosperity, and Poverty* (New York: Crown Publishing Group, 2013).

[18] North, Wallis, and Weingast, *Violence and Social Order*, 42. By North, Wallis, and Weingast, natural state covers most of societies in both premodern and modern times, as they claim, "Most of the world still lives in natural states today." See *Violence and Social Order*, xii.

[19] Stephan Epstein, *Freedom and Growth: The Rise of States and Markets in Europe, 1300-1750* (London: Routledge, 2000), 13.

[20] Kivanç Karaman and Şevket Pamuk, "Ottoman state finances in European perspective, 1500-1914," *The Journal of Economic History* 70, no.3 (2010): 593-629.

[21] John Brewer, *The Sinews of Power: War, Money and the English State, 1688-1783* (London: Unwin Hyman, 1989); Hoffman and Norberg, *Fiscal Crises*; Peter Mathias and Patrick O'Brien, "Taxation in Britain and France, 1715-1810: A comparison of the social and economic incidence of taxes collected for the central governments," *Journal of European Economic History* 5, no.3 (1976): 601-50.

[22] John Elliott, "A Europe of composite monarchies," *Past and Present* 137 (1992): 48-71; Alejandra Irigoin and Regina Grafe, "Bargaining for absolutism: A Spanish path to nation-state and empire building," *Hispanic American Historical Review* 88, no.2 (2008): 173-209. Nicholas Henshall, *The Myth of Absolutism: Change and Continuity in Early Modern European Monarchy* (London: Routledge, 2014).

Instead of resorting to the institutional constraint argument, fiscal fragmentation and the lack of coercion may have been the root of fiscal incapacitation in many premodern regimes. This stream of thought examines the role of warfare in shaping organisational and legal changes taking place under a bellicose geopolitical environment.

In the European context, wars and military-fiscal pressure have always legitimised the raising of taxes to cover military expenditures and service loans. Thus, military-fiscal pressure became the driving force in state formation, forcing state organisations to perform with greater efficiency in fiscal management.[23] To solve their urgent fiscal demands, European rulers often embarked on continuous negotiations with their subjects over *de jure* claims, *de facto* collections, and distributions of tax revenues; however, these often resulted in disputes between rulers, aristocrats, churches, or urban elites.[24] Under survival pressure, states began to disrupt the balance of power, adopting an advantageous position over other social groups, replacing tax farming with direct control, and establishing centralised bureau agencies in numerous aspects of fiscal governance.[25] In most cases, states with higher fiscal centralisation exhibited a better capacity to tax.

In this military-fiscal narrative, early modern Britain is a typical success story, for it had developed early on a centralised tax bureau out of the tax derived from customs and excise duties.[26] In Britain, wars increased not only the demand for higher fiscal revenues but also the tax tolerance of elites and the public. Between the Glorious Revolution and the Treaty of Vienna, Britain's national product increased by three times, but its tax receipts grew fifteen times in real terms.[27] In comparison with the British

[23] Brian Downing, *The Military Revolution and Political Change: Origins of Democracy and Autocracy in Early Modern Europe* (New Jersey: Princeton University Press, 1993); Edgar Kiser and April Linton, "Determinants of the growth of the state: War and taxation in early modern France and England," *Social Forces* 80, no. 2 (2001): 411-448; Charles Tilly, ed., *The Formation of National States in Western Europe* (New Jersey: Princeton University Press, 1975); Tilly, *Coercion*.

[24] Hoffman and Norberg, eds., *Fiscal Crises*; O'Brien, "The nature and historical evolution," 421.

[25] Brewer, *The Sinews of Power*; Jan Glete, *War and the State in Early Modern Europe: Spain, the Dutch Republic and Sweden as Fiscal-Military States* (London: Routledge, 2002).

[26] Patrick O'Brien, "The political economy of British taxation, 1660-1815," *The Economic History Review* 41, no. 1 (1988): 1-32.

[27] O'Brien, "The nature and historical evolution," 420.

case, the efforts of the Castilian and later on the Spanish state to integrate tax systems within their various kingdoms, let alone their overseas territories, were less successful, as local authorities had strong control over their resources.[28] Local authorities in the Spanish empire established strong legal traditions to retain a substantial degree of political and fiscal autonomy, and there was no vertically integrated central assembly of representatives that could effectively coordinate fiscal administration in different parts of the empire.[29] A similar situation was observed in France, where tax privileges enjoyed by local elites forced the state to rely disproportionately on incomes extracted from certain regions.[30]

At the other end of Eurasia, China faced constant challenges from military threats and fiscal pressures over the entire seventeenth century. During this period, the surge in military expenditure became the driving force of tax expansion in China and consumed nearly all of the central income, constantly resulting in fiscal deficits and sometimes defaults on military payments.[31] It was only in the later period of the century when social order was restored that the Chinese state managed to keep spending in check.[32] However, what remains a matter of debate are the interpretations of taxation in China after the late-seventeenth century, as tax per capita in China was much lower than in advanced economies in Europe.[33] One view is that absolutism hampered the state's ability to collect taxes, and that the Chinese state was too weak to extract wealth from the society.[34] An alternative view argues that the physiocracy and Confucian ideology of light taxation restrained the state's willingness to tax, and that light taxation

[28] Juan Gelabert, "Castile, 1504-1808," in *The Rise of Fiscal State*, ed. Bonney, 201-238.
[29] Irigoin and Grafe, "Bargaining for absolutism."
[30] Richard Bonney, "France, 1494-1815," in *The Rise of Fiscal State*, ed. Bonney, 157-61.
[31] Quan Hansheng 全漢昇 and Li Longhua 李龍華, "Mingdai zhongyehou taicang suichu yinliang de yanjiu" 明代中葉後太倉歲出銀兩的研究, *Zhongguo Wenhua Yanjiusuo Xuebao* 6.1 (1973): 169-244; Lin Meiling 林美玲, *Wanming Liaoxiang Yanjiu* 晚明辽饷研究 (Fuzhou: Fujian renmin chubanshe, 2007), 94-117.
[32] Chen Feng 陈锋, *Qingdai junfei yanjiu* 清代军费研究 (Wuhan: Wuhan daxue chubanshe, 1992); He Ping 何平, *Qingdai fushui zhengce yanjiu* 清代赋税政策研究 (Beijing: Zhongguo shehui kexue chubanshe, 1998), 6-14.
[33] Karaman and Pamuk, "Ottoman state finances"; Loren Brandt, Debin Ma, and Thomas G. Rawski. "From divergence to convergence: Reevaluating the history behind China's economic boom," *Journal of Economic Literature* 52, no. 1 (2014): 69.
[34] Ma, "State capacity and great divergence"; Vries, *State, Economy and The Great Divergence*.

was perceived as good governance while heavy tax was regarded as a symbol of tyranny, suppressing prosperity and causing social disorder.[35]

In short, fiscal management in premodern societies indicates a close connection between coercion, taxation, and organisational changes. Warfare increased state expenditures, and fiscal pressures forced state organisations to move towards greater tax efficiency. A high level of taxation is often found in a more centralised state, but the reasons for a lower level of tax in different regions varied.

1.2 Assumptions about information

What is missing in this narrative of the capacity-building process led by organisational changes? If we view taxation (and fiscal administration in general) as the management of both information and physical resources, three likely scenarios may cause variations in fiscal capacity. First, states all possess full information, but differences in their abilities to control resources cause variations in fiscal capacity. Second, states all have the same ability to control resources, but there are differences in their abilities to obtain information. Third, variations emerge as a combination of both. This third scenario seems more likely to apply in the real world.[36]

The narrative on organisational changes and capacity development explains the causes and consequences of the state's ability to control physical resources, but the information part of the story plays a much smaller role. Warfare changed the balance of power in many places, helping the state authority to incorporate local regimes and integrate taxable resources. But extended state authority does not guarantee progress on the capacity to gather and, in particular, process the information. Local customs on measuring and recording can vary greatly from the ways in which states measure and record. They require not only the authority but also the information and techniques to transform and integrate local customs. This is especially true in places where territorial

[35] Deng, "The continuation and efficiency"; Wong, "Taxation and good governance."
[36] John Conlisk, "Why bounded rationality?," *Journal of Economic Literature* 34, no.2 (1996): 669-700.

claims of the state involve considerable diversity in regional economic conditions and cultural identities.

But how does information influence fiscal capacity? Scattered examples from the existing literature have yet to construct a clear narrative. We therefore need more comprehensive evidence with a focus on numerical logic in the capacity-building process.

1.3 Capacity-building: numbers and technical changes

Based on the assumption of incomplete information, we may presume certain correlations between the state's capacity to deal with the information and manage fiscal resources. In a narrower sense, fiscal centralisation requires the state to penetrate every corner of the society to gather information on taxable resources. A large number of premodern states favoured indirect over direct taxes simply because it was much easier to obtain information on the former, and a survey on personal wealth would encounter strong resistance from local elites and the public. In England and France, for instance, resistance was so strong that states had to charge property tax based on the number of windows in a house (window tax), something that can easily be disclosed to the government.

The technical aspects of an information survey can also be difficult, and, in a broader sense, fiscal centralisation requires the state to transform local knowledge into something readable to bureaucrats, ideally replacing local practices with the measurements preferred by states.[37] In revolutionary France, the government made several attempts to replace local weights and measures inherited from the old regime, but it was forced to compromise with practices long accepted by the populace.[38] In early modern China, customary measurements of land acreages varied from place to place, and the government had to transform local customs into a numeraire that was calculable

[37] James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998), Chapter 1.
[38] Scott, *Seeing Like a State*, 33-37.

to the bureaucrats.[39] Currencies in the Chinese market encountered a similar issue, as popular currencies in the market had co-existed with the standard currency for centuries, and the latter served more as a unit of accounting and an intermediary between different local currencies.[40] Therefore, fiscal centralisation not only involves the incorporation of privileged and exempted social groups, transferring tax resources from local authorities to the central state,[41] it also requires the standardisation of measurements and currencies, as well as record keeping and statistics.

In a multitude of cases, numbers became the basis of state actions, providing the information and tools for managing the bureaucracy and society at a macro level. In France, accounting innovations under Jean-Baptiste Colbert of Louis XIV's reign introduced a more effective administrative system across the kingdom.[42] Under Colbert's leadership, the French royal government attempted to promote a more systematic transfer of information from provinces to Paris via large scale enquiries. This transfer of information strengthened and reinforced the role of the central government as a political centre, providing a basis for managing the kingdom through a variety of knowledge.[43] In eighteenth century China, the state collected information on grain prices and raindrops from systematic reports prepared by provincial governors-general and higher officials.[44] These reports enabled the imperial state in Beijing to monitor agricultural harvests and quickly respond to natural disasters in different parts of the

[39] Ping-ti Ho, *Studies on the Population of China, 1368-1953* (Cambridge: Harvard University Press, 1959), 24-36; Wang, *Land Taxation*, 20-49; Huang, *Taxation and Governmental Finance*, 82-109.

[40] Von Glahn, *Fountain of Fortune*; Liu Guanglin 刘光临, "Mingdai tonghuo wenti yanjiu—dui mingdai huobi jingji guimo he jiegou de chubu guji" 明代通货问题研究—对明代货币经济规模和结构的初步估计, *Zhongguo Jingjishi Yanjiu* 1 (2011): 72-83; Peng Kaixiang 彭凯翔, "Jindai Beijing huobi xingyong yu jiage bianhua guankui——jiandu huoshenghui zhangben (1835-1926)" 近代北京货币行用与价格变化管窥——兼读火神会账本 (1835—1926), *Zhongguo Jingjishi Yanjiu* 3 (2010): 91-100; Kent Deng, "Miracle or mirage? Foreign silver, China's economy and globalization from the sixteenth to the nineteenth centuries," *Pacific Economic Review* 13, no.3 (2008): 320-357.

[41] O'Brien, "The nature and historical evolution," 422.

[42] Peter Miller, "On the interrelations between accounting and the state," *Accounting, Organizations and Society* 15, no. 4 (1990): 329.

[43] Miller, "On the interrelations," 322.

[44] Kent Guy, *Qing Governors and Their Provinces: The Evolution of Territorial Administration in China, 1644-1796* (Seattle: University of Washington Press, 2013), 146-179. Raindrops records are rather qualitative than quantitative descriptions, such as "light rain" and "heavy rain". Nevertheless, the virtue of these records is that they cover a long period. For example, "Clear and Rain Book" of The Directorate of Astronomy recorded the weather in Beijing every two hours (or one hour in traditional Chinese timekeeping) for nearly two centuries over 1724 and 1903.

empire.[45] In these cases, the collection of information came from political rather than academic interests.[46]

Numerical tools and calculative practices also discipline individual behaviours at a micro level, not through coercion but through classification and grouping. For the principalities and free cities of the Holy Roman Empire, German statistics from the eighteenth century presented itself as a vast nomenclature that provided classifications for a general description of the state, as a result of which it became a new language that helped unify the state and transform its role.[47] In the example of standard costing introduced in the twentieth century, the accounting principles made it possible to attach individual performance (as deviations) to the firm's standards, creating "norms" based on numbers to check whether workers' performances deviated from what was expected.[48] By subjecting the traits of an individual subject to certain rules or norms, the numerical tools established standards for behavioural discipline, influencing the way people perceive society, transforming what they chose to do, who they tried to be, and what they thought of themselves.[49]

1.4 Research framework: coercive and numerical logic on capacity-building

The discussions on state, finance, and governance in previous sections indicate that both coercion and numbers are deeply involved in the state's capacity-building process. There is not as much discussion on the role of numbers as there are coercion. To enquire further into this issue, I now construct a research framework with a focus on numerical logic in capacity-building.

Previous discussions indicate that coercive logic interprets the exercise of state power as the establishment and use of a monopoly of violence. It sees state capacity,

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[45] Will, *Bureaucracy and Famine*; Li, *Fighting Famine*.
[46] Alain Desrosières, *The Politics of Large Numbers: A History of Statistical Reasoning* (Cambridge: Harvard University Press, 2002).
[47] Ibid, 237.
[48] Peter Miller and Ted O'Leary, "Accounting and the construction of the governable person," *Accounting, Organizations and Society* 12, no.3 (1987): 241-42.
[49] Ian Hacking, *The Taming of Chance* (Cambridge: Cambridge University Press, 1990), 3; Theodore Porter, "Making things quantitative," *Science in Context* 7, no. 3 (1994): 389-407.

and in particular fiscal capacity, as state dominance over other social groups, utilising economic resources as a mean of control. Accordingly, capacity-building with coercive logic is often illustrated in physical or tangible forms, such as the state's ability to suppress domestic rivalries, extract social wealth, mobilise resources, and defeat external threats.

In many ways, the coercive logic resonates with Weber's terminology on "power" and "domination", where power is "the probability that one actor within a social relation will be in a position to carry his own will despite resistance", and domination (by authority) is an authoritarian *power to command* and a *duty to obey*.[50] Means of coercion are mostly achieved by control over economic resources. In Weber's words, "in the vast majority of cases, and indeed in the most important ones, this is just what happens in one way or another and often to such an extent that the mode of applying economic means for the purpose of maintaining domination, in turn, exercises a determining influence on the structure of domination."[51]

The numerical logic I strive to develop here interprets the exercise of state power as subjection to the numbers desired by the state. It views the development in state capacity as the ability to discipline behaviours using calculative practices. Accordingly, capacity-building with numerical logic can be illustrated in non-physical forms, such as the state's ability to abstract information, monitor organisations and agents with calculative practices, and discipline behaviours through the manipulation of numbers. At the centre of this numerical logic is governance via numbers. At the individual level, the state may discipline the agent by subjecting their behaviours to numerical norms and standards preferred by the state.[52] At the societal level, the state may regulate and intervene in random phenomena by creating new quantities and defining social concepts

[50] Max Weber, *Economy and Society: An Outline of Interpretive Sociology*, trans. Ephraim Fischoff et al. (Berkeley: University of California Press, 1978), 15; 947.
[51] *Ibid*, 942.
[52] Michel Foucault, *Power/Knowledge: Selected Interviews and Other Writings, 1972-1977* (New York: Pantheon, 1980), 59; Miller and O'Leary, "Accounting and the construction," 238.

through numerical interpretations such as the ratio of births to deaths, the rate of reproduction, and the fertility of a population.[53]

By analysing the state's capacity to abstract and make use of information through behavioural management, this framework enables us to evaluate the impacts of technical changes and calculative practices on the state's capacity-building process, examine the successes and failures in the adoption of numerical tools, and analyse the frictions between what was desired by the state and what actually happened in reality. This framework also helps to ascertain the direction of capacity-building, as the way a state manages numbers reflect its motivations and interests. From the state's perspective, the society it governs is an extremely complex entity, not only because of the enormous scale of information it generates but also because local knowledge and customs may not be understood by outsiders (such as bureaucrats). To record a society in quantities is to simplify and abstract the information it provides.[54] But not all the information is relevant to the state's interests, and there are different degrees of emphasis. Therefore, the selection of information not only reflects the state's ability to obtain information but also its interest in this information.

1.5 Case selection, research materials, and structure

The previous sections of this chapter set out a numerical logic to study the capacity-building process of premodern states. In the following chapters, I apply this framework to the situation in China between 1400 and 1800. The first half of this period was marked by changing socioeconomic conditions and provides good examples of the creation of quanta in the fiscal management exerted by the state. From the mid-fifteenth century onwards, the market economy in China gradually revived following the introduction of silver as a currency numeraire. This was accompanied by fiscal

[53] Michel Foucault, *Society Must Be Defended: Lectures at the Collège de France, 1975-76*, tans. David Macey (New York: Picador, 2003), 245.

[54] Scott, *Seeing Like a State*, ch.1; Porter, "Making things quantitative"; Nelson Goodman, "Words, works, worlds," *Erkenntnis* 9, no.1 (1975): 57-73; Michael Power, "Counting, control and calculation: Reflections on measuring and management," *Human Relations* 57, no.6 (2004): 765-783.

(re)monetisation. Over the following centuries, China underwent a transition from an in-kind-dominant to money-dominant fiscal system. The state not only began to collect more taxes in cash payments, but also used the weight of silver as a statistical and accounting unit. Another reason for selecting this case is that both coercive and numerical logic on capacity-building can be examined during this period. Social and ruling crises constantly challenged fiscal governance in seventeenth century China. These not only reshaped fiscal institutions but also left significant marks on state governance in China over the following centuries. In the early seventeenth century, military threats from the Jurchens, who later established the Qing dynasty in China, constantly drove up the state's military expenses. It was not until 1681 when the final resistance to the new regime was resolved that state finance in China saw the end of an expenditure-driven pattern. Notwithstanding the end of the civil war, the high level of resource concentrations remained, creating a series of issues in China's local governance. Therefore, this second period provides a complete example with which to observe the adjustment and maintenance of the state's tax policies in both wartime and peacetime finance.

Accordingly, this research examines the role of numbers in the state's fiscal governance in three interconnected chapters: Chapter 2 on standardising local tax and the budgeting system, Chapter 3 on tax redistributions and fiscal centralisation, and Chapter 4 on policy maintenance. Together, these three chapters present China's capacity-building process in fiscal governance over the fifteenth and eighteenth centuries.

In Chapter 2, a focus on tax standardisation subject facilitates an examination of how the state created local budget figures by standardising tax assessment and fiscal accounting in fifteenth and sixteenth century China. This chapter also provides an essential background for subsequent discussions in Chapters 3 and 4.

In comparison with its European counterparts during these centuries, the Chinese state had a highly centralised fiscal system. Unlike several European countries, there were no domestic challengers to state sovereignty, nor were there local regimes that controlled their own tax bases outside the claims of the central state. Instead, what we

find in the Chinese case is the issue of fiscal integration, particularly with respect to local finance. Given the immense diversity in China's socioeconomic circumstances, the imperial state long relied on local governments to assess and calculate fiscal needs through local administration, which was typical of a state that ruled a vast territory. It was not until the sixteenth century, in particular the late sixteenth century, that China established an explicit budgeting system in local administration, managing different tax accounts using comparable and integrable figures in monetary numeraire.

Why did tax standardisation and budgeting matter? To an extent, the establishment of the local budgeting system in sixteenth-century China provided a tool for fiscal interventions that had not been available in the previous period. These specific local tax figures also created a statistical basis for tax redistributions in the following period, an issue discussed further in Chapters 3 and 4. Without transforming local tax figures into something readable to the higher authority, the state was unlikely to massively redistribute its fiscal resources. The standardisation process itself was complicated as the government not only had to specify incomes and spending in kind but also measure their values in monetary terms. Hence, the challenge for China's fiscal governance during these centuries was not the threat coming from domestic rivalries. Rather, it was the issue of specifying and standardising local incomes.

In the extant literature, the fiscal reform of 1581 is generally considered a crucial event during these two centuries. The 1581 reform is usually viewed as a starting point for a plethora of fiscal institutions in the later period, such as the formalisation of silver as the accounting unit in state finance and a single tax receipt for multiple land and poll taxes. However, it is important to note that China had already shifted from an in-kind to a monetary tax unit for nearly a century and a half prior to 1581.[55] Over the same period, income and spending budget figures in China's local finance were also created. Thus, the 1581 reform was more like a continuation than a turning point for local tax practices that had evolved in the earlier period.

[55] If we consider the "golden flower tax" introduced in 1436 as a starting point for tax silverisation, it would have been nearly 150 years by 1581 when the state formally adopted silver as the numeraire in governmental finance.

The last generations of scholars have generated a large volume of research on China's local finance in the fifteenth and early sixteenth century. Most of these discussions, however, focus more on the "what is" question, seeking to explain the key terms and institutions in local finance.[56] In recent years, more quantitative evidence has emerged on how local taxes were calculated in practice through an examination of local gazetteers and tax books.[57] Nevertheless, these studies mainly focus on how taxes were valued and collected in silver currency; the dynamic relationship between the socioeconomic environment and state taxation is often not the focus of research on local finance in China. Questions remain as to how the quotas of taxes in kind were specified before being transformed into cash units. Before silver became a dominant form of accounting unit in governmental finance, a large number of local taxes had been collected in kind for more than a century. The early Ming empire was known, and even criticised by some, for its tax-in-kind system;[58] but the Chinese economy was not completely running at barter transactions and copper coins were still circulating in the market.[59] This raises further questions as to how China's local governments calculated their tax figures using in kind units in the first place.

In this respect tax standardisation is crucial; therefore, Chapter 2 aims to examine how the government transformed local knowledge on tax assessment and fiscal accounting in the fifteenth and sixteenth centuries. These discussions enable us to further scrutinise fiscal centralisation in late imperial China as part of a capacity-

[56] Liang Fangzhong's research on corvée and taxation in Ming China is one of the classic works in this field, see *Liang Fangzhong's Collected Works: Taxations and Corvee in Ming China*. Tang Wenji's *Institutional History of Taxations and Corvee In the Ming* (明代赋役制度史), Luan Xiancheng's *Study on The Yellow Book in the Ming* (明代黄册研究), and Liu Zhiwei's *Between the State and Society: Lijia Corvee Institutions and Village Community in Ming-Qing Guangodng Province* (在国家与社会之间: 明清广东地区里甲赋役制度与乡村社会) also provide systematic reviews on these key institutions in the fifteenth and sixteenth century.

[57] Li Yiqiong 李义琼, "Zheshangzhe mingdai longwanjian de fuyi zheyin yu zhongyang caizheng zaifenpei" 折上折: 明代隆万间的赋役折银与中央财政再分配, *Qinghua daxue xuebao* 3 (2017): 37-50; Wan Ming and Xu Yingkai 万明, 徐英凯, *Mingdai Wanli kuaijilu zhengli yu yanjiu* 明代<万历会计录>整理与研究 (Beijing: Zhongguo shehui kexue chubanshe, 2015); Ding Liang and Zhao Yi 丁亮, 赵毅, "Mingdai Zhejiang zabanyin shouzhi jiegou yu junpingfa gaige" 明代浙江杂办银收支结构与 "均平法" 改革, *Zhongguoshi yanjiu* 001 (2016): 169-188.

[58] Huang, *Taxation and Governmental Finance*.

[59] Liu, "Mingdai tonghuo wenti yanjiu."

building process; they also illuminate how local tax figures were used by the central state for tax redistribution in times of war and governing crises.

In Chapter 3, I draw on the case of tax redistribution in sixteenth- and seventh-century China to examine how the state manipulated tax figures under the fiscal and ruling crisis.

In the premodern world, wars have been a crucial element in state formation, and led to fiscal centralisation in multiple cases. From the mid-sixteenth century onwards, the pressure on state finance in China impelled it to relocate fiscal revenues for military use, substantially expanding the treasury's fiscal authority across multiple dimensions. From the early seventeenth century onwards, wars and ruling crises became the theme of state governance in China, eventually resulting in a dynastic change in the middle of the century. Unlike European states that relied on sovereign debts to finance wars, the Chinese state overwhelmingly relied on tax and tax redistribution.

What do we therefore expect from the Chinese experience on tax redistribution? Regarding fiscal governance, the ways in which the state matched its fiscal needs against the available resources provides an insight into the changing relationship between the central and local governments. Beyond taxation, and perhaps this is more important, tax redistribution also affected the governmental structure, especially that of local government.

Existing studies on China's state finance during this period provide detailed discussions on the causes and aftermath of the fiscal crisis, addressing the impacts of the increasing cash expenditure on the military over the sixteenth century and the state's failed attempts to mobilise tax resources in the first half of the seventeenth century.[60] However, traditional historiography tends to select research period by dynasties, and the majority of the literature focuses on China's fiscal crisis in the last days of the Ming period (until 1644). At the same time, studies on the early Qing period (circa 1644-1722) suggest that due to the immediate fiscal crisis, the central state continued to

[60] Chuan and Li, "Mingdai zhongye hou taicang suichu yinliang de yanjiu"; Huang, *Taxation and Governmental Finance*, ch.7; Lin, *Wanming Liaoxiang Yanjiu*.

redistribute taxes after the dynastic change of 1644.[61] Constant redistribution of tax revenues throughout the entire seventeenth century motivated me to examine more closely the impacts of the tax policy of this period on China's local governments.

After discussing tax standardisation and redistribution in Chapters 2 and 3, Chapter 4 examines the maintenance of high-level resource concentration in China after the late seventeenth century, a feature inherited from China's fiscal policy in preceding centuries. In this chapter, I discuss how tax figures were maintained over a long period of time without fundamental changes to the state's policy.

Scholars have made progress in understanding the fundamentals of state finance in China after the mid-seventeenth century, namely static taxation and the unbalanced distribution of tax revenues.[62] Static taxation means that the state's fiscal revenue was stagnant and exhibited no signs of growth over time.[63] An unbalanced distribution of tax revenues means that the majority of fiscal revenues were allocated to central government, leaving only a minor portion for the local administration.[64]

Despite this, most discussions use the example of land-poll rather than other tax categories.[65] This is because throughout most of the second millennium, and until 1850, land taxation contributed the dominant share of fiscal revenues to the Chinese state. Moreover, the government in previous centuries left more systematic records of land tax and its distribution, including the land surtaxes that were introduced after 1723. By comparison, records on other tax categories received less attention, including the salt tax — the second largest fiscal revenue for the Qing empire until 1850. The majority of studies concentrate on the collection and distribution of formal tax revenues,[66] and

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[61] He, *Qingdai fushui zhengce yanjiu*, ch.1.

[62] T'ung-tsu Ch'u, *Local Government in China Under the Ch'ing* (Palo Alto: Stanford University Press, 1969); Wang, *Land Taxation*; Huang, *Taxation and Governmental Finance*; Zelin, *The Magistrate's Tael*; Shigeki Iwai 岩井茂樹, *Zhongguo Jindai Caizhengshi Yanjiu* 中国近代财政史研究, trans. Fu Yong 付勇 (Beijing: Shehui kexue wenxian chubanshe, 2011); Zhou Jian 周健, *Weizheng Zhigong: Qingdai Tianfu yu Guojia Caizheng (1730-1911)* 维正之供: 清代田赋与国家财政 (1730-1911) (Beijing: Beijing shifan daxue chubanshe, 2020).

[63] Wang, *Land Taxation*; Iwai, *Zhongguo Jindai Caizhengshi Yanjiu*.

[64] Zelin, *The Magistrate's Tael*.

[65] Wang, *Land Taxation*; Zhou, *Weizheng Zhigong*.

[66] Chen Feng 陈锋, *Qindai yanzheng yu yanshui* 清代盐政与盐税 (Zhengzhou: Zhongzhou guji chubanshe, 1988).

no comprehensive study has been conducted on the distribution of salt tax surcharge after its legalisation in 1723.

This give rise to another issue — the tax data used by most scholarly works is confined to the so-called "formal taxations" (正课 or 正额), a term that describes the amount of taxes specifically required to be collected on behalf of the central state. This "formal taxation" largely constituted the central income rather than the entire set of tax revenues. Given the small portion of tax incomes distributed to the local administration, surtax incomes were an important source of funding in China's local administration from the mid-seventeenth century onwards.[67] This means that using "formal taxation" figures to study China's tax policy could potentially underestimate the state's tax incomes and the actual revenues received by the local government.[68]

Because this research is about quantification and fiscal governance, the figures on fiscal revenues and their distribution between China's central and local governments are the central focus of this study.

However, available research materials on state finance in China before the mid-seventeenth century are limited. Early research primarily relied on official historical and legal documents such as the Collected Statutes of the Great Ming (*Daming huidian*, sometimes translated as the Precedents of the Statutes of the Great Ming) and Veritable Records of the Ming (*Ming shilu*). Furthermore, few archive materials have survived as the imperial archive of the Ming empire was largely destroyed or lost during the dynastic change in the mid-seventeenth century. The Collected Statutes, as the name suggests, covers the administrative regulations and laws introduced between the late fourteenth and late sixteenth century. Veritable Records, possibly the single largest source for research on Ming history, is a selected (but comprehensive) compilation of government diaries, ministerial papers, and the daily memoirs of officials covering the entire Ming history (1368-1644). These materials are extremely useful, but have certain

[67] Zelin, *The Magistrate's Tael*.

[68] Ye-chien Wang attempted to estimate all statutory and non-statutory tax incomes of 1753, suggesting that the actual incomes (including surtaxes) could be 30% higher than the formal taxes. However, despite Wang's pioneer work, his results are primarily computed based on land-poll surtax records. See Wang, *Land Taxation*, 72.

limitations. For instance, because these materials were selected and compiled by the central government, they usually capture information that was either reported or considered "important" to this government. These are not desirable sources for studying local finance as they do not provide details on local institutions. This is particularly an issue for Collected Statutes where records on laws and regulations often generalised local circumstances.

With respect to supplements (even substitutions in some scenarios), local records such as folk documents (land and population registries, contracts, and tax receipts and so on) and local gazetteers can be extremely useful for ascertaining how state institutions functioned in practice. Folk documents are precious, but usually have a narrow range of use for particular studies. Access to these documents is something we cannot request.

Local gazetteers are more accessible. Between the fifteenth and nineteenth century, the local authority in China was primarily composed of county, prefectural, and provincial governments. Accordingly, there were three types of local gazetteers: county, prefectural, and provincial. The first two are the most useful as they contain more detailed information than the provincial gazetteer. Local gazetteers are akin to an encyclopaedia and record the natural and social history of a particular locality, including its geography, poetries, folk stories, and administrative affairs. Because these gazetteers are usually sponsored by the government or local officials, the author(s) or editors were granted access to government documents such as tax registries and budget accounts. Often, the authors themselves were the officials.

The virtue of local gazetteers is that they offer strong geographical and time coverage. From the sixteenth century onwards, local gazetteers in many places were updated according to each emperor's reign, which means that local budget records in a single place can be tracked for a long time. In certain cases, it is possible to piece together the missing information in one place using records from places nearby, as each prefecture had several subordinate counties. Furthermore, some gazetteers include additional comments from the authors or editors on local taxes, although these are uncommon. Nevertheless, such comments are particularly useful for studying the local

fiscal system. In the majority of cases, local gazetteers contain only raw statistics on taxes or government budgets without further explanations or interpretations; additional comments therefore provide an opportunity to examine the actual functioning of local financing. In rare scenarios, these comments even provide further information on how local tax practices changed over time. To meet the scale and scope of this research, this research primarily uses records from local gazetteers to examine China's local budgeting system before the mid-sixteenth century. These gazetteers are an effective supplement, even substitute, for Veritable Records that were principally written from the perspective of central government.

Nevertheless, local gazetteers have their limits. Careful scrutiny of these materials suggests that certain records are misinterpretations, especially those written in earlier periods. Most of the local gazetteers that survived in Ming China were published in the sixteenth and seventeenth centuries, as a large number of places simply did not have an older version before the sixteenth century. Hence, in local gazetteers, descriptions of the local tax system before the sixteenth century are often a copy of general institutions and may not in fact reflect local practice. Thus, careful interpretations of records in local gazetteers are necessary. The best approach for research on the fifteenth century — a period when local tax quotas were gradually settled in kind and then valued in silver money — is to collect the materials from monetary records as well as fiscal records. Because monetisation was a crucial step in the transition of China's local financing system during this period, the fiscal change cannot be separated from the societal change (something many existing studies take as given).

For research on state finance in China after the mid-seventeenth century, other materials are available. Because my primary focus is on the distribution of salt taxes and surcharges in the Qing period, the main sources I drew upon were the Collected Statutes of the Great Qing (*Daqing huidian*), Memorials to the Throne (*zoushu*), and The Gazetteer of Salt Administration (*yanfa zhi*).

In imperial China, the Memorial to the Throne was an official communication, and was usually referred to in the Qing period (1644-1911) as Palace Memorial (*zouzhe*),

a dedicated secret communication between qualified officials and the emperor that did not undergo the usual reporting procedure. Once read by the emperor, palace memorials were passed to a central department for transcription and filing, and then dispatched to the departments responsible. In comparison to the Ming empire, the Qing's imperial archive is well preserved. What needs to be identified from these memorials is the information on salt tax surcharges. However, one of the shortcomings of memorials is that officials often did not mention surtax collections in their reports. The early eighteenth century is an exception (late Emperor Kangxi's reign to early Emperor Qianlong's reign). During this time, the reform on local tax surcharges was a focal point in the fiscal governance of the state. Thus, three successive emperors, especially Emperor Yongzheng, expressed a particular interest in surtaxes in their communications with ministers and officials. However, after the mid-eighteenth century, local officials only reported tax surcharges in memorials if they involved tax redistribution or investigations into local coffers.

In this case, Gazetteers of Salt Tax Administration provide another source for tracking down salt surtax distributions. These salt gazetteers were official handbooks for salt administration. Except for the Yunnan salt district, at least one gazetteer was published for the remaining salt divisions in China proper (excluding Inner and Outer Mongolia, Xinjiang, Manchuria, and Tibet) between the late seventeenth and nineteenth centuries. These salt gazetteers contain two important items of information: salt tax accounts and memorials related to salt tax policies. In principle, later versions of salt gazetteers contain all the records in previous publications, making it possible to track down changes in salt tax accounts using different versions of salt gazetteers. Further details on policy changes in each salt district can be found in the memorials compiled in these gazetteers. Regrettably, however, no time series records are available for salt surtaxes. The best that can be achieved is to estimate salt tax (and surtax) distributions at certain points in time in the eighteenth century.

To conclude, I am going to examine quantification and fiscal governance in China between 1400 and 1800. Chapter 2 examines tax standardisation and the establishment of the local budgeting system; Chapter 3 scrutinises tax redistributions and fiscal

centralisation; and Chapter 4 discusses practical issues in the maintenance of tax policy. Together, the three chapters provide interconnected examples of how numerical tools were employed in fiscal governance in wartime and peacetime finance.

CHAPTER 2
Creating Quotas: Silver, Budget, and Power Relations

Today, the presentation of a government budget is standardised. When people talk about government incomes and spending, they express them in numbers, usually in monetary terms. No matter where these budget figures are discussed and reviewed, the meaning of incomes and expenses, which refers to how much money has been collected and spent, does not vary.

But this was not always the case in early modern society. In late-fourteenth century China, the value of the same tax resources may have had different meanings in different regions. During this period, state finance in China overwhelmingly relied on taxes paid in kind and corvée labours. This was particularly the case for local governance. Given China's vast territory and regional variations in socioeconomic conditions, dozens of tax units were used in the accounts of local government. For many local levies, a standard unit that would make them comparable in quantity was lacking, especially for the works served by corvée labours. Local tax assessments were more difficult. Because local governance varied from place to place, and each government had different fiscal demands based on different social circumstances, whether local tax rates were fair and reasonable usually depended on the jurisdictions of those officials in charge. In comparison with the central budget, therefore, fiscal revenues collected by the local authority did not keep a clear track of the central government's accounts.

How can a standard budgeting system be established that makes all incomes and expenditures countable? To create a standard budget system is to render diverse phenomena in standard countable quanta, abstracting the common characteristics from other features.[69] In an economy where commodity and labour prices can be valued in currency, the common characteristics shared between all tax levies is their monetary value. In its core areas at least, the Chinese economy was not running at barter

[69] Power, "Counting, control and calculation," 767.

transactions in the late fourteenth century, but the state was unable to maintain a stable monetary system. It was not until the mid-fifteenth century when silver was adopted in governmental finance as a stable monetary numeraire that fiscal monetisation took shape on a large scale. By the late sixteenth century, local budget accounts were generally established throughout the territory of the empire, where taxes levied by the local authority were counted in silver taels and compiled into a single figure.

The fiscal relationship between the central and local authorities in China also co-developed alongside changing social and fiscal circumstances. Because each level of the administration established traceable records on incomes and expenditures, China's central government was able not only to measure but also intervene in local finance. In the meantime however, conflicts between the central and local authorities arose around the budget figures when it proved difficult to enact several central policies.

In this chapter, I examine how tax quotas in China's local administration were established over the fifteenth and sixteenth century, and the impacts they had on power relations between the central and local governments.

2.1 Fiscal management since the late fourteenth century

A common characteristic of fiscal governance in many pre-modern states was that the fiscal function of the central government was limited. Correspondingly, what was recorded on the fiscal account of the central government was also limited. This feature also applied to the Chinese Ming empire established in 1368. In the capital city, the Chinese central authority was responsible for both civil and military spending. While outside the capital, the central authority paid only for the officials appointed, local garrisons, and royal families with enfeoffment. All other administrative expenditures were handled by the local authority using a customary tax system and corvée conscription. The central government's limited functions in fiscal governance meant that it was able to record and maintain annual incomes and expenditures. Furthermore, because the empire's fiscal system was largely built upon tax payments in kind, price fluctuations in the market had little impact on government budgets. In comparison with

the central budget, however, a substantial amount of fiscal expenditure in local administration was difficult to track through records. For a long time, a standard budgeting system for the empire's local finance was lacking. As stable as the central budget was, the scale of local finance on the central government's account was largely unclear.

2.1.1 Central finance: live within means

State finance always relies on statistics, and a predictable inflow of annual revenue ensures the government performs its functions. For the Ming state, a prerequisite of fiscal management was to estimate an annual income using records on taxable resources. To secure an annual income, the imperial state prefixed the tax quotas assigned to the central government each year, establishing a predictable level of tax inflows. After several adjustments, these tax quotas largely remained unchanged. As the empire's biggest source of revenues, the management of land taxation was centred on land records. Between 1368 and 1387, the state conducted a land survey in numerous parts of the empire, and a population survey was later completed in 1393.[70] These records on land and population had a profound impact on fiscal governance in China over the next two hundred years. It established statistics for the collection of land taxes and levy of labour services as well as setting a clear tax target of 32 million *shi* of grains in 1391 for the central government (1 *shi* of rice = 75 kilograms).[71] This level of land tax was maintained until 1425, following which it was gradually reduced to 26 million *shi* in 1450, a level at which it remained until the end of the Ming empire in 1644.[72] Prior to 1435, other tax incomes such as silk, cloth, salt, and tea taxes varied from time

[70] Ping-ti Ho 何柄棣, *Gujin tudi shuzi de kaoshi he pingjia* 古今土地数字的考释和评价 (Beijing: Zhongguo shehui kexue chubanshe, 1988), ch.2.

[71] *Mingtaizu shilu*, vol.230, 3368.

[72] During the 1570s and 1580s, the Ming state had a major fiscal reform — the Single-Whip Reform. It aimed to reinvestigate the central government's tax basis in several regions and simplify the state's accounting and budgeting system. The investigation results of tax basis were published in *Wanli Kuaiji lu* 万历会计录 (Wanli Accounting Book). The tax expansion after 1618 was also based on the acreage of taxable lands registered during the 1570s. Although these new taxes after 1618 were initially taken as "temporary taxes", but Ming's finance continued to deteriorate, and the state never waved these new taxes.

to time. However, like the grain taxes, their tax quotas (in-kind units) rarely changed after 1450.

Because the regular fiscal functions of the central government were limited, its income level did not need to be frequently adjusted. At the central level, the central authority was mainly responsible for court spending, the salaries of central officials, and army supplies along the border.[73] At the local level, it paid for the salaries of local officials and provisions for the garrisons. Because the number of officials and their formal salary standards remained stable throughout the fourteenth to seventeenth centuries, central spending on local governments changed little over time.[74] If there was a deficit in a particular year, the government usually resorted to fiscal reserves cumulated from previous years rather than an increase in taxation. As fiscal management in late imperial China strived for a fiscal balance, deposits at the central treasury were usually taken as an index of the government's fiscal circumstances.[75] Thus, central expenditure that was intentionally designed to be lower was based on income level, creating a surplus by reducing public expenditures rather than increasing taxes.

Another reason why central tax revenues were maintained at a constant level for a long time was that the empire's fiscal system was largely built upon tax payments in kind. Between the eleventh and thirteenth centuries, state finance in China was massively monetised and overwhelmingly relied on indirect tax revenues due to the incapacity to extract direct taxes under the military threats from northern nomads.[76] Such a tax structure disappeared by the end of the Mongol's rule in China. In the late

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[73] Xiao Lijun 肖立军, "Mingdai caizheng zhidu zhong de qiyun yu cunliu" 明代财政制度中的起运与存留, *Nankai xuebao* 02(1997): 70-71.

[74] Although local officials received certain allowances in addition to their formal salaries, these allowances came from various customary taxes rather than the central spending. See Hu Tieqiu 胡铁球, "Mingdai guanfeng goucheng biandong yu junyaofa de qidong" 明代官俸构成变动与均徭法的启动, *Shixue yuekan* 史学月刊 11 (2012): 22-42.

[75] In 1567, for example, the finance minister Ma Sen reported to Longqing emperor that the Ministry of Finance had a considerable deficit in budget planning and warned that the state could not function without a deposit that could cover three years' spending (昔謂國無三年之蓄國非其國). See Mingmuzong shilu, vol.12, 330.

[76] Bao Weimin 包伟民, *Songdai difang caizhengshi yanjiu* 宋代地方财政史研究 (Hangzhou: Zhejiang daxue chubanshe, 2001), 246-254.

fourteenth century, the Ming empire re-established a fiscal system that relied on tax revenues from the land paid in kind. To consolidate such a system, tax revenues were shipped directly from local bureaus in charge of collection to the locations designated for use.[77] This was designed to reduce wastage and corruption during transport. The advantage of directly shipping tax payments in kind is that price fluctuations on goods collected have little impact on governmental finance, and the central government only needed to check whether the amount collected matched that delivered.

A practical reason why central incomes were not constantly adjusted may be due to the poor statistical capacity of the imperial government. Surveys on land and population which the state relied on for tax revenues were only strictly enforced in the late fourteenth century. From the fifteenth century onwards, the statistics that were supposed to update tax quotas no longer reflected actual changes in land and population.[78] Although the law required the empire's local governments to update their jurisdiction records on an annual basis, these administrative works often ended up with mere copies of the records in the previous year.[79] A primary reason for these faulty records was that the empire's bureaucracy was unable to cope with the heavy workload involved in these statistics. Local officials, even central officials who were responsible for the review, lacked the time to earnestly complete the fieldwork and were also unable to thoroughly check the authenticity of those numbers. In 1391, when local statistics on land and population were sent to the imperial capital for the first time under the Ming, there were 53,393 statistics books in total.[80] In 1502, some one hundred years later, this total had increased to 67,468 due to the expansion in the administrative units.[81] These annual statistics were submitted to the central government every ten years, which meant that each book contained ten years' worth of records. Although the central government reviewed them once a decade, each round of the review usually took five to six years

[77] Huang, *Taxation and Governmental Finance*, 5.
[78] Ho, *Studies on the Population of China*.
[79] Zhao Guan et al. 趙官等, *Houhu zhi* 後湖志 (original publish date unknown; reprinted in Nanjing: Nanjing chubanshe, 2011).
[80] *Ibid*, 10
[81] *Ibid*, 10-11

to complete.[82] If problems were identified, the paperwork transmitted between local and central governments further slowed the review process. These official records were of poor quality. Using population as an example, official records show there was no population growth in China between 1471-1477, but then in 1478 the growth rate declined to -0.3460‰, after which it increased to 162‰ in 1479 before suddenly falling to -130‰ in 1480.[83] Therefore, these poor records of the population and farmland cannot be used to review taxation. Once the total tax revenue of the central government was established, it rarely changed. Because the total annual fiscal revenue of the government was maintained within a relatively fixed range, the goal of the government was to formulate an expenditure budget that did not exceed the total revenue, the aim being to achieve a balance between revenue and expenditure.

2.1.2 Local finance: tax on needs

Compared with fiscal management in the central government, local finance in the early Ming empire was complex. Other than officials' salaries and garrison supplies, all other fiscal demands in the empire's local administration relied on customary levies based on tax payments in kind and corvée workers who performed a wide range of office and public services.

Unlike the central tax system where each tax category had a specific tax rate for individual taxpayers, customary levies in the early Ming's local governments had no individual tax rates and were levied in the form of a lump-sum payment from *lijia* organisation. The latter was the basic form of organisation for a local tax levy. According to the laws of the late fourteenth century, every 11 households under a county were registered as 1 unit of *jia* and every 10 *jia* was organised into 1 unit of *li*. Each *jia* was assigned a head household (*jiashou*) and each *li* had a chief household (*lizhang*).[84] Depending on the population size, a county, which was the smallest formal unit of

[82] *Ibid*, vol.10.

[83] The rate of population growth is calculated based on *Liang Fangzhong* 梁方仲*, Zhongguo lidai hukou tiandi tianfu tongji* 中国历代户口田地田赋统计 (Shanghai: Shanghai renmin chubanshe, 1985), 192.

[84] *Daming huidian* 大明會典, vol.20, 1b-2b.

administration, usually had dozens of *li*. This system was originally designed to collect direct taxations for the central government, but over time it became a customary source of local incomes.[85] Each time these were due for collection, the government issued an order to the chief of *li* on duty for levies and labour services.[86]

The distribution of these customary levies among households eventually relied on the chiefs of *li* responsible for the collections. A general principle was that local levies and corvée conscriptions should consider the economic circumstances of each taxpaying household. It was necessary to investigate the assets of each household in order to ensure fair distribution, but a challenge was posed by property assessments and the distribution of tax burdens. The assessment of household assets can be problematic because it is difficult to quantify each household's economic status. Taking the example of corvée conscription, the assessment mainly involved investigating the physical fitness and economic affordability of taxpayers, and local governments kept records on the number of males and females in each family, their ages, and a list of family properties.[87] In north China, the number of livestock was part of the asset assessment which meant that some peasants were not willing to own cattle for ploughing.[88] The information was collected by local personnel, usually clerks and *li* chiefs; based on these records, each household was then classified into three or nine ranks corresponding to the assets they possessed.[89] In principle, upper-rank households were supposed to undertake heavy corvée duties, and middle- and lower-rank households were subject to

[85] Scholars have different opinions about the fiscal functions carried out by *lijia* system at the very beginning of the Ming empire. One view considers that *lijia* was initially organised only for tax collections and criminal arrests in the late fourteenth century. See Liang Fangzhong, "lun mingdai lijiafa he junyaofa de guanxi" 论明代里甲法和均徭法的关系 in Liang Fangzhong, *Liangfangzhong jingjishi lunwenji* 梁方仲经济史论文集. See also Liu, *Zai guojia yu shehui zhijian*, 127-129. Some office expenses were also covered by *yaoyi*, especially after certain labour services were converted into cash payments. For example, In Nanyang prefecture, Henan province, some administrative funds were levied from *yao yi* using the labour service conscription system. The other part was levied from the so-called "current year duty" (见年差) using *lijia* system. See *Jiajing Dengzhou zhi* 嘉靖邓州志, vol.10.

[86] Zheng Xuemeng 郑学檬, *Zhongguo fuyi zhidushi* 中国赋役制度史 (Xiamen: Xiamen daxue chubanshe, 1994), 509-510.

[87] Luan, *Mingdai huangce yanjiu*, 25-29.

[88] "Qinfeng chizhi chenyan minqing shu" 钦奉敕旨陈言民情疏 in *Ming jingshi wenbian*, vol.209.

[89] The usual classifications included higher-upper rank, middle-upper rank, lower-upper rank, higher-middle rank, middle-middle ran, lower-middle rank, higher-lower rank, middle-lower rank, and lower-lower rank. See *Daming huidian* 大明會典, vol.20, 10a-10b.

light duties. But the judgement on household ranks could be arbitrary. Due to the high administrative cost of the investigation process, it is uncertain whether the government surveyed each household, not to mention the fact that the government was expected to regularly update the information to ensure the accuracy of household ranks. One record in the late-sixteenth century suggests that in Yanzhou prefecture (兗州), Shandong province of Northern China, household ranks were reported orally by the chiefs of each *li* organisation for a considerable time.[90]

However, local tax levies under such an organisation often made the distribution of tax burdens uneven; rich people often bribed themselves out of tax registration as a consequence of which local taxes and labour services were disproportionately passed to those on the registers.[91] Unlike local magistrates who were considered outsiders appointed by the central government and usually only remained in their position for three years, government clerks and recruitment agents were natives and had vested interests with local powerful and rich people. These problems sometimes forced poor people to flee from where they live to avoid tax and corvée burdens or become tenant farmers under the protection of local elites or giant clans. In 1542, for example, the prefect of Huizhou prefecture (惠州), Guangdong province in south China, found that one of his subordinate counties, Guishan, had only 30 *li* despite 42 *li* being registered on the government account.[92] In 1562, Hai Rui, a famous statesman in sixteenth century China, found that in Xingguo county (兴国) of Jiangxi province, the Middle Yangtze River, only 34 out of 57 registered *li* remained, and these had far fewer households than the standard of 110 households.[93] The reduction in the registered taxpayer population also meant that the existing taxpaying population faced a greater tax burden.

The calculation of local tax demands and labour services could also be difficult. Unlike central tax incomes, local levies were not designed but rather developed out of practical needs, and incomes for different uses were often combined in a single lump-sum collection. Corvée conscription was one such example, as corvée duties included

[90] *Wanli Yanzhou fuzhi* 萬曆兗州府志, vol.26, 6b.
[91] Liu, *Zai guojia yu shehui zhijian*, 84.
[92] *Jiajing Huizhou fuzhi* 嘉靖惠州府志, vol.7.
[93] Hai Rui 海瑞, *Hairuiji shangce* 海瑞集上册 (Beijing: Zhonghau shuju, 1962), 206.

not only labour services but also certain public expenses related to the work. Using the example of granary keepers, labourers in several places were required to pay for the wear and tear of grains in granary. In another example, doormen and office runners were sometimes required to prepare candles and papers by themselves for the office they served. The actual cost of one corvée duty therefore varied according to the work. Because local governments in the early Ming period received no designated funding for expenses other than officials' salaries, many public expenses were covered directly by conscripted labour.

Fiscal management in local administration, especially in county governments responsible for collecting tax, relied overwhelmingly on county magistrates appointed by the central government. Given that the tax information was highly localised, the early Ming empire did not develop standardised institutions for budgeting in local governments, and the statistics maintained by the central government did not contain local annual incomes and expenses.

2.2 Making things certain and comparable in local finance

The registration on population and family properties increasingly deviated from reality and could not be reliably used as the statistical basis for taxations. In the case of local customary taxes, no specific tax rate was established. Each household's properties varied greatly, but the government relied predominantly on the chiefs of *li* on duty for a lump-sum payment whenever it requested taxes and labour services. Hence, *li* chiefs decided how to distribute these local levies, particularly levies in kind. Taxpayers were therefore uncertain as to how much was to be levied each time and when it would be levied each year. Until the Single-Whip Law was formally implemented in 1581, the core issue in China's local finance was to specify individual tax rates and, accordingly, the total amount of each local levy.

2.2.1 Making things certain

If the amount of overall tax payments and labour demands was to be accurate every year, an explicit and specific tax rate for each taxpayer was required. This involves two things. First, a clearer standard for the assessment on household properties and, second, a unit of measurement that renders multiple levies in local governments comparable. Multiple historians have addressed the importance of the Single-Whip Law whereby the Ming state tried to integrate all taxes and levies into a single tax receipt. In fact, local governments in several regions had conducted similar experiments since the second half of the fifteenth century. Between 1436 and 1464 (Emperors Zhengtong and Tianshun's reigns), social unrests and rebellions took place from time to time across the empire. Many of these rebels were the people who fled from home to escape taxation and corvée conscription.[94] These off-registered populations not only caused social unrest but also reduced the government's tax basis. Hence, reforms were made to the local fiscal system during this period, focusing especially on the conscription of corvée labourers.

As early as the 1430s, the imperial state introduced "Corvée Equalisation Law" (均徭法) in Jiangxi province in the Middle Yangtze River as an early experiment. By the 1490s, the Law had been generally implemented across the territory. Its general principle was to separate regular corvée works demanded by the government from other forms of levies. By the early sixteenth century, all levies had generally been divided into four kinds — central tribute (*lijia shanggong*), corvée (*junyao*), courier station (*yichuan*), and militia (*minzhuang*).[95] In the corvée category, administrative expenses in general were also separated from labour services.

Under Corvée Equalisation Law, the criteria for quantifying the wealth of individual households also evolved. The records in local gazetteers indicated that the assessment on household ranks increasingly turned towards using a combination of land acreages (or grain tax rate) and the number of taxable adult males (*ding*).[96] A common

[94] Liu, *Zai guojia yu shehui zhijian*, 111-2.
[95] The exact names for these categories varied in places.
[96] The adult male is a simple explanation for the nature of the ding unit. In practice, ding was more like the registered tax population than the actual numbers of adult males.

practice was to make land acreages (or taxable amount of rice) and taxable adult males (*ding*) mutually convertible to produce a single standard for ranking households, either in the unit of land acreage, taxable rice, or adult males.[97] Each corvée duty was then given a rank and assigned to a specific household based on their ranks. The government kept a separate record of these assignments. The principle of the rotation system in corvée conscription was reiterated under the Law. Every year, local governments selected one *li* to collect local levies and labour services, and the taxpaying population in the next year was selected from the remainder of the *li*.[98] In theory, each taxpaying unit, *li*, only needed to pay local taxes and labour services once every several years at a fixed interval.[99]

2.2.2 Making things comparable

Despite having convertible criteria for the assessment of household ranks, it remained difficult to assess the value of different levies using kind units. How could the fiscal value of all local levies in kind be calculated? Or simply the cost of each corvée duty? The Ming people themselves classified corvée works into three levels—heavy, middle, and light—depending on the extra costs incurred during the term of service. These corvée labours were levied not only for temporary works such as canal maintenance but also regular works in government such as doorman, office runners, police force, and postmen. The most basic costs were living and travelling expenses, which could be measured in *shi* of rice.[100] The opportunity cost of not being able to

[97] Records on these practices in the early stage of the Corvée Equalisation Law—when taxes and labour services were still charged in kind—are scarce. Nevertheless, lands and adult males were likely converted into land acreages (or rice weight) or the ding unit. After the fiscal monetisation, abundant records show that land and ding were convertible between each other, wherein local tax assessment every certain ding unit was equivalent and converted to one mu of land or picul of taxable rice in silver cash terms. In the example of courier stations, local taxpayers were initially required to pay for food supplies in rice *shi*. After fiscal monetisation, these rice *shi* were converted into silver taels.

[98] Tang, *Mingdai fuyi zhidushi*, 249-251.

[99] The intervals for levies on local taxes in kind, labour services, courier station expenses, and central tributes are generally different. For example, the most common interval for central tributes mentioned in local gazetteers is ten years. However, for labour services and local public expenses, the rotation can be five years or shorter. The rotation intervals also varied in places depending on the size of local population (and accordingly, the number of li available to be taxed in the district).

[100] Records on how exactly the cost of living were calculated are rare. One record in 1447 suggest that the *shi* of rice was a way to measure it, where the magistrate of Changshu county (常熟) allowed

work on farmland (or any other works) could also be measured in rice payments. Public expenses incurred within the service term, however, were more complex. They involved different in-kind spending and the exact expenses could vary in certain months and seasons. Thus, people served at different times of the year could have different costs. If these in-kind expenses were measured in terms of their monetary value, then the overall cost of each corvée duty would have a clear and comparable number. In the late fourteenth century, there were cases where the value of labour services was measured in monetary terms.[101] However, the Ming's disastrous monetary policy removed this possibility in the early fifteenth century.

In eleventh-century Song China, when the monetary value of labour services and in-kind tax payments in the market were stable, people used to buy themselves out of conscription by making cash payments in copper coins.[102] Notwithstanding the ban on metallic money in northern China by the Mongolian regime in 1260, and in southern China in 1271 after the Mongol's conquest, paper currency was still used as legal tender for certain levies and tax payments.[103] It was only in the last few years of Mongol rule in China that paper currency suffered greatly from hyper-inflation. Beginning from the late fourteenth century, the Ming empire adopted the Mongol's ban on silver and announced The Great Ming Paper Note (*daming baochao*) as legal tender in 1375.[104] From 1394 onwards, the Ming state also banned the use of copper coins in an attempt to stabilise paper currency.[105] Since then, metallic currencies could be used in exchange for paper currency but not for transactions and tax payments.

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local residents to buy themselves out of corvee conscription with rice payments. See *Mingyingzong shilu*, vol.154, 3017. Also, under Ming's formal governmental budgeting, the official salary was mainly rice payments.

[101] Tang, *Mingdai fuyi zhidushi*, 233.

[102] You Biao 游彪, "Guanyu songdai de mianyifa lizuyu teshu huji de kaocha" 关于宋代的免役法——立足于 "特殊户籍" 的考察, *Zhongguoshi Yanjiu* 2 (2004); Bao Weimin 包伟民, "Songdai de shanggong zhengfu" 宋代的上供正赋, *Zhejiang Daxue Xuebao* 31.1 (2001): 61-69; Yoshinobu Shiba 斯波義信, *Songdai jiangnan jingjishi yanjiu* 宋代江南经济史研究, trans. Fang Jian and He Zhongli 方健, 何忠礼 (Nanjing: Jiangsu renmin chubanshe, 2012).

[103] *Yuan shi*, vol.5.

[104] Wang Qi 王圻, *Xu wenxian tongkao* 续文献通考, vol.18, 11a.

[105] *Ibid*, vol.18, 12b.

The Ming's management of paper currency was disastrous. Because paper currency was over issued, the purchasing power of Ming's fiat currency constantly depreciated. Certain commercial taxes previously collected in paper currency also began to be charged in payments in kind, such as rice or cloth. Under Ming's monetary policy, the economy in certain parts of China entered a period of de-monetisation in the early fifteenth century, and in places such as Huizhou, Anhui province, trades on land in the market reverted entirely to barter transactions for several years.[106] In comparison with the eleventh century, nominal prices of commodities also underwent dramatic deflation in the fifteenth century.[107] In 1436, when the Ming state decided to formally lift the ban on copper coins and silver, the market exchange rate of paper notes against silver *taels* (1 *tael* = 36.9 grams) greatly depreciated, falling from 1:1 in 1376 to 1:0.0009 in 1436.[108] Therefore, in the early fifteenth century at least, the instable value of fiat money in China made it unlikely would be a useful indicator of the costs of local taxes and labour services.

Despite the removal of the ban on metallic currencies, the Ming state rarely minted copper coins before the mid-sixteenth century, and the majority of the coins circulated in the market were those issued in the eleventh century.[109] Due to the insufficient supply of copper coins by the state, privately forged coins, counterfeit or not, widely circulated on the market. These coins had considerably less copper content and made transaction costs for daily trades high.[110] Unlike silver coins used in European markets, silver *taels* in the Chinese market were uncoined and used by weight.

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[106] Fu Yiling 傅衣凌, "Mingdai qianqi Huizhou tudi maimai qiyuezhong de tonnghuo" 明代前期徽州土地买卖契约中的通货, *Shehui kexue zhanxian* 3(1980): 129-134; Li Ruoyu 李若愚, "Cong mingdai de qiyue kan mingdai de huobi" 从明代的契约看明代的币制, *Zhongguo jingjishi yanjiu* 04 (1988): 39-43.

[107] Liu, *Mingdai tonghuo wenti yanjiu*, 75-78.

[108] Peng Xinwei 彭信威, *Zhongguo huobi shi* 中国货币史 (Shanghai: Shanghai renmin chubanshe, 1958), 465.

[109] Liu, *Mingdai tonghuo wenti yanjiu*, 75-78.

[110] Even private coins had multiple exchange rates against silver *taels*. In 1554 when the Ming state attempted to promote standard copper coins in the market, official exchange rates between silver and multiple copper coins were introduced. For standard coins, the exchange rate was set at 700:1 against silver *taels*. Private coins in good shape were set at a rate of 1000 coins against 1 *tael* of silver. The second and third classes of private coins were set at 1400:1 and 2100:1, respectively. There was a kind of private coins called "bad coins" (*e'qian* 恶钱), circulated at a rate of 3000:1 against silver *taels*. See *Mingshizong shilu*, vol.403, 7059 for exchange rates of standard and private copper coins. See *Mingshizong shilu*, vol.191, 4030 for exchange rates of "bad" coins.

Notwithstanding its primitive form, the weight of silver against other commodities was a more stable unit of valuation, especially for large-scale transactions such as land.[111]

As early as 1426-1435 (Emperor Xuande's reign), the Ming state began to allow certain labour services to be converted into cash payments in silver.[112] One of the motivations for this came from the Ming's officials — they initially received rice payments as salary, but since the early fifteenth century these in-kind payments were increasingly converted into paper notes and, in the meantime, greatly depreciated due to the collapse of paper currency. Therefore, converting certain labour services such as groom and firewood worker into pure money payments in silver (or copper coins) became a practical solution to increase the salaries of officials.[113]

Due to the lack of records, it is unclear exactly how the silver value of each corvée duty was established in the early stages, but one possibility was the use of rice as an intermediary for conversion. In 1447, for example, residents of Changshu county (near today's Suzhou and Shanghai) were allowed to pay 4 *shi* of rice, worth 1 *tael* of silver (36.9 grams), to buy themselves out of the conscription.[114] Rice as an intermediary of valuation was also present in the army, where part of soldiers' payments could be received in the silver value of rice if they were not willing to receive rice payment in kind.[115] Records in local gazetteers reported two ways of collecting and paying these fees. One was to give an asking price (打讨) with an official stamp on receipt (由帖) to the conscription agents. These agents then collected fees and issued payments on behalf of the government. This practice was common before the mid-sixteenth century.

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[111] In Huizhou, Anhui province, silvers quickly replaced paper notes and other in-kind commodities in land transactions when the ban on silver was lifted. In comparison, copper coins were never used in land contracts. See Fu, "Mingdai qianqi huizhou tudi".

[112] In *Daming huidian* 大明會典, it is recorded that "In Emperor Xuande's reign, those office runners who were unwilling to service were allowed to buy themselves out, paying one *tael* of silver (36.9 grams) each month". See *Daming huidian*, vol.157, 10a. In official records, discussions referred to market recruitment and money payments for labour service conscriptions that appeared after the late fifteenth century. It is also recorded that the imperial state issued two edicts in 1470 and 1479, respectively referring to the money charges for government grooms, corvée labours and government purchases.

[113] Hu, "Mingdai guanfeng goucheng."

[114] *Mingyingzong shilu*, vol.154, 3017.

[115] Hu Tieqiu 胡铁球, "Mingdai jiubian shisanzhen de yueliang zhejia yu liangjia guanxi kaoshi" 明代九边十三镇的月粮折价与粮价关系考释, *Shixue yuekan* 12 (2017): 14-36.

The other was for the government itself to collect and pay, which became more common from around the mid-sixteenth century onwards.

From the taxpayer's point of view, if several were able to jointly pay a sum of money to the government to find labourers, then each taxpayer bore only a part rather than the full amount of the cost. Even if the taxpayer had to bear the full cost, many still preferred to buy themselves out as a term of service in local government could last a year or even longer.[116] From the government's point of view, charging a fee for corvée exemption not only brought them cash incomes but also compensated for the loss of registered taxpayers. Multiple records indicate that local governments had to hire workers with cash payments as taxpayers registered for corvée conscription fled from the work.[117] In some cases, the government also preferred to charge a fee for hiring poor people or vagrants for guaranteed easy work, as such people could potentially cause problems in the district.[118]

During the transition from levies in kind to levies in money (or counted in monetary value at least), what changed was the method for calculating tax. In the case of corvée conscription, what people paid to the government was natural persons as each taxpayer (household) paid for the manpower of one or more adult males. A natural person cannot be divided into parts, so the cost of paying one "person" had to be borne entirely by the taxpayer. But with the shift towards monetary units as a means of counting things, what people paid became the value of person(s) in monetary terms where each taxpayer was able to provide only a portion of the monetary value for hiring a man. This transition is also clearly evident in the local government's fiscal accounts. Under China's administrative structure, the county government was responsible for supplying labour forces not only for themselves but also for higher authority governments (such as prefectural, provincial governments) and poorer governments nearby. In the government's tax accounts recorded in local gazetteers, the number of

[116] *Wanli Yanzhou fuzhi* 萬曆兗州府志, vol.16, 12-13.

[117] One example of this is that in 1485 one hundred people were conscripted to work in The Directorate of Education in Nanjing, but they all ran away. The provincial governor then decided to charge a fee from the nearby five prefectures for hiring labourers. See Tang, *Mingdai fuyi zhidushi*, 234.

[118] See the example from *Wanli Yanzhou fuzhi* 萬曆兗州府志, vol.16, 11.

labourers was sometimes a non-integer (for example, 0.333 or 0.5 persons). The dividable numbers also meant the burden of public expenses could be spread over a wider population. In this sense, a natural person was redefined in dividable terms on the government's account. Such a practice would not have become possible without a stable and universally applicable indicator for the value of labour services.

More importantly, counting numbers in silver unit created a new transmission intermediary, uniformly matching the information between taxpayers, governments, and tax agents. In corvée conscription, there were four types of agents: labourer, recruiter, demander (local government), and external monitor (central government). Within such a network, the central authority predominantly relied on the discretion of local governments to determine how many labourers were needed given local circumstances. But local governments had to rely on recruitment agents to carry out the work. Under such a mechanism, three parts of information had to be examined to match the demand and supply of labour for local governments: the taxpayer's ability to pay tax, tax paying standards, and the government's demand for employees.

What made better communication possible here was the changing meaning of "costs". Without a clear unit in kind for local tax assessment and a monetary unit for valuing the tax, a household's tax paying ability was assessed according to whether it could afford the costs of sending an adult male to work for the government for a certain period of time (for instance, one calendar year). However, such "costs" were highly subjective. They involved not only the living expenses during the term of service but also the opportunity cost of losing manpower in the household. Because there was no singular measure of tax affordability, the actual process of local tax distribution was largely held in the hands of collecting agents. In principle, the distribution was expected to have a direct relationship with the economic conditions of registered households. The better the economic conditions, the greater the expectation that the burden was to be allocated. However, this distribution mechanism did not always work as expected. In numerous records that described the burdens of corvée obligations, comments were often made along the lines that "the peasants complained and feared the burdens

imposed upon them because they are taxed too much and they are too poor to afford those obligations".[119]

With a certain and comparable unit of measurement, the information on "costs" was more transparent to outsiders such as the central state and centrally appointed local officials. This reduced the government's dependency on the recruiter's personal information in the labour market. The monetary value helped to express each payer's tax burden in a language that could be more easily communicated between different parties such as local and central governments. At the same time, the burden distribution mechanism could be stipulated in extremely minute detail. In northern China, although household ranks still played a role, there was a clear numerical measure of how much each rank has to pay. Similarly, in southern China, there were now explicit standards for the amount each unit of *ding* and *tian* had to pay to the government. Consequently, *taels* of silver as a unit of accounting provided both the central and local governments with a new instrument with which to transform previously very localised information through the establishment of a budget account on government employees. This change meant that the role of the recruitment agent's personal information in the labour supply declined in importance.

2.3 Budget standardisation and power relations in the sixteenth century

As the criteria for tax assessment were specified further and fiscal values of local levies became comparable under fiscal monetisation, it became possible to integrate these levies into a single tax receipt. This spread the burden of tax payments across all residents rather than a small part of the population selected to be on duty each year. Those who supported such an idea argued that a single (and fixed) tax receipt would make annual tax payments more certain and predictable, and clerks and tax agents were thus unable to manipulate these tax figures.[120] From the 1530s onwards, experiments

[119] See, for example, *Wanli xinxiu Nanchang fuzhi* 萬曆新修南昌府志, vol.98, 147.
[120] *Mingshizong shilu*, vol.489, 8139-40.

on tax integration and simplification were carried out in certain regions.[121] In 1581, the imperial state announced the Single-Whip Law in the hope of further simplifying tax assessment and promoting tax payments in silver. The standardisable fiscal system helped fiscal audits, but the excessive simplification often lacked practicability. Given the regional economic differences, further simplification of China's fiscal institutions brought a series of problems. Regarding local tax assessments, the northern territories retained many long-standing customs even after the reform in 1581. While for government budgets, regulating local tax behaviours with a prefixed annual total income brought several practical issues.

2.3.1 Southern law in the North

In 1581, the imperial state announced the Single-Whip Law, which was designed to integrate multiple taxes into a single receipt counted in silver *taels*. This was the most profound event in the sixteenth century. Given the development in the local budget system over the preceding century, the imperial state aimed to further standardise government accounting, simplifying tax collections, especially local taxes, based on landholdings. However, the Single-Whip Law was controversial in practice. Differences in regional circumstances made resistance to the reform most palpable in northern China.

Before 1581, several southern governments had already tried to adopt flat rates on land and poll for local taxation. In the Lower Yangtze delta, the most economically advanced region of the empire, local taxes for administrative funding and labour services were charged through flat rates on a taxable adult male (*ding*) and acreages of landholding (*tian*); thus, land fertility in these regions was not part of the local tax assessment. In some places, land acreages were converted into a tax population and local tax payments were calculated on the basis of total landholdings. In Kuaiji county of Zhejiang province, for example, every 13 registered *mu* of first-grade farmland, 15

[121] In 1533, for example, Dai Jing carried out a fiscal reform in Guangdong Province, which was similar to the principle of the Single-Whip Law. In 1561, Pang Shangpeng also carried out similar reforms in Zhejiang province.

mu of second-grade farmland, or 100 *mu* of hilly land was converted into one unit of *ding* population.[122] Another common practice was to convert the tax population into land acreages. The government usually converted every 1 or 2 taxable adult males into certain *mu* of land. For instance, in Yiwu county of Zhejiang province, every registered *ding* (taxable adult male) was counted as 5 *dou* (bucket) of rice and charged 0.2446 *taels* of silver for local administrative funds; every member of the under-aged population was counted as 2 *dou* (buckets) of rice and charged 0.0979 *taels* of silver.[123] Similar practices could be found in the Middle Yangtze River. In Linjiang prefecture of Jiangxi province, every two *dings* were converted into one *shi* of rice and charged 0.0797 *taels* of silver for labour services used in government. In some places, taxable adult males were converted into tax rice, *liang*, instead of land acreages, and a flat rate was applied to every *shi* of tax rice (1 *shi* rice = 75 kilograms).[124] Such a method was also implemented Guangdong province (south coast).[125] In Fujian province, on the southeast coast of China, a flat rate was applied to taxable rice, but progressive rates were applied on *ding*, varying between upper, middle, and lower ranks.[126] The reason why southern territories were able to remove the population in local tax assessment may be due to the fact that an off-record population was more problematic in the south than in the north.[127] Moreover, a tax population registered in the government's account had little practical use whereas landholding was more useful in tax assessment.

[122] *Wanli Kuaiji xianzhi* 萬曆會稽縣志, vol.6, 275-82.

[123] *Chongzhen Yiwu xianzhi* 崇禎義烏縣志, vol.7, 25a.

[124] For example, local charges for hiring governmental labourers in Chenzhou commandery (郴州) in 1546, Huguang province in the Middle Yangtze River, were based on the principle that every one *shi* of rice tax paid, 1.5 *taels* of silver were charged for funding the public employment.

[125] For example, in Nanxiong prefecture (南雄府), *ding* and *liang* used to have different flat tax rates. But it then moved towards using a single flat rate for both *ding* and *liang*. See *Jiajing nanxiong fuzhi* 嘉靖南雄府志, vol.3, 31b-32a.

[126] *Zhengde Fuzhou fuzhi* 正德福州府志, vol.7.

[127] Modern demographers such as Ho Ping-ti and Cao Shuji notice that official population records for northern territories during this period were more accurate than southern territories (only in relative terms). See Ho, *Studies on the Population of China*, 27-30; Cao, *Zhongguo Renkoushi*, vol.4, 200; the Ming scholars have also noticed the off-record population problem in southern provinces. See Shi Ruijiao, ed. 施瑞教輯，*Fujing lu* 賦鏡錄, reprinted in *Xuxiu siku quanshu* 續修四庫全書 (Shanghai: Shanghai guji chubanshe, 1995), vol.834, 35.

The Lower Yangtze River
& Guangdong province

$$\textit{Local tax rate} = \textit{(land acreage/taxable rice} \times \textit{flat rate)} + \textit{(ding number} \times \textit{flat rate)}$$

Fujian province

$$\textit{Local tax rate (before 1581)} = \textit{(taxable rice} \times \textit{flat rate)} + \textit{(ding ranks} \times \textit{progressive rates)}$$

However, in north China (north Zhili, Henan, Shandong, and Shannxi provinces), where the assessment criteria for local levies had long been on household ranks and taxable adult males in the household, the circumstances were more complex. The higher the household rank, the greater the payment for local administrative funding and corvee exemption fees.[128] In some places, progressive tax rates were even applied within the same rank of households.[129] One possible reason for this is that local tax assessments in northern territories did not rely solely on landholding as farmers in the north were often the owners of the land, and per capita landholdings in the north may have been higher than those in the south.[130] Because household ranks consider both landholdings and adult males, households with fewer landholdings were typically classified into middle or lower ranks even if they had a greater *ding* population (adult males).[131]

[128] For example, in Zhangde prefecture, Henan province, it is recorded in 1522 that upper-class households had to pay 12 *taels* of silver, while lower-class households had to pay only 0.4 *taels* of silver. See *Jiajing Zhangde fuzhi* 嘉靖彰德府志, vol.4, 6b.

[129] In 1519, Zhaoyi county of Xi'an prefecture, Shaanxi province, for example, the upper-class household was charged in between 0.9 to 0.7 *taels* of silver, middle-class household in between 0.6 to 0.*4 taels*, and lower-class household in between 0.3 to 0.1 *taels* of silver.

[130] We do not have precise statistics on land ownerships in northern and southern China, but Ming scholars have noticed this difference. See Xu Guangqi 徐光啟, *Nongzheng quanshu* 農政全書, vol.8, in *Wenyuange siku quanshu* 文淵閣四庫全書, vol.731 (Taipei: Shangwu yinshuguan, 1986), 103. The petty peasant economy was still a popular form of production in early twenty century China, while tenant farmers, in comparison, were more common in the Lower Yangtze Delta. See Philip Huang, *The Peasant Economy and Social Change in North China* (Palo Alto: Stanford University Press, 1985).

[131] *Wanli Yanzhou fuzhi* 萬曆兗州府志, vol.26, 6b.

However, converting the tax population into land acreage and spreading all taxes on landholdings could increase the tax burden on peasants, not to mention the flat rate. Another possible reason is that the market economy in north China was far less developed than that in the south (especially the Lower Yangtze Delta).[132] Therefore, corvée labourers remained a substantial part of the supply of government labour services, and the number of taxable adult males in the household was a better assessment criterion for corvée conscriptions than land acreages.

North China

$$\textit{Local tax rate} = \textit{(household rank} \times \textit{progressive rate)} + \textit{(ding number} \times \textit{progressive rate)}$$

The socio-economic differences between the North and South made local resistance to the reform much stronger in northern provinces. In Shandong province, for example, corvée exemption fees were levied according to two criteria, the so-called rank fee (门银), which was charged at progressive rates based on the nine households ranks, and *ding* fee (丁银), which was charged at a flat rate.[133] In 1563, the government tried to simplify local tax assessment using only land acreages as the assessment standard.[134] However, the complaints were so strong that in 1567 household ranks and *ding* population were once again included. Three years later, in 1570, land acreage was completely removed, no longer serving as a separate standard in local tax assessment.[135] The northerners themselves complained that the laws in Jiangnan region (Lower Yangtze River) were not a good fit in North China and that relying on the size of land plots would greatly increase the tax burdens for peasant households.[136]

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[132] Xu Tan 许檀, "Mingqing shiqi huabei de shangye chengzhen yu shichang cengji" 明清时期华北的商业城镇与市场层级, *Zhongguo shehui kexue* 11 (2016): 187-204.

[133] See *Jiajing Wucheng xianzhi* 嘉靖武城縣志, vol.2; and *Wanli Yanzhou fuzhi* 萬曆兗州府志, vol.26, 11-13.

[134] *Wanli Yanzhou fuzhi* 萬曆兗州府志, vol.26, 6b.

[135] *Ibid*, 7a.

[136] *Tianqi Juye xianzhi* 天啟鉅野縣志, vol.4, 9b-10a.

Despite the issues in further standardising tax assessment criteria, the imperial state still proposed the Single-Whip Law in 1581 across the empire. On corvée conscription (corvée tax)， the imperial state stipulated that "county, prefectural, commandry, and provincial governments shall … first calculate the total expenditure of all labour services and then write down on the tax receipt a single amount of tax payments based on *ding* (tax population) and *tian* (land acreage) … Officials shall first collect all taxes from registered households and then deduct the payments of each labour service out of the sum …".[137] With respect to local public expenses, it was stated that "county, prefectural, commandry, and provincial governments shall first calculate all the administrative spending and … then calculate tax payments for each household …".[138]

These principles may have only been implemented in the Lower Yangtze Delta. In other regions, the empire's local governments often had to compromise given local conditions and the imperial state had no intention of fully enforcing the law.[139] In Shandong province, north China plain, local taxation continued to be predominantly assessed by household ranks after 1581. Moreover, the rotation system for tax collection remained outside the Lower Yangtze area, even though the state had intended to transform local tax payments into a universal tax shared by all residents in the district. In Fujian province, for example, only a small part of the population was chosen each year to pay for all public expenses incurred by the government.

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[137] See *Daming huidian*, vol.20; see alsoShi Chaofu, and Chen Liangzhen 史朝富, 陳良珍, *Longqing Yongzhou fuzhi* 隆慶永州府志. (originally published in 1571; reprinted in *Sikuquanshu cunmu congshu Shibu yibawu* 四庫全書存目叢書史部一八五, Jinan: Qilu chubanshe, 1996, vol.201), 676-677

[138] "審編均平丁田俱分守道每年預計合屬州縣里甲，… 拘集該年里甲人戶與實徵丁糧手冊黃冊，逐戶吊審明實，通計合用本年額坐雜三辦一應銀數共若干 … 其餘均平科派折田為丁，每丁該銀若干，某戶該銀若干，一歲應納之數，盡在其內 …". See Xiao, Lianggan 蕭良幹, Zhang, Yuanbian 張元忭, and Sun Kuang 孫鑛 et al., *Wanli Shaoxing fuzhi* 萬曆紹興府志 (originally published in 1587; reprinted in *Siku quanshu cunmu congshu* 四庫全書存目叢書史部二 00, Jinan: Qilu shushe, 1996, vol.200), 611.

[139] *Mingshenzong shilu*, vol.58, 1138.

2.3.2 Fiscal accounting and power relations

The Single-Whip Law introduced in 1581 also aimed to standardise the government budgeting system, establishing in advance local annual incomes and expenditures for a given period with tax quotas prefixed. However, this created numerous practical issues. Setting up an overall tax (and budget) quota was designed to control and restrict local governments from levying taxes on their own, a practice that was common in the fifteenth century, especially after local tax levies involved an increasing number of cash payments. But given that tax quotas were prefixed, temporary expenditures in a particular year were barely covered by the budget, and may not actually have been "temporary" but simply spending that was not included in the budget. Furthermore, a single receipt for all tax payments made it easier for tax agents to manipulate the figures and harder for peasants to know whether they were being overcharged. Unlike the accounting system that uses units in kind, monetised fiscal accounts require constant adjustment to government incomes and spending when their cash values change, and the government had to set aside fiscal revenues for emergency use. In sixteenth-century China, however, there was no clear difference between the notions of "income" and "expenditure" in local finance. When the local budgeting system gradually developed between the mid-fifteenth and mid-sixteenth centuries, the income budget was usually decided by the level of expenditure in the current or previous year. Therefore, the budget for specific spending in the government was equivalent to its tax income, and the budget figure was the simultaneous amount of expenditures and incomes.

What made the government budget more complex was China's bimetallic currency system, where daily transactions were valued in copper coins while taxations were in silver weights. Market fluctuations in the exchange rate, either between commodities and copper coins or copper coins and silver, could result in a loss in government incomes measured in silver value. This problem was more evident in the first half of the seventeenth century when prices in the market increased much faster

than in the previous century while the purchasing power of silver declined.[140] Promoting silver as the legal tender for tax payment was also made difficult by regional economic differences. Cash payment required peasants to sell their products on the market for cash, but in many parts of the empire, peasants had neither access to the market nor the silver cash for tax payments.[141] A peasant's taxpaying ability could also be affected by price fluctuations in the market. In the tax collection season when peasants rushed to sell for monetary currency, the supply in the market may have favoured the buyer, leaving those who lived on farming in a disadvantaged position.[142]

From the perspective of fiscal reform, the Single-Whip Law introduced in 1581 did not fulfil its expectations in several domains, but the reform itself was far from being a starting point. From the perspective of the local budget system, the power relations between central and local governments in China underwent significant changes throughout the sixteenth century. The formation of the local budget made local finance visible and measurable on the central government's account. Regarding corvée conscription, for example, the new budget system not only separated corvée duties that provided office supplies from those that provided labour services but also converted some labour services directly into tax payments. Even in regions where labour services in the government were still performed by conscripted labourers, the standards of exemption taxes also gave them a clear cash price on the government's account. When reviewing local forms of taxation, communications on the local tax burden were no longer limited to the subjective descriptions of officials and were now presented and discussed using precise figures. Thus, corvée burdens in different regions became comparable as they were standardised in cash values on the fiscal account.

More importantly, the standardised fiscal accounting provided a tool for the imperial state to intervene in local fiscal behaviours and redistribute taxes between the central and local governments. In the early fifteenth century, a substantial amount of tax income in local administration was levied on demand through tax farming. This

[140] Peng, *Zhongguo huobishi*, 502-504.
[141] See *Mingshenzong shilu*, vol.58, 1338-39.
[142] *Ibid*.

made it difficult for the central government to regulate fiscal incomes and expenditures in local administration; it was also problematic in controlling tax assessments and distributions. With the budget system, the central government linked the activities of tax bureaus with the numbers on the budget account, measuring and evaluating local tax collections against what was considered the norm by the central government. All these provided an instrument for the central authority to intervene in local fiscal behaviours. In south Zhili, for example, local incomes from the four tax categories (*sichai*, "four assignments") were reduced from 1,676,604 *taels* of silver to 1,451,157 *taels* in 1581.[143] In Baoding and five other prefectures of North Zhili, they were reduced from 921,140 *taels* to 805,285 *taels* in 1581.[144] Similar tax reductions were found in other provinces, such as Henan by 118,724 *taels* in 1580,[145] Shandong by 96,400 *taels* in 1580,[146] Fujian by 64,500 *taels* in 1580,[147] Jiangxi by 53,680 *taels* in 1580,[148] and Guangdong by 54,350 *taels* in 1582.[149]

2.4 Conclusion

Between the mid-fifteenth and late-sixteenth centuries, a standard budgeting system gradually developed in China's local administration. This involved two processes. The first was to specify local tax rates. Unlike central forms of taxation where individual tax rates applied, local governments largely relied on tax-farming for their fiscal revenues. Each time, the government issued the tax amount to be levied to tax agents in village organisations, and the distribution of these taxes between taxpayers was resolved by the agents in charge. Although the imperial state introduced general principles on how local taxes should be distributed, local governments relied on tax agents as they were more familiar with individual taxpayers in the locality.

[143] *Mingshenzong shilu*, vol.111, 2130; vol.113, 2151.
[144] *Mingshenzong shilu*, vol.120, 2145.
[145] *Mingshenzong shilu*, vol.104, 2028.
[146] *Mingshenzong shilu*, vol.104, 2033
[147] *Mingshenzong shilu*, vol.104, 2033
[148] *Mingshenzong shilu*, vol.107, 2065
[149] *Mingshenzong shilu*, vol.120, 2236.

To a large extent, the specification of local tax rates also co-developed alongside fiscal monetisation; establishing the budget system in China's local administration therefore also involved monetising the budget account. Since the beginning of the Ming empire, the Chinese economy in the empire's core tax regions was not built upon barter transactions under any circumstances, and the government collected tax incomes paid in monetary currencies. But as the imperial state failed to provide a stable monetary system, governmental finance, especially local finance, relied on tax payments in kind and corvée labour. Until the second half of the fifteenth century, when silver was adopted in fiscal accounting and market transactions as a more stable monetary numeraire, tax incomes on the government's account were once again measured in monetary values. By the time the Single-Whip Law was introduced in the late sixteenth century, local authorities in China had generally established a budget system with silver as the unit of count.

The budget system in local administration had two impacts. First, it created a new measurement of local finance, making annual incomes and expenses visible to the central state. This was particularly the case regarding labourers conscripted to serve in the government. In addition to the services provided, some duties also required the persons concerned to provide office supplies. In the absence of a stable monetary price, the costs of a variety of corvée duties were difficult to specify. On the government's account, labours were counted in terms of persons, but the fiscal value of these services could not be accurately captured by a unit in kind. When silver *tael* was adopted in governmental finance after the mid-fifteenth century, labour services were separated from other corvée duties, classified, and regrouped into a new tax category measured in monetary values.

The formation of local budget figures provided predictable and traceable numbers for measuring local finance and an instrument for the state to reconfigure the empire's tax resources. On the one hand, the central government were striving to regulate the tax revenues local governments were allowed to extract every year in precise figures. On the other, the imperial state also redistributed tax resources between the central and local governments using the newly available statistics on local tax incomes, thereby

governing the finance at a distance. In this sense, the power relations between central and local governments in China underwent several significant changes, as the visibility of local finance made the central authority more capable of intervening in local governance. Even so, given China's diversity in terms of socioeconomic circumstances, the efforts of the state to promote further standardisation and simplification in tax collection and fiscal accounting after 1581 were limited in a number of ways. Local tax assessment customs in northern China continued for a long time, and the transition towards monetary accounting also brought new challenges to the formulation of government budgets.

CHAPTER 3
Adjusting Quotas: Wars, Crisis, and Centralised Minimalism

The year 1618 recorded notable major historical events of the seventeenth century. On May 23rd, disgruntled Protestants threw two royal Bohemian councillors out of the window of the Hradčany in Prague, marking the beginning of the Thirty Years War.

Sixteen days earlier in the far-east of Eurasia, Nurhaci, the Khan of Jianzhou Jurchens, announced The Seven Grievances and declared war against the Ming empire. Almost a year later, Jianzhou Jurchens decisively defeated the Ming troop and its allies Joseon Korea and Haixi Jurchens in the Battle of Sarhū. For this battle, the Ming empire mobilised 88,550 troops but suffered 45,870 casualties.[150] In 1644, the Jurchens, now renamed the Manchus of the Qing, took the opportunity provided by Ming's internal rebellions to conquer China's hinterland. Although the Qing army crushed the remnants of the Ming court in 1659, the revolt led by three former Ming generals who had surrendered triggered another civil war in 1673 that lasted until 1681.

As a result of the enduring wars over the seventeenth century, growing military expenses fundamentally reshaped fiscal governance in China. Financing the unceasing growth in expenditure became the single biggest challenge for the Chinese imperial state. Like several early modern European states, military expenses became the engine driving China's institutional and organisational changes. The state under fiscal pressure was impelled to do everything possible to identify where the fiscal incomes were, the amount that could be generated, and in what ways those resources can be redeployed for the desired use. Rather than delivering the resources in their physical forms, states usually managed them on paper and in numbers. In most situations, calculative practices such as statistics and accounting were deeply implicated in the changing fiscal relations between the central and local authorities. To cope with these new challenges,

[150] Junshi kexueyuan ed. 军事科学院编, *Zhongguo junshi tongshi Mingdai junshi shi* 中国军事通史明代军事史 (Beijing: Junshi kexue chubanshe, 1998), vol.15, 885, 890.

existing and new tax incomes were decomposed, regrouped, and redistributed on the fiscal account before finally being moved around from one place to another.

From the mid-sixteenth century onwards, the pressure on state finance forced the Ming empire to relocate central incomes for military use, substantially expanding the treasury's fiscal authority across several dimensions. This trend was further advanced in the early seventeenth century when the Ming empire began to face a ruling crisis. By the late seventeenth century, the Qing empire, Ming's successor, established a more centralised fiscal system, allocating most of the empire's tax revenues to the central government. In many ways, the war and fiscal pressure meant China's fiscal policy disproportionately favoured the central state.

During the course of the seventeenth century crisis, China's governmental structure was also transformed. By the end of the turmoil, reallocations of resources made local governments in China disproportionaltely small, both in terms of government budgets and the size of personnel. We can describe this governmental structure as centralised minimalism. On the one hand, China's central government maintained a high (even higher) degree of centralisation in its bureaucratic apparatus and fiscal management. On the other, the state exhibited a tendency towards small government and minimal interventions in many aspects of local governance, intentionally or unintentionally leaving certain government functions in the hands of gentries and clan organisations.

In the remainder of this chapter, I discuss how numbers, as a technology of government, were deeply involved in the changing fiscal relations between the central and local governments in China. I then examine how the state's fiscal behaviour affected China's fiscal institutions and governmental structure.

3.1 Wars and fiscal crisis in China, 1549 to 1681

From 1549 to 1681, which was the late Ming to early Qing period in the Chinese chronology, wars and the fiscal pressures they bought continued to occupy a central theme in the state's policies. During this period, state finance in China exhibited a continuous growth in expenditure driven by wars. Figure 3.1 presents the actual incomes and spending of the central treasury. State spending in this one-hundred-and-thirty-two-year period can be divided into two stages. The first was between 1549 and 1617, where a moderate increase in military spending was driven by border conflicts and the transition in China's military supply system. The second was between 1618 and 1681, where the upsurge in expenditure was driven by the escalation of military tensions followed by the dynastic change and the war of unification.

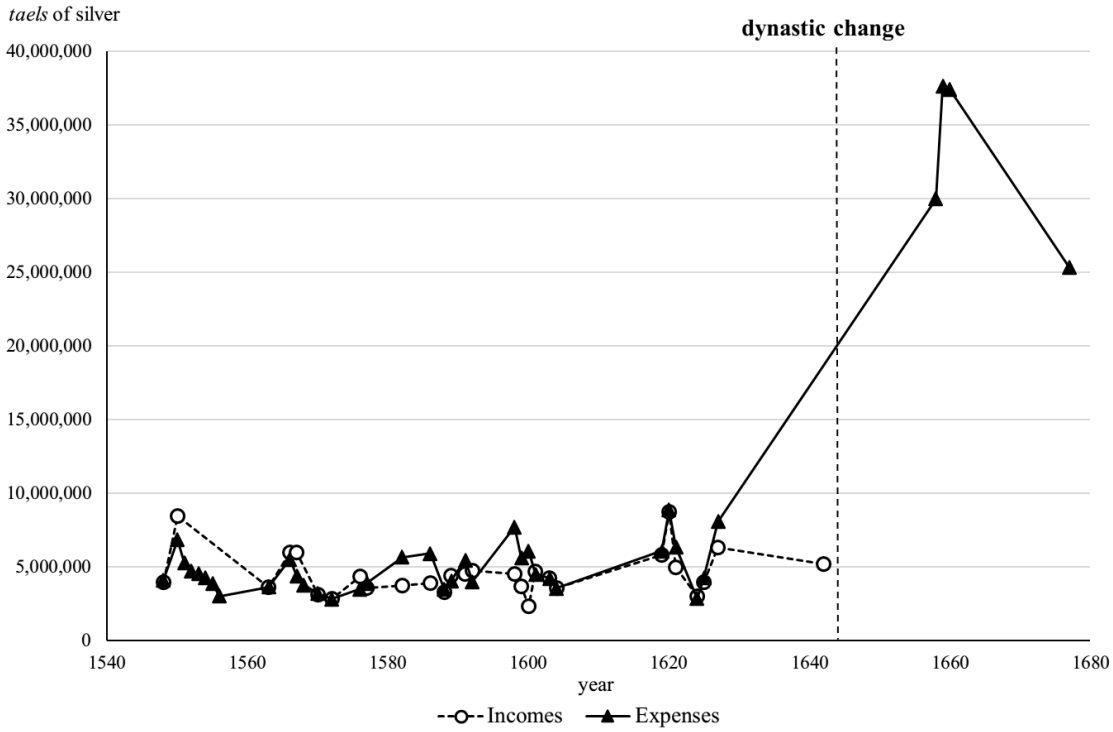

Figure 3.1 ***Cash incomes and expenses of the Ministry of Revenue, 1549-1678 (in taels of silver)***
Source: Appendix A, Table A.1.

Between 1549 and 1617, a substantive reason for the state's growing cash expenditures came from transitions in the military supply system in the northern border. The early Ming empire of the late fourteenth century largely adopted two aspects of the Mongol's military practices. First, the system of hereditary military household (军户) which drafted soldiers from a special type of population registered as military households. These people, including soldiers and their families, accounted for as much as 20% of the total registered households in the late fourteenth century, or more than ten million people.[151] Second, the system of garrison farming. For garrison districts in both borderland and hinterland, a plot of state-owned land was given for the soldiers to farm. A portion of the yield was kept by soldier farmers, while the rest was collected by the army as provisions.[152] In fact, the majority of garrison soldiers were not deployed as combat personnel. In borderland, 70% of the soldiers were deployed to cultivation and only 30% were stationed in garrisons.[153] Through such an arrangement, reliance on provisions from other taxations was reduced. In the early fifteenth century, the official account stated that garrison farming was supposed to yield 5 million *shi* of grains (375 thousand tons) every year, but the actual yield was lower than official quotas.[154]

By the sixteenth century, however, this system was difficult to maintain as soldiers increasingly escaped military enrolment. In Gansu, one of the most crucial regions of defence in north-west China, hereditary soldiers declined by 55% between 1432 and 1541, which meant the imperial state had to recruit new troops with cash payments as a supplement.[155] In 1549, approximately 20% of soldiers in the thirteen

[151] Cao Shuji 曹树基, *Zhongguo renkoushi disi juan* 中国人口史第四卷 (Shanghai: Fudan daxue chubanshe, 2001), vol.4, 380.

[152] The allocation of these farming yields changed from time to time. In 1402, for example, 50% of the yield was collected by the army. In 1424, it was reduced to 25%. See *Daming huidian*, vol.18, 12b-13a.

[153] In 1392, Hongwu emperor, the founder of the Ming, required that in the border region, 7/10 of the soldiers were deployed to cultivation. In the hinterland, this ratio was 4/5 as fewer combat personnel were needed. See *Mingtaizu shilu*, vol.216, 3184.

[154] In *Ming shilu*, the official quota of income from garrison farming varied from 5 million to 20 million *shi* every year between 1403 and 1424 (Yongle reign), but some records indicate that the actual incomes the actual income from farming food cannot reach the tax amount set by the government. Before 1406, the official quota was set around 20 million *shi*, but after 1410 the amount was reduced to 10 million. After 1420, it was further reduced to 5 million *shi*.

[155] Liang Miaotai 梁淼泰, "Mingdai jiiubian de junshu" 明代"九边"的军数, *Zhongguoshi yanjiu* 1 (1997): 150.

garrison-districts of the northern border came from recruitment.[156] In regions such as Shanxi, recruited soldiers constituted 67% of local troops.[157] Inevitably, the increasing number of cash-paid troops brought a new fiscal responsibility to the central treasury. The source of soldiers was not the only problem. The garrison farming system that was supposed to provide military supplies was also difficult to maintain. Over the centuries, a large number of state-owned farmlands handed over to the military households for farming had gradually been turned into private properties and traded among individuals.[158] The decline in registered military households also left the army short of labour for farming. In a report published in 1534, the Ministry of Revenue summarised four problems associated with garrison farming in Shanxi. First, nomads wandering nearby meant the army had to constantly stand by and could not cultivate; second, a lack of cattle and seeds reduced the potential for cultivation; third, people fled from the army which reduced the labour available for cultivation; fourth, the nomads occupied Hetao plain and farmlands outside the defensive line which again meant the troops were unable to cultivate.[159]

Given the declining supply system, the central government had to rearrange new sources of funding for the troops. As early as the 1430s, the central treasury had already begun to send provisions to the frontier, either in the form of cash funds or food and clothes. [160] However, these were usually temporary arrangements. Sometimes appropriations came from the emperor's personal coffers. It was not until the late fifteenth century that the treasury's special appropriations formally developed into a regular budget called the "annual routine budget" (年例银) which, as the name suggests, meant budgets were regularly sent out by the central treasury every year. In addition, supplies were also transported directly from local governments (民运银) and salt merchants, despite the fact they did not count in the treasury's account.

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[156] Liang Miaotai 梁淼泰, "Mingdai jiubian de mubing" 明代"九边"的募兵, *Zhogguo shehui jingjishi yanjiu* 1 (1997): 43.
[157] *Ibid*.
[158] Huang, *Taxation and Governmental* Finance, 67.
[159] *Mingshizong shilu*, vol.162, 3598.
[160] Huang Aming 黄阿明, "Mingdai nianliyin zhidu xingcheng tanlun" 明代年例银制度形成探论, *Anhui shixue* 02 (2015): 48.

Before 1540, the treasury's annual cash budget on northern garrisons was usually below 500 thousand *taels* of silver. But since the invasion of Tumed Mongol in 1550 — the second time Beijing was attacked in a century since the siege of 1449 by Oirat Mongol — the regular budget went above two million *taels* and then doubled in the early seventeenth century (Figure 3.1). In times of war such as the year 1551, exceptional expenses pushed the treasury's military spending up to 5.95 million *taels* of silver.[161]

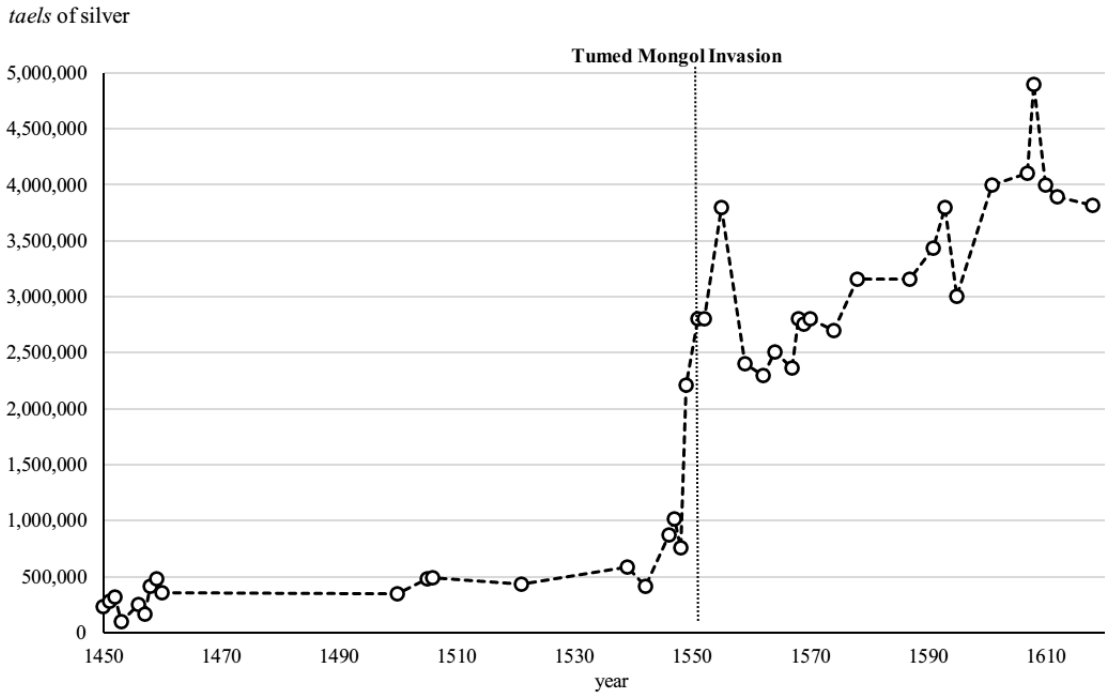

Figure 3.2 ***The Ministry of Revenue's regular cash budget for nine northern garrison-districts, 1450-1618 (taels of silver)***
Source: Appendix A, Table A.2.

If frontier conflicts partly led to the rise in state expenditure prior to 1618, the escalation of wars from 1618 onwards became a principal factor in the seventeenth century crisis. In northeast China, Jianzhou Jurchens declared war on the Ming empire in 1618, marking the beginning of this decades-long crisis. In the hinterland, plagues and famines frequently raged in cities and villages in the northern and northwest territory. Hard living conditions in turn triggered large-scale peasant rebellions, leaving

[161] *Mingshizong shilu*, vol.456, 7712-7713.

the Ming state struggling to cope with wars on the frontier. Eventually, the Ming fell when the steep increase in expenditures dragged the state into bankruptcy. The situation had still not improved after the dynastic change in 1644 when the Jurchen regime, now the Qing dynasty, became the ruling authority in the Chinese hinterland, as the Qing state also faced high expenditures in the process of unifying China. These challenges on state finance were not fully relieved until 1681, when the last resistance to the Qing authority was defeated.

The seventeenth century fiscal crisis can be analysed in terms of both income and expenditure. On the income side, as presented in Figure 3.3, China's central treasury struggled to push its actual incomes up to the budgetary level between 1618 and 1643. These gaps between actual and budget incomes indicate that the state failed to extract the expected level of fiscal revenues. The treasury's budget income expanded by 7.4 times over this period, rising from 2.1 million *taels* of silver to 15.73 million *taels*. By contrast, actual income increased only by 1.3 times, raising from 3.95 million *taels* to 5.19 million tales. Even if an income range is created to eradicate extreme situations, the growth in actual incomes was still far behind that of the budget income.

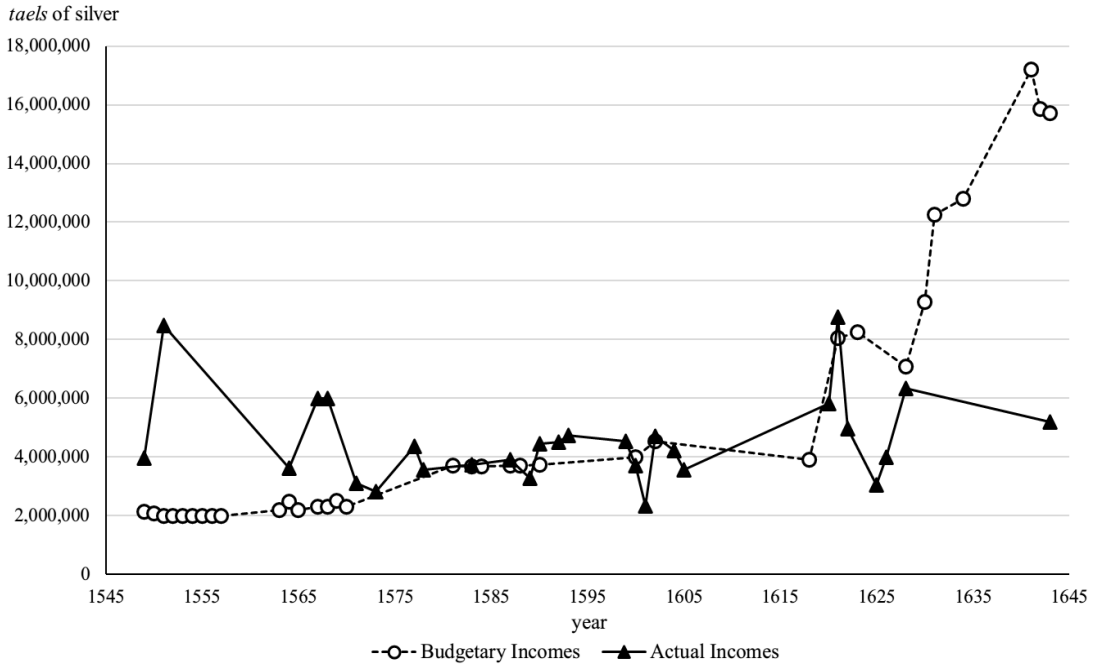

Figure 3.3 ***Budgetary and Actual Incomes at the Ministry of Revenue, 1549-1643 (taels of silver)***
Source: Appendix A, Table 1, Table A.2.

On the expenditure side, as presented in Figure 3.4, the central treasury also struggled to push actual spending up to the budgetary level between 1618 and 1643, primarily because it was unable to collect sufficient revenue incomes. During this period, the regular spending budget expanded by six times, rising from 3.47 million *taels* of silver to 21.22 million *taels*. Although the expansion in actual spending is largely unclear after 1628 due to the lack of records, the limit on the state's fiscal capacity clearly indicates that the central treasury often surpassed the spending budget before 1618 but not after 1618. Historical records left by the Ming state also indicate that defaults on soldiers' payments and military supplies became increasingly frequent after 1618. It was only after the dynastic change in 1644 that actual spending by the treasury began to grow once again and went beyond the budget level — between 1659 and 1661, actual spending went well above 30 million *taels*, three to four times larger than the highest spending record before 1644.

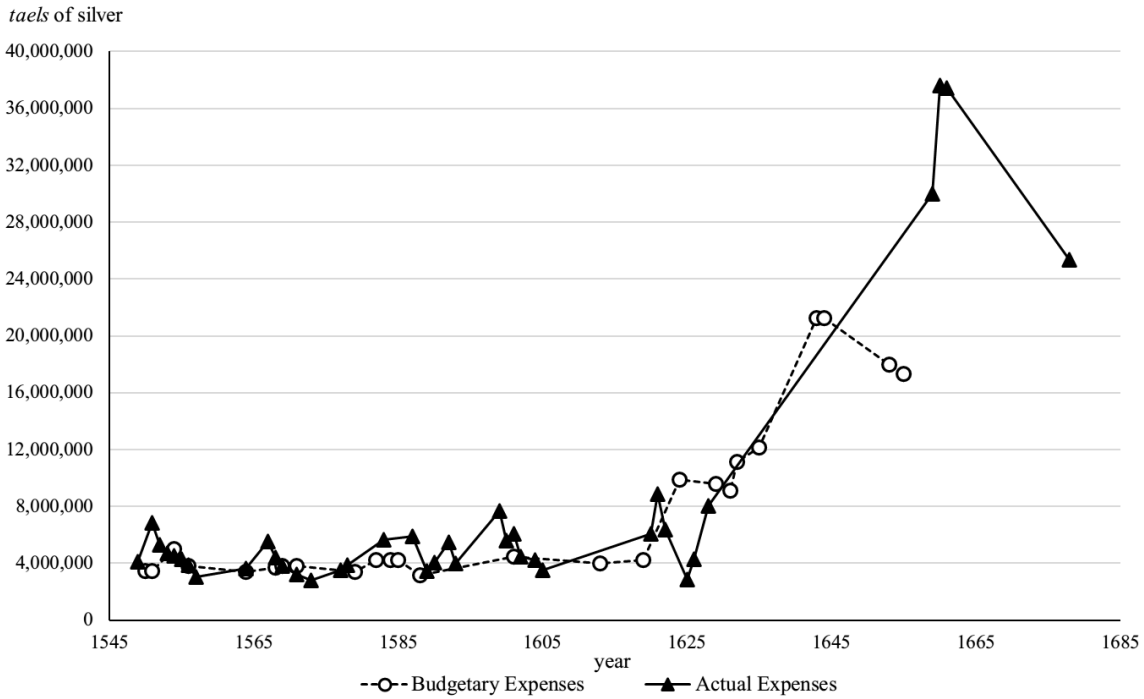

Figure 3.4 ***Budgetary and Actual Expenses at the Ministry of Revenue, 1549-1678 (taels of silver)***
Source: Appendix A, Table 1, Table A.2.

Between 1549 and 1681 the Chinese state was constantly facing the challenge of having to deal with increased spending on the military. The question that arises is: how did the state both manage and fail to cope with the challenge over this period?

3.2 Mobilising money: reviewing central account

How did the central treasury manage to cope with the rising expenses? To a considerable extent, income growth at the Ministry of Revenue was not a result of tax expansions prior to 1618. Through the redistribution of resources in various central departments, more central fiscal incomes were deployed in military expenditures. As a result, fiscal administration in the central government moved further towards a degree of centralisation from 1549 to 1618.

3.2.1 A politically centralised but fiscally fragmented government

By the European standard, sixteenth-century China was characterised by a high degree of political centralisation. Despite this, a unified leadership in China's financial management during this period was lacking. State institutions in sixteenth century China were deliberately designed to restrain governmental fiscal authority, and each central department was only responsible for collecting revenues for its own treasury.[162] Treasuries in the central government can be grouped into two systems. The inner treasury system (内库) was responsible for the emperor and the court's spending while the outer treasury system (外库) was responsible for governmental finance.[163] Notwithstanding a general division in fiscal responsibilities, the boundary between the inner and outer treasury was often blurred.[164] At the local level, there was another set of fiscal system supported mainly by local taxes.

Although the Ministry of Revenue functioned to a certain extent as the central

[162] Huang, *Taxation and Governmental Finance*, 266-268.
[163] Su Xinhong 蘇新紅, "Mingdai neiku de huangshi caizheng zhuanshuhua yanbian" 明代內庫的皇室財政專屬化演變, *Journal of Ming Studies* 24 (2015): 47-53.
[164] *Ibid.*

treasury, the monetary income it directly managed was only about one million taels of silver at the beginning of the sixteenth century, which constituted roughly 7% to 8% of all revenue incomes collected by the central state.[165] The ministry had two areas of responsibility. First, officials' salaries in central government. Second, some of the garrison supplies in the capital and frontline, including soldiers' salaries, army rations, and warhorse foods. Other aspects of military supplies, such as the procurement of warhorses, armour, and weaponry, were covered by the Ministry of War.

In addition to regular spending, the ministry also had irregular expenses. However, for expenditure schemes that involved multiple departments, coordination was often difficult. In 1547, for instance, the Ministry of War proposed to raise funds from the Ministry of Revenue for a fortification project in the northwest border, but the ministry insisted its regular duties did not include fortification works and hence refused the proposal.[166] In such situations, the emperor was called upon to mediate between these conflicts of interests. Other than military supplies, the Ministry of Revenue also worked with the Ministry of Work for works such as palace building or river projects.[167] In 1513, for example, the Imperial Silk Manufacturing in Nanjing lacked the funding for a project, so the Ministry of Revenue was required to cover two-thirds of the cost and the Ministry of Work to cover one-third.

In short, China's governmental finance during this period lacked an absolute form of leadership, and conflicts of interest between departments sometimes occurred.

3.2.2 Fiscal centralisation between central departments

With the growing military expenses of the central government, revenue incomes at the Ministry of Revenue were increasingly unable to cope with the growth in

[165] In 1506, for example, the budgetary cash income at the Ministry of Revenue was 1.5 million *taels* of silver; in 1529, it was 1.3 million *taels* (*Mingwuzong shilu*, vol.18, 127-129; and *Mingshizong shilu*, vol.97, 2280). As for all central incomes, the most precise figures were recorded for the 1580s, where the central state had 18 million *taels* of income. See Wan Ming and Xu Yingkai 万明, 徐英凯, *Mingdai wanly kuaijilu zhengli yu yanjiu* 明代<万历会计录>整理与研究 (Beijing: Zhongguo shehui kexue chubanshe, 2015). Given that the central tax quotas remained at the same level during this time, these 18 million taels could fairly represent a general level of state income.

[166] *Mingshizong shilu*, vol.321, 5961.

[167] *Mingwuzong shilu*, vol.100, 2075.

expenditure. In 1506, budgetary expenses at the Ministry of Revenue totalled 1.17 million *taels* of silver.[168] As nomadic regimes repeatedly harassed the Ming empire's northern territory, regular expenses at the central treasury in the mid-sixteenth century grew to 3.8 million *taels*. Without massive increases in taxation, as was the case in 1618, the growth in revenue incomes at the Ministry of Revenue mainly came from the redistribution of resources in central departments.

These redistributions were initially employed as expedient measures to make up for deficits in budget planning. The year 1563 provides a typical example of this. Despite a budgetary currency income of 2.2 million *taels* of silver in that year, the budgetary expenditure exceeded 3.4 million *taels*.[169] In response, the emperor approved the following 12 proposals presented by the Ministry of Revenue:

1. To mobilise incomes received from militias' duty-exemption taxes in Henan, Shandong, and Shanxi provinces
2. To use reserves for military provisions in Guangdong and Guangxi province
3. To use the surplus of transit taxes charged in Beixin gate in Hangzhou.
4. To review budget spending on watermen in Nanjing, redistributing 60% of this to the Ministry of Revenue
5. To investigate (and use) the yields of garrison farming in each province.
6. To mobilise some of the local budget assigned to the princes of Henan province
7. To use budgetary reserves on militias in Jiangxi province
8. To investigate (and mobilise) taxes charged on reed fields along the Yangtze river.
9. To investigate and mobilise the bursary collected from clerk candidates.
10. To mobilise payment budgets on official positions in vacancy
11. To urge the collection of contract taxes, business taxes, and salt taxes
12. To sell exam titles and offices

Another notable example can be found in 1567.[170] To cover the deficiency in the budget, the Ministry of Revenue made six proposals:

[168] *Mingwuzong shilu*, vol.18, 127-129.
[169] *Mingshizong shilu*, vol.528, 8610.
[170] *Mingmuzong shilu*, vol.12, 330.

1. To temporarily charge currency taxes for 60 thousand *shi* of grains paid to the southern capital (Nanjing), generating 18 thousand *taels* of silver incomes.
2. To mobilise reserves of the Ministry of Work of Nanjing branch
3. To charge currency taxes on 900 thousand *shi* of grains paid to the northern capital (Beijing), generating 219 thousand *taels* of silver income.
4. To mobilise 100 thousand *taels* of silver originally spent on the transport of grains to Beijing
5. To mobilise the budget surplus on grain transport to Zhejiang province
6. To mobilise 44 thousand *taels* of fines stored in Nanjing
7. To reduce militias and police in local governments by 20%.

Despite being employed as temporary measures, budget deficits at the Ministry of Revenue became so frequent that many of those temporary incomes eventually became regular budgets. By the later period of the sixteenth century, a substantial number of fiscal revenues had been permanently transferred from other central departments to the Ministry of Revenue. These can be found in the treasury's incomes in 1549 and 1581.

In 1549, the treasury's incomes came from three sources. "Principal incomes" (岁入正项) were the incomes originally assigned to the Ministry of Revenue while "Incomes with regular inflow" (岁有常数) were the revenues redistributed from other central departments.[171] Together, these two sources formed the treasury's regular budget in 1549. In addition to these sources, another 2,028,142 *taels* of revenues were collected from temporary incomes, constituting 51.36% of all incomes received in 1549.[172] By comparison, in 1581 the regular budget contained both the regular and temporary funding sources recorded in the account for 1549.[173]

More than half of the growth in budget incomes came from revenues reallocated from other central departments. Among these, army provisions were the biggest source.

[171] Pan Huang 潘潢, "Huiyi diyishu" 會議第一疏, in *Ming jingshi wenbian* 明經世文編, ed. Chen Zilong 陳子龍 (originally published in1638; republished in Beijing: Zhonghua shuju, 1962), 2050-51.

[172] Records on 1549's budget and actual incomes in *Ming jingshi wenbian (The Collection of Writings on Ming's Politics and Economy*) are slightly different from *Ming shilu's* records, as the latter recorded the budget 2,125,355 taels and actual incomes received 3,957,116 taels. Nevertheless, we do not have details on the sources of income for figures in *Ming shilu*.

[173] For 1581's incomes, see *Wanli kuaijilu* 万历会计录, vol.1.

There were two main incomes transferred from military supplies, salt tax, and *minyun yin* (民运银). Initially, the salt tax was collected for the supplies of military garrisons in the border region. Merchants transported grains or clothes to the frontline troops in exchange for permission to purchase and sell salt in the hinterland.[174] Although the salt licence was managed by the Ministry of Revenue, the tax payment was delivered directly to the army by the merchants. Hence, salt tax revenues were not considered a formal source of income to the central treasury. Like the Ming empire's less successful fiscal management in other areas, this salt tax, which was designed specifically for military provisions, gradually ceased to perform its functions by the late fifteenth century.[175] From the sixteenth century onwards, most in-kind salt taxes were changed to cash payments and delivered to the Ministry of Revenue before they were conveyed to the troops.[176] In 1549, approximately 69% of salt taxes were delivered to the treasury; by 1581, this share had increased to 80%.[177]

Minyun yin, simply translated as "money transported by the people", was charged for the northern frontline troops (as a part of land taxes) and transported by local taxpayers.[178] Like the salt tax, *minyun yin* did not initially go through the central treasury. However, due to the treasury's increasing fiscal needs, it began to be delivered to the Ministry of Revenue prior to redeployment for other uses. There was no such income in 1549's budget, whereas in 1581 it comprised 23.11% of all budgetary income.

In addition to military supplies, the income of the imperial household was another important source for the expansion of the treasury's income. Transit tax, for instance,

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[174] Xu Hong 徐泓, "Mingdai zhongqi shiyan yunxiao zhidu de bianqian" 明代中期食鹽運銷制度的變遷, *Historical Inquiry* 2 (1975): 139-164.

[175] There are no consistent records on the actual tax payments received by the border troops in the fifteenth century, but scattered evidence can be found in the Ming state's salt tax quotas. In *Ming shilu*, the quota of salt taxes continued to drop in 1464, 1479, 1480, 1488. Although it was increased in 1505, it is doubtful if the Ming state could complete that quota.

[176] Su Xinhong 苏新红, "Mingdai zhonghouqi de shuanggui yanfa tizhi" 明代中后期的双轨盐法体制, *Zhonguo jingjishi yanjiu* 1 (2012): 83.

[177] The Ministry of Revenue' share of salt taxes in 1549 is taken from *Ming jingshi wenbian* (The Collection of Writings on Ming's Politics and Economy), 2050-51. I take 1552's salt tax quota as 1549's. See the quota record from *Mingshizong shilu*, vol.392, 6890-1. Since the quota can remain the same for a long time, it was safe to assume that 1549's salt tax quota was at the same level. 1578's quota is taken from *Daming huidian*, vol.32, vol.33. The payment share is taken from *Wanli kuaijilu*, vol.1.

[178] Lin, *Wanming liaoxiang yanjiu*, 5-6.

was originally exclusive to the imperial household, but was then shared between the imperial household, the Ministry of Revenue, and the Ministry of Works due to the increase in the government's fiscal needs.[179] In 1548, transit tax was shared equally between the imperial household and the Ministry of Revenue.[180] In 1560, an additional 28% of transit tax incomes was transferred from the imperial household to the treasury.[181]

Part of the treasury's growing incomes also came from the in-kind taxes that originally paid for the imperial household's living expenses. Some also came from the engineering materials of the Ministry of Works. These taxes were initially collected in kind. During China's fiscal remonetisation in the sixteenth century, most of these taxes were converted into cash payments and reassigned to the treasury.

In general, the Ministry of Revenue often lacked the regular incomes needed to cope with exceptional expenses over the sixteenth century. Therefore, the growth in spending, especially military spending, forced the Ming state to redistribute resources among the central departments, as a result of which most of the temporary measures eventually became regular sources of income to the Ministry of Revenue. By relocating the resources, the Ming central treasury managed to close the gap between its income revenues and growing military expenses. Therefore, fiscal administration in the central government gradually moved towards a higher level of centralisation between 1549 and 1617.

3.3 Mobilising money: reviewing local account

From 1618 onwards, existing tax incomes could no longer meet the surge in spending caused by escalations in the military tension between the Ming empire and Jurchens. What was consequently observed was the central state's attempts to increase fiscal

[179] Su, "Mingdai neiku de huangshi caizheng," 51-52.
[180] In 1548, the transit tax was allocated by a yearly-based rotation system. If all revenues were assigned to the imperial household in one year, they were assigned to the Ministry of Revenue in the next year. See *Daming huidian* 大明會典, vol.35, 7b.
[181] *Ibid*.

incomes not only via tax expansions but also the relocation of incomes in local governments.

Despite this, the Ming state lacked the coercive power to fully transform budget figures into actual incomes, nor was it able to relocate local resources for central uses. Under the empire-wide peasantry revolts, armies and local governments often withheld tax incomes that were supposed to be sent to the central government. It was only after the dynastic change in 1644 that the Qing state, now backed by its military might, put those budget figures into effect, massively redistributing the resources between central and local governments in the face of the fiscal crisis.

After 1644, redeployments of fiscal resources in local governments became an important practice for expanding the incomes of the Qing central state. This was clearly demonstrated during Qing's conquest wars between 1644 and 1661, as well as a short civil war between 1673 and 1681.

3.3.1 The limit of central taxations

Faced by ever-growing fiscal pressures, the Ming state made seven major attempts to increase taxations between 1618 and 1639 (before it collapsed in 1644). However, these new tax schemes never came into full effect.

How much of the new tax income was introduced within the last three decades of the Ming empire? Overall, the central income budget expanded by four to five times within three decades (see Figure 3.1). In 1618, immediately before any new tax was introduced, the annual budget income in the Ministry of Revenue was 3.89 million taels of silver. By 1643, Ming's income budget grew to 20 million taels, or 15 million taels with "exemptions" in the areas occupied by rebels.[182] By contrast, actual incomes, as illustrated in Figure 3.1, never managed to reach the budgetary figures set by the state. In 1621, there was only a 6% gap between the budget and actual amount received, while in 1643, 66.9% of the budget never reached the treasury.

[182] Calculated based on *Niwenzheng zoushu* 倪文貞奏疏, vol.11.

The Ming state's inability to extract resources may have been affected by the climate and plagues. Climatologist studies indicate that China began to enter the "little ice age" after the 1620s and falls in average temperatures may have caused disruptions to agricultural production and the social order.[183] In addition to the climate, northern China was also hit by sustained plagues throughout the 1620s and 1640s.[184] As plagues and famines raged frequently across local communities, constant peasant revolts took place in north China during this period.

3.3.2 Redistributions of local resources

Except for central incomes, substantive tax revenues were also collected by the empire's local governments. Before the mid-seventeenth century, the fiscal responsibility of the central government was limited to the provision of military garrison supplies and official salaries. All other fiscal revenues for local governments came from a set of local taxation systems, including in-kind taxes, currency taxes, and conscription for labour services. In the process of fiscal monetisation during the sixteenth century, local governments established a budget system for many of these fiscal resources. Despite this, these local incomes and expenditures did not go through the central fiscal account.

Although the Ming and Qing states both had legal claims over these local taxes, massive redistribution only took place after the dynastic change in 1644. When the Ming state was in a relatively good fiscal condition, revenues transferred from local taxes constituted only a very minor part of central incomes, constituting about 3.9% in 1581 when the imperial state was surveying and reforming both central and local fiscal accounts.[185] When the Ming empire fell into severe fiscal and governing crises after

[183] A pioneer research on climate changes is Kezhen Zhu's work, see Zhu Kezhen 竺可桢, "Zhongguo jin wuqiannianlai qihou bianqian de chubu yanjiu" 中国近五千年来气候变迁的初步研究, *Kaogu xuebao* 1 (1972): 15-38. See also Wang Shaowu and Wang Risheng 王绍武, 王日昇, "Zhongguo de xiaobingheqi" 中国的小冰河期, *Kexue tongbao* 35.10 (1990): 769-772.

[184] Cao Shuji 曹树基, "Shuyi liuxing yu huabei shehui de bianqian 1580-1644" 鼠疫流行与华北社会的变迁 (1580-1644 年), *Lishi yanjiu* 1 (1997): 17-32.

[185] In Wanli Accounting Book compiled between 1578 and 1581, there was an income category so-called "Business tax, fishing tax, rich households, calendars, militias, and garrison farming incomes and

1630, the central state lost control over its armies and local governments and hence was unable to effectively redistribute local incomes for central uses.

State Finance in China moved further towards centralisation after the dynastic change in 1644 when the Qing state began to review central and local annual incomes as part of a single budget. Although there was an approximate ratio on income distributions between the central and local governments, the Qing laws required local governments to firstly deliver the central parts before retaining any incomes for local expenses.[186] Under the fiscal crisis in the mid-seventeenth century, the Qing state prioritised central finance in the face of an explosion of military spending.

These policies significantly improved central fiscal capacity during the Qing's conquest wars between 1644 and 1659. Because the Qing state was unable to collect central taxes in full, a substantial part of central incomes came from the redistribution of local resources. In 1654, 66.84% of land taxes were allocated to the central government, leaving 33.16% allocated to the local government.[187] Fourteen years later, the local share of fiscal revenues, without significant growth in overall taxation, declined to an astonishing level. In 1668, only 13.11% of land taxes were assigned to the Qing empire's local governments.[188] Despite the strikingly small share of local incomes, in 1668 the imperial state made further attempts to reduce it to 6.4%. As Qing's local governments literally had no funding available to maintain the functioning of daily administrations, the imperial state eventually reinstated the ratio of 13.11% in 1670.[189]

A detailed list of these budget adjustments can be found in the Local Gazetteer of Yongzhou Prefecture which was published in 1694. In 1652, the Qing state readjusted local public expenses, massively reducing wage payments and the number of civil

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so on". It included revenues transferred from local incomes, but in total, this category was only 144,292.7 taels of silver.

[186] In 1662, the imperial edict announced that local governments were allowed to retain their shares of tax incomes only after the completion of central tax revenues delivery (康熙元年覆准州县钱粮先尽起运全完放准支给存留款项). See *Kangxi Daqing huidian*, vol.24, 29b.

[187] *Qingshizu shilu*, vol.84, 665.

[188] Jiang Liangqi 蒋良骐, *Donghua lu* 东华录 (originally published in 1732; republished in Beijing: Zhonghua shuju, 1980), vol.9.

[189] *Ibid.*

servants (*ya yi*).[190] Three years later, in 1655, there was another adjustment to local public expenses targeted at non-personnel spending budgets (such as candles and papers). In 1659, the Qing state continued to reduce local police forces and militias and their wage payments. A few years later, in 1663, all secretaries in offices were removed. In 1665, there was another reduction in certain local public expenses as well as the wage payments of state school instructors.

During the Revolt of the Three Feudatories in 1673-1681, the Qing state employed the same approach once again to reduce local budgets as military expenses surged to a high level, and nearly all salary payments in local governments halted during this period.[191] Even though the social order in China was eventually restored in 1681, the high-level of resource concentration that emerged out of war-time finance was maintained. In 1685, 21.52% of land taxes were distributed to Qing's local governments, lower than the 33.15% in 1654.[192]

3.4 Centralised minimalism: Impacts of the seventeenth century crisis

Between 1549 and 1681, state finance in China was constantly challenged by the growth in military spending. As a result, the Chinese state underwent a fundamental shift in the distribution of fiscal resources. For instance, resources in various central departments gradually moved to the central treasury, while the resources of the entire empire also gradually moved towards the central state. In 1578, approximately 57% of land tax incomes were sent to the central government, leaving 43% for the local government.[193] In 1685, four years after the end of the Revolt of Three Feudatories,

[190] *Kangxi Yongzhou fuzhi* 康熙永州府志 (originally published in 1694; reprinted in 中國地方志集成 湖南府縣志輯 42, Nanjing: Jiangsu guji chubanshe, 2002), 329.

[191] We do not have an overall figure for all local taxes reduced during this period, but many local gazetteers indicate that salary payments for the personnel in local governments were halted until the end of the war in 1681.

[192] 1685's figure is calculated based on *Kangxi Daqing huidian* 康熙大清會典, vol.24.

[193] Xiao, "Mingdai caizheng zhidu zhong de qiyun yu cunliu," 73. Poll taxes are not included here. Before 1644, this tax income was charged by local governments as a part of the conscription of labour services. We do not have an overall figure for the allocations of poll taxes in a particularly before 1644, but this tax was mostly kept in local governments for *ya yi* payments. Also, this 43% has included military supplies to local garrisons, so the actual incomes allocated to local governments were smaller.

82.58% of land-poll taxes were sent to the central government, leaving only 17.42% for the local government.[194]

This dramatic change in revenue distributions caused by prolonged wars and fiscal crises also affected the governmental structure in China. Numerous historians have highlighted the Chinese central government's efficiency in inter-provincial resource mobilisation and disaster relief over the eighteenth century.[195] By contrast, local governments frequently experienced a shortage of administrative funds during this period, and often resorted to the administrative works of local gentries and clans.[196]

This governmental structure in China after the seventeenth century can be described as "centralised minimalism".[197] That is, China's bureaucratic and fiscal structure remained centralised, but given the low level of investment in local governments, the state exhibited a tendency to (minimally) intervene in several aspects of local governance.

3.4.1 Governmental size

China's fiscal policy in the second half of the seventeenth century greatly reduced local budgets, cutting not only public expenses but also personnel in local administration. Inevitably, this had an impact on the size of local governments.

From the late fourteenth century onwards, there were three principal layers in China's local administration: province, prefecture, and county. Among these, county governments were the smallest unit of formal administration, and had the most direct contact with the public. In the government, three types of personnel carried out local

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[194] *Yongzheng Daqing huidian* 雍正大清會典, vol.32, 1647-1648. Land-poll taxes kept in the local in 1685 contained supplies to local garrisons, so the actual incomes allocated to local governments were even lesser.

[195] Will, *Bureaucracy and Famine*; Perdue, *China Marches West*.

[196] Zelin, *The Magistrate's Tael*; Du Zhengzhen 杜正贞, *Cunshe chuantong yu Ming Qing shishen: Shanxi zezou xiangtu shehui de zhidu bianqian* 村社传统与明清士绅: 山西泽州乡土社会的制度变迁 (Shanghai: Shanghai cishu chubanshe, 2007), ch.5; Maurice Freedman, *Lineage Organization in Southeastern China* (London: Athlone Press, 1965).

[197] Philip Huang studies dispute resolutions in Qing China and considers the local governance as centralised minimalism, where local governments preferred extrajudicial mediation than court actions. From what we have discussed in the earlier sections, I consider this phenomenon existed in many aspects of the governmental structure in China after the seventeenth century. See Philip Huang, "Centralized minimalism: Semiformal governance by quasi officials and dispute resolution in China," *Modern China* 34, no. 1 (2008): 9-35.

administrative works, namely officials (官), clerks (吏), and *ya yi* (衙役, sub-official functionaries). In prefectural and county governments, a chief officer, such as a prefect or county magistrate, took nominal responsibility for everything within the territory under his jurisdiction. Supporting this chief officer, several lieutenant officers shared certain duties in relation to taxation, litigation, education, local security, and so forth.[198] Below the officials, clerks served as secretaries to their superior officers. They assisted with all kinds of paperwork, such as record keeping and document preparation. Sometimes they also helped with the management of *ya yi.*

In addition to officials and clerks, *ya yi* (sub-official functionaries) were the largest cohort of personnel in local governments. These were people who were levied or hired by governments to provide labour services, taking on jobs such as doormen, office runners, postmen, and police. They carried out any dirty work and enforced laws and administrative orders such as tax collection, criminal arrests, and the construction of river dikes. As discussed in the earlier chapter, fiscal monetisation (re-monetisation) in sixteenth-century China began to transform *ya yi* from corvée conscription to market recruitment. Even so, by the late seventeenth century there remained a substantial number of *ya yi* coming from conscriptions.

Given the roles of *ya yi* in China's local governance, budget reductions on *ya yi* over the seventeenth century had a profound impact on the governmental structure in China thereafter. To examine this impact, I collected the budgetary number of *ya yi*, their job titles, and payment budgets in 22 prefectural-level administrations from local financial accounts. These were recorded in local gazetteers published by the Ming and Qing authority between the sixteenth and early nineteenth centuries. Several items of data were collected directly from the original local tax books. Additional notes and the full list of data sources are presented in Appendix B.

This dataset includes records in both Ming and Qing periods, which meant I was able to compare the number of *ya yi* before and after the dynastic change in 1644. These prefectures cover 9 out of 15 provincial administrations in the sixteenth century and 10

[198] Ch'u, *Local Government in China*, 17.

out of 18 in the early nineteenth century; they present a variety of spatial differences, including inland border (north and southwest), coastal border (south), the Yellow River downstream, the middle and lower Yangtze River, the Grand Canal, and inland regions.

Figure 3.5 presents the number of *ya yi* in Yangzhou (扬州), Hangzhou (杭州), Anqing (安庆), Huizhou (徽州), Yanzhou (兖州), Xuzhou (徐州), Datong (大同), Ganzhou (赣州), Kuizhou (夔州), Quanzhou (泉州), Yongzhou (永州), Yuezhou (岳州), and Guangdong province (广东省) in the Ming and Qing periods. Consistent with the overall reductions in local budgets, the size of *ya yi* funded by formal budgets (corvée taxes in Ming and land-poll taxes in Qing) diminished in most areas after 1644. In prefectures where *ya yi* increased after 1644, the expansions were due to personnel increases in courier stations.

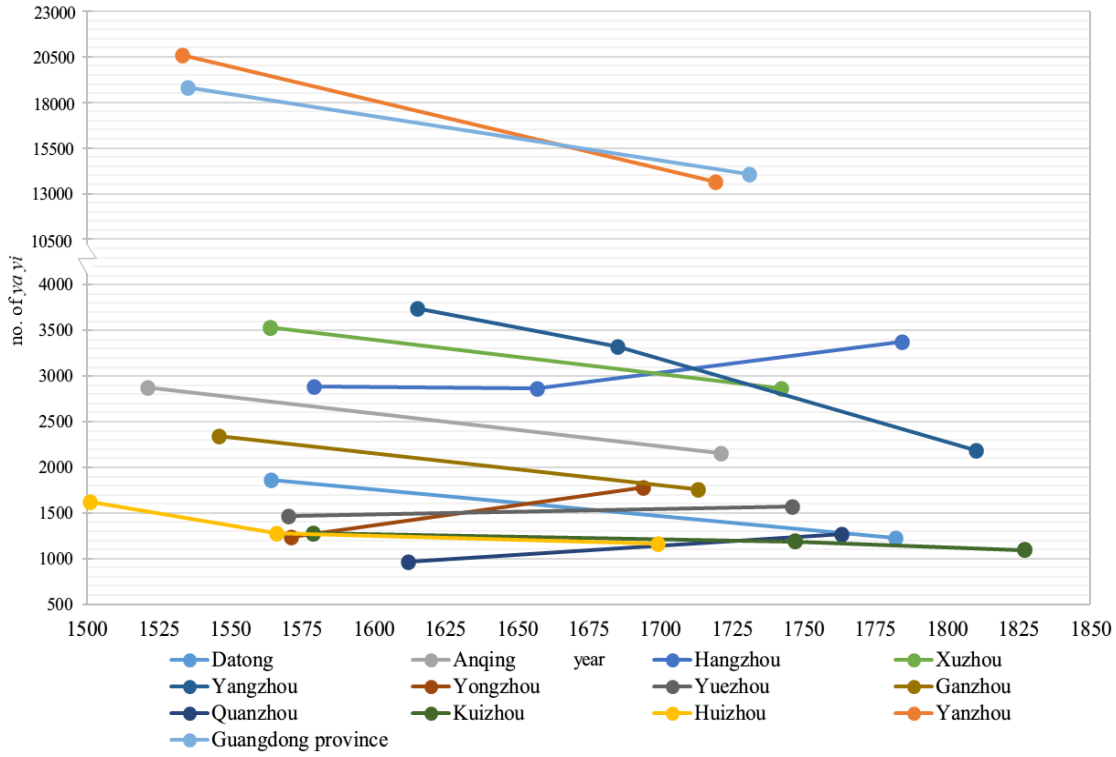

Figure 3.5 ***Budgetary ya yi of 22 prefectures, Ming and Qing period***
Source: Appendix B.

Figure 3.6 presents the budgetary *ya yi* per thousand local population. Except for Yanzhou (兗州), which was a junction of the northern and southern Grand Canal, all other prefectures in the sample reported less than 2 *ya yi* per thousand population after 1644. We can rule out the scenario that the shrinking size of the Qing empire's local governments was caused by the expansion in administrative units. Although county-level governments increased from 1,158 in 1587 to 1,596 in 1818, they were mostly established in north Zhili and Yunnan province and are not part of the sample used here.[199] Given that the size of *ya yi* was office-based rather than population based, these sample prefectures are a fair representation of the generic size of *ya yi* in other parts of China after 1644.

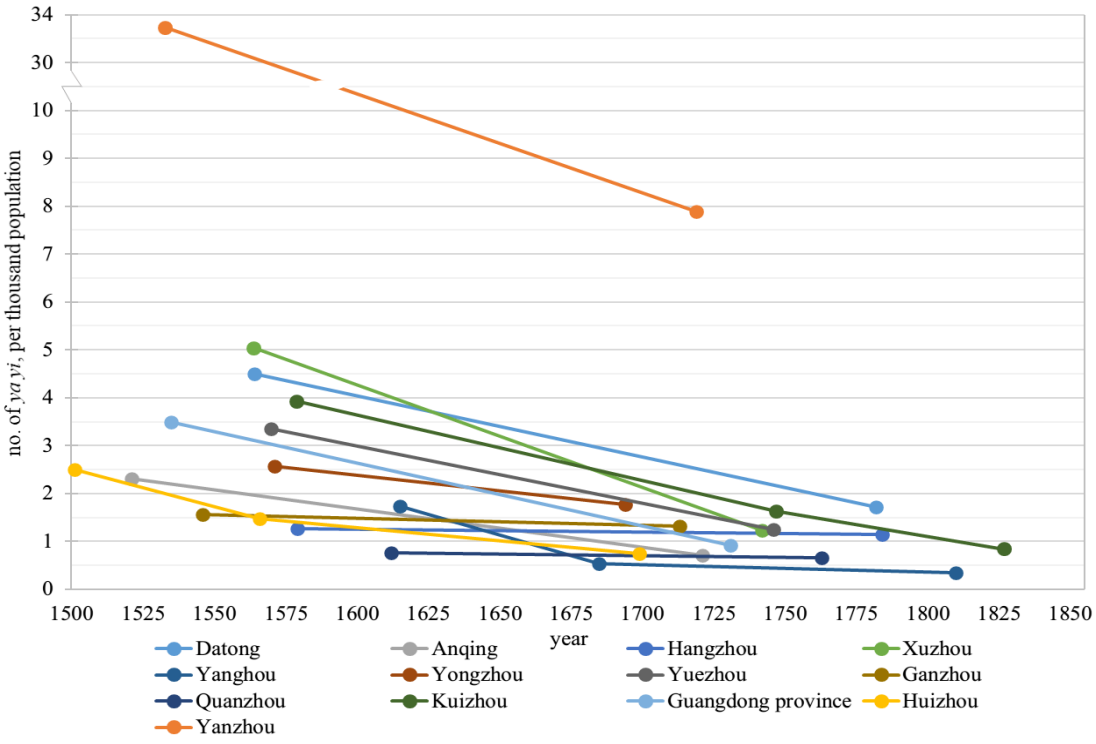

Figure 3.6 ***Budgetary ya yi per thousand local population, Ming and Qing period***
Source: *Ya yi* see Appendix B. Population for each selected prefecture and province is estimated based on Cao, *Zhongguo renkoushi* 中国人口史, vol.4, 451-52; vol.5, 691-700.

[199] The number of 1587 is compiled based on *Daming huidian*, vol.15 and vol.16; the number of 1818 is compiled based on *Jiaqing Daqing huidian shili* 嘉慶大清會典事例, vol.10.

After 1644, the government's budget arrangement also exhibited "quotaism", whereby the budgetary quota of *ya yi* in each office was standardised and fixed with no regional variations. All officials with the same position had the same number of *ya yi*, the same job type, and the same salary standards. This standardisation of the number and salary of *ya yi* has not been changed since 1644, the only exception being the courier station staff. For instance, in Hangzhou prefecture (杭州), one of the largest cities in the lower Yangtze delta, the prefect in 1657 had 2 doormen, 16 office runners, 4 lantern carriers, 12 prison guards, 4 warehouse keepers, and 6 grain measurers.[200] The exact same number of personnel can be found in, for example, Ganzhou prefecture (贛州) in 1713,[201] Anqing prefecture (安庆) in 1721,[202] or Yangzhou prefecture (扬州) in 1810.[203]

Some scattered records indicate that part of the new statutory surtaxes introduced after 1723 were used to hire additional *ya yi*, and the payment of these was also higher than the standards set under the formal tax revenues.[204] However, because the majority of the administrative funding came from tax rather than surtax revenues, this quotaism tended to be universal in the budget arrangement after 1644. It was also found in Qing China's tax management, where the annual tax revenue allocated by the central government was typically a fixed amount that did not change over time.[205] Whether they were statutory tax revenues or *ya yi* salaries, the fixed level of local expenditures under China's rising inflation over the century clearly rendered an already low level of local administrative funding even more inadequate.

[200] *Shunzhi Zhejiang fuyi quanshu* 順治浙江賦役全書.
[201] *Kangxi Ganzhou fuzhi* 康熙贛州府志, vol.54.
[202] *Kangxi Anqing fuzhi* 康熙安慶府志, vol.5.
[203] *Jiaqing Yangzhou fuzhi* 嘉慶揚州府志, vol.20, vol.24.
[204] Examples of these additional *ya yi* funded by statutory surtaxes can be seen in *Qianlong Liangguang yanfazhi* 乾隆兩廣鹽法志.
[205] Wang, *Land Taxation,* 20-48; Iwai, *Zhongguo jindai caizheng yanjiu*, 32.

Table 3.1 ***Prefects' budgetary ya yi in selected regions, 1657-1810***

(unit: persons)

Prefecture	**Hangzhou**	**Yanzhou**	**Ganzhou**	**Anqing**	**Xuzhou**	**Quanzhou**	**Yangzhou**
Year / *Ya yi*	**1657**	**1685**	**1713**	**1721**	**1742**	**1763**	**1810**
doormen	*2*	*2*	*2*	*2*	*2*	*2*	*2*
office runners	*16*	*16*	*16*	*16*	*16*	*16*	*16*
foot polices	*16*	*16*	*16*	*16*	*16*	*16*	*16*
lantern carriers	*4*	*4*	*4*	*4*	\	\	\
prison guards	*12*	*12*	*12*	*12*	*12*	*12*	*12*
sedan-chair and parasol and fan bearers	*7*	*7*	*7*	*7*	*7*	*7*	*7*
warehouse keepers	*4*	*4*	\	*4*	*4*	*4*	*4*
grain measurers	*6*	*6*	*6*	*6*	*6*	*6*	*6*

Source: Appendix B.

Reductions in *ya yi* also had another consequence, which was that the personnel structure in local government also shifted during the Ming-Qing transition. After 1644, the number of office runners, servants, and police declined. By contrast, personnel in courier stations constituted a significantly larger share of employees in local governments. In Figure 3.7, the black bars indicate the share of courier station *ya yi* before 1644 (Ming) while the grey bars indicate the share after 1644 (Qing). In certain prefectures, a larger proportion of courier station workers was the result of disproportional reductions in other types of *ya yi*. In certain other prefectures, enlarged proportions of courier station *ya yi* were caused by increases in their absolute numbers. The Qing's investments in courier stations suggest that the state focused on building up an information and logistic network to ensure better ties between all levels of government. Between 1690 and 1800, the Qing empire invested roughly 5% of statutory

tax incomes in courier stations.[206] These investments constituted roughly 30% of the formal tax revenues retained in the local governments.[207]

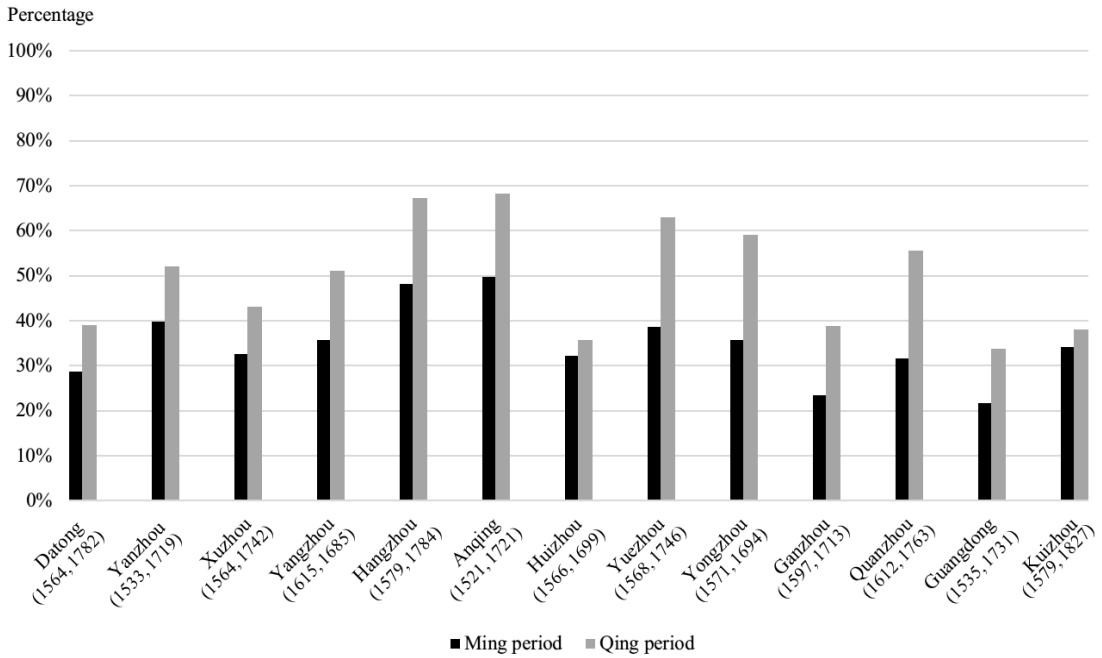

Figure 3.7 ***Proportions of Courier Station ya yi, Ming and Qing periods***
Source: Appendix B.

3.4.2 Governmental structure

The size of China's local government, whether in terms of overall investments or *ya yi* numbers, diminished considerably. Hence, an interesting phenomenon can be observed. On the one hand, China still maintained a high (even higher) degree of centralisation in bureaucracy and its administrative system. On the other hand, the state exhibited a tendency to intervene (minimally) in several aspects of local governance. As noted previously, this governmental structure can be referred to as centralised

[206] "Statutory tax incomes" here refers to *zheng ke* (正课) and does not include surtax incomes (规费) introduced after the 1720s. In 1690, the budget of courier stations was 2,123,967.34 *taels* of silver, and in 1732, it was 2,249,137.06 *taels*. In 1818 when the empire's fiscal condition was getting worse, courier station budgets in certain provinces declined. See provincial budgets of 1690 in *Kangxi Daqing huidian* 康熙大清會典, vol.104; see provincial budgets of 1732 in *Yongzheng Daqing huidian* 雍正大清會典, vol.144; see budgets of 1800 in *Jiaqing Daqing huidian shii* 嘉慶大清會典事例, vol.558.

[207] Again, "formal tax revenues" here means *zheng ke* (正课) does not include surtax incomes (规费) introduced after the 1720s. Formal tax revenues are summed up based on *Kangxi Daqing huidian* 康熙大清會典, vol.32, 1647-1648.

minimalism.

Numerous historians argue that China's administrative system was more centralised after the late seventeenth century. In Ming China's provincial government, three separate chief officers took charge of military, civil, and judicial functions. They were not affiliated with each other and, in the legal sense, there was no person with the overall authority to uniformly command all civil and military personnel in local administration. Although between the fifteenth and sixteenth centuries the Ming state often dispatched central officials to coordinate and lead local affairs, these typically served as a special envoy or appointment rather than acting in a formal role.[208] In the very first years of the Qing, the provincial governor was granted the highest decision-making power over local civil and military affairs as the military government became established in many regions.

When final resistance to the Qing's rule was eliminated in 1681, the legal position of the provincial governor as the chief administrator was further established.[209] During the next century, the Qing state placed the governor-general further above the provincial governor to command one or more provinces.

In addition to the further centralisation of administrative responsibility, the Qing state also strengthened the bureaucratic communication system, especially between the emperor and high-ranking officials. Under the Ming, documents needed to pass through several hierarchies before finally reaching the decision-making centre. Beginning from the late seventeenth century, Qing emperors began to bypass the conventional bureaucratic system, frequently using a direct channel via military posts to communicate with local governors, governors-general, and high-ranking officials.[210] Such a channel strengthened the connection between the central and local governments, especially between the emperor and local officials.

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[208] Guan Wenfa 关文发, "Shilun mingdai dufu" 试论明代督抚, *Wuhan daxue xuebao* 6 (1989):83-92.

[209] Xu Chunfeng 徐春峰, "Qingdai dufu zhidu de queli" 清代督抚制度的确立, *Lishi dangan* 1 (2006): 62-71.

[210] Chuang Chi-fa 莊吉發, *Qingdai zouzhe zhidu* 清代奏折制度 (Taipei: Gugong congkan, 1979), 19; Silias Wu, *Communication and Imperial Control in China: Evolution of the Palace Memorial System, 1693-1735* (Cambridge: Harvard Press, 1970).

These innovations made the administration more efficient under the Qing than under the Ming in several respects. In local administration, Qing's local governors effectively delivered central policies and implemented a series of reforms throughout the eighteenth century.[211] With respect to disaster relief, Qing's communication system allowed the central government to respond quickly.[212] Regarding military operations, the central government's ability to mobilise resources across provinces and its quick decision-making process enabled the Qing state to expand its territory into Central Asia.[213] In these areas, China made further outstanding achievements under a more centralised governmental structure after the late seventeenth century.

Nevertheless, the state continued to lightly intervene in several aspects of local governance, given that the size of Chian's local governments became extremely small after 1644. This tendency was strengthened over the eighteenth century when China experienced significant population growth but no expansion in the formal size of governmental personnel. Inevitably, the small size of governments led to a situation where non-official groups began to supplement the missing elements of state governance in numerous areas.

Many scholars have noted that the state authority in late imperial China was limited in local communities.[214] Outside state organisations, gentry and family clan played a significant role in local governance.[215] Early scholarship tends to characterise the gentry as a connection between the village population and local bureaucrats, positioning this group of people as the foundation of local governance in late imperial China.[216] However, there were regional differences in the actual roles of non-governmental groups. In north China, the state's semi-administrative organisations *lijia*

[211] Kent Guy, *Qing Governors*.
[212] Will, *Bureaucracy and* Famine, 63-68.
[213] Perdue, *China Marches West*; Guy, *Qing Governors*, ch.6.
[214] Philip Kuhn, *Rebellion and its Enemies in Late Imperial China: Militarization and Social Structure, 1796-1864* (Cambridge: Harvard University Press, 1970), 3. See also Xiaotong Fei, *China's Gentry: Essays in Rural-Urban Relations* (Chicago: Chicago University Press, 1953), Ch.1; Zhongli Zhang, *The Chinese Gentry: Studies on Their Role in Nineteenth-Century Chinese Society* (Seattle: University of Washington Press, 1955).
[215] Du, *Cunshe chuantong*, ch.5.
[216] Kung-chuan Hsiao. *Rural China: Imperial Control in the Nineteenth Century* (Seattle: Washington University Press, 1960).

were more effective in ensuring tax collection and local security, while gentries in east China had more influence on local communities.[217] Conversely, in areas of south China such as Fujian province, where lineage organisations were more active in society, local communities enjoyed a considerable degree of autonomy in terms of self-government, sometimes even encouraged by local governments.[218]

Furthermore, research on Qing laws indicate that Qing's local governments played a limited judicial role in village communities. Minor disputes over land, debt, inheritance, and marriage were typically solved by the societal mechanism, and local magistrates would almost always prefer extrajudicial mediation to any possible court actions.[219] Unless requested by villagers, magistrates often left disputes to be resolved under the clan's customary judicial authority, as local officials were too small in number to make any effective interventions.[220] The subtlety of such governmental and non-governmental relationship is that the latter group, unlike their counterparts in many European societies, never had the *de jure* power of self-governing. Even during the Taiping Rebellion (1850-1864), when the central state was too weak and had to rely on local elites to suppress the rebellion, the elite group saw only the rise of their *de facto power,* which was accompanied by local militarisation.[221]

Historians traced these phenomena back to China's fiscal structure and policies formed during the Ming-Qing transition over the seventeenth century. The Qing central government strengthened its control over the bureaucracy and fiscal revenues. However, the empire's local governments experienced difficulty with multiple aspects of local governance due to low investments. This fiscal system, which originated in wartime finance, unexpectedly continued over the next century, exerting profound impacts on China's governmental structure and state capacity.

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[217] Du, *Cunshe chuantong*, ch.5; Tang Lixing and Zhang Xiangfeng 唐力行, 张翔凤, "Guojia minzhongjian de Huizhou xiangsheng yu jiceng shehui kongzhi" 国家民众间的徽州乡绅与基层社会控制, *Shanghai shifan daxue xuebao* 31(6), 2002: 58-66; Zhong Haiyan 衷海燕, "Qingdai Jiangxi de xiangshen, wangzu yu defang shehui Xinchengxian zhongtianzhen de gean yanjiu" 清代江西的乡绅、望族与地方社会—新城县中田镇的个案研究, *Qingshi yanjiu* (2), 2003: 62-68.
[218] Freedman, *Lineage Organization*.
[219] Huang, "Centralized minimalism."
[220] Ibid, 86; 145-46.
[221] Kuhn, *Rebellion and its Enemies*.

3.5 Conclusion

During the seventeenth century crisis, the ever-increasing military expenditures led to a higher level of fiscal centralisation in China, where tax incomes were redistributed not only between the central departments but also between the central and local authorities. To identify and mobilise available resources, bureaucratic agents did not search in every coffer for money. Instead, they located fiscal revenues on the government's fiscal accounts, carefully inspecting where the incomes had and had not been deployed.

In the two cases analysed in this chapter, the scenarios before and after 1618, these calculative practices served as a technology of government,[222] whereeby the government constantly re-evaluated fiscal demands in the military and civil domains, splitting tax incomes into portions and redeploying them to meet the targets of state policies. When the old military budgets no longer met the rising expenditures, the imperial state constantly reviewed its fiscal accounts, pooling the money from different places for military provisions.

Even so, manipulations in numbers cannot exert their full effect when the state lacks coercion over the local bureaucracy. This was particularly the case after 1618 when the state in China was severely challenged by a series of social crises. Until the dynastic change in 1644, the central authority was unable to effectively convert its budget figures into actual revenue incomes. Even after 1644, when the new regime took over the control with the backing of military power, the central authority still found it difficult to collect taxes fully given the destruction caused by wars. Therefore, local fiscal revenues became an important source of income for the central government.

However, the fiscal centralisation caused by wartime finance brought another consequence in that China's governmental structure underwent significant changes after the mid-seventeenth century. First, the empire's resources continued to be deployed to the central government, resulting in a highly biased policy on resource distribution. With respect to land taxes, the central government's share increased from 50% in the

[222] Nikolas Rose and Peter Miller, "Political power beyond the state: Problematics of government," *British Journal of Sociology* 43, no.2 (1992): 183.

mid-sixteenth century to approximately 80% in the late-seventeenth century, and in the peak of the fiscal crisis in the 1660s, the central government accounted for nearly 90% of all land taxes. This high level of resource concentration was maintained even after the war ended in the hinterland.

Second, due to the reduction in local budgets, the size and structure of governmental personnel in local administration also underwent significant changes. After 1644, the size of China's local government diminished substantially compared to a century earlier, especially when population growth is taken into consideration. In addition, the number of government personnel used to maintain office administration and local security was disproportionally reduced, which meant that the courier station and post staff constituted a larger share of government personnel. In some places, the state even expanded these stations and posts, deploying more people deployed to deal with information and logistics.

This highly centralised but small governmental structure was also reflected in numerous other aspects of China’s state governance after 1644. Qing China implemented a more centralised approach than Ming China in several areas of administration and bureaucracy, and the higher degree of centralisation also made the Qing state more effective in terms of resource mobilisation, policy implementation, and disaster relief in the eighteenth century. However, after 1644, Chinese local governments were so small that it was difficult for them to exercise effective control over local governance. This also led to substantial autonomy in local communities in several parts of the empire. In addition, the small size of China’s local governments meant they struggled to exercise governmental functions in multiple areas. In this sense, the Chinese state exhibited a tendency to intervene in local governance, albeit to a minimal level.

CHAPTER 4
Maintaining Quotas: Target, Tax Distribution, and Fiscal Dualism

To what extent can a fiscal administration keep pace with the established goals? Establishing the desired results in advance produces a clear target for policy assessment and enables bureaucratic agents to know under what circumstances their performance will be awarded or punished. However, a target-driven assessment is also likely to produce a perverse incentive: to finish their tasks, agents may not want to exceed the target even if they could, or they may reduce their performance where targets do not apply.[223] The fiscal governance in China between 1681 and 1800 provides a typical example as the budget targets ensured a stable inflow of tax incomes for the central government but restrained local finance as this was not the primary concern of the state.

Under the enduring fiscal crisis of the seventeenth century, the primary concern of the Chinese state was to fulfil the demands of fiscal incomes desired by the central government. When the social order was eventually restored in the hinterland in 1681, the spending in local governments, as discussed in the earlier chapter, was substantially reduced, both in terms of the budget and the number of government staff. At the same time, they were strictly controlled so that they were aligned with the centrally approved figures and purposes of use. Surprisingly, such a high level of resource concentration was maintained into the first half of the nineteenth century.

If we consider institutions to be the rules of the game,[224] then the strict budget control under the Qing's formal fiscal system was designed by the central government to constrain the behaviours of local bureau agents. However, it is also noticeable that the centrally approved budgets ignored numerous local circumstances, in response to which local governments constantly resorted to informal funding channels to cover the

[223] Gwyn Bevan and Christopher Hood, "What's measured is what matters: Targets and gaming in the English public health care system," *Public Administration* 84, no.3 (2006): 520-22.
[224] Douglas North, *Institutions*, 6.

"extra" expenditures outside of the approved budgets.[225] Thus, a gap existed between what was designed by the central government and what was practised by local governments. As such, formal institutions such as written rules and regulations did not necessarily determine behaviours, while informal institutions (such as social norms and customs) could shape the design and implementation of formal institutions, either in a supplementary or complementary manner.[226]

How can we explain the gap between what was designed and what was practised? It is useful to take the formal fiscal system as an ideal model of fiscal relationships and analyse the gap between the ideal type (formal institutions) and reality in order to understand the paradigms of formal and informal institutions. In a Weberian context, an ideal type can be regarded as an abstraction of certain characteristics from given social phenomena that are common to those individual phenomena.[227] If we treat formal institutions as an ideal model of fiscal relationships that abstracts certain features of the interactions between the central and local governments, they can then define a general framework for the interactions between agents. But given that informal institutions can be more efficient in conducting the interactions between agents, formal institutions do not always function as intended.[228]

In the previous two chapters, it was evident that the Chinese state of the mid-sixteenth century began to re-quantify its fiscal account, simplifying a mixture of dozens of in-kind tax payments and several monetary payments (such as paper currency and silvers) into a single accounting unit, the *tael* of silver. Conventional wisdom holds that the state began to charge everything in silver, but more recent studies suggest it

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[225] Zelin, *The Magistrate's Tael*; He Ping 何平, "Qingdai buwanquan caizheng zhiduxia de fushui fudan yu shuishou shikong" 清代不完全财政制度下的赋税负担与税收失控, *Shuiwu yanjiu* 2 (2000): 77-82; Chen Feng 陈锋, "Lun haoxian guigong" 论耗羡归公, *Qinghua daxue xuebao: zhexue shehui kexue ban*3 (2009): 17-38.

[226] North, *Institutions*, 6.

[227] In Shils Edward and Finch Henry's translation of *The Methodology of The Social Sciences*, an ideal type is termed as: "An ideal type is formed by the one-sided accentuation of one or more points of view and by the synthesis of a great many diffuse, discrete, more or less present and occasionally absent concrete individual phenomena, which are arranged according to those one-sidedly emphasized viewpoints into a unified analytical construct". See Max Weber, *Max Weber on the Methodology of the Social Sciences*, trans. Edward Albert Shils and Henry A Finch (New York: Free Press, 1949), 90.

[228] North, *Institutions*; Joel Migdal, *State in Society: Studying How States and Societies Transform and Constitute Each Other* (New York: Cambridge University Press, 2001).

was more likely that taxes were encouraged to be paid and counted in silver but in practice were still collected as a mix of in-kind and monetary payments.[229] The monetised fiscal accounts in silver *taels* can be seen as an ideal type of fiscal interaction that aimed to capture the complexity of state finance with a core feature, namely the silver value of various in-kind tax payments. Such generalisation of real-world complexities simplified not only the accounting of central finance but also the budget of local finance. It was also evident that the newly established Qing state of the late seventeenth century utilised the monetised fiscal account to cut off local budgets while expanding its income and strengthening its fiscal capacity.

Such bias provided incentives for Qing's local administration to extract a considerable amount of tax surcharges in response to the lack of funding. From official investigations conducted between the 1720s and 1730s, this chapter established that the sum of local surtaxes under the salt taxation system may have reached more than seventy per cent of the formal quota of the salt tax. The issue of tax surcharges became so outstanding that an empire-wide resource reallocation eventually came into force in 1723.

The fundamental guiding principle of the fiscal reform was to provide more funding to the local administration to prevent corruption and tax embezzlement. To increase local funding, the Qing state legalised the long-established collection of tax surcharges across the empire with explicit surtax rates. Under such a mechanism, the administrative funding in local governments could be expanded in two ways: the state either increases the level of formal tax incomes or it increases the rates of surtaxes. As long as the state's formal taxation incomes continue to grow over time, the local administration would be able to expand its level of income. However, if the formal tax income became stagnant, local incomes would also remain at a stagnant level.

However, neither of these approaches were adopted by the Qing state. As the single largest source of local incomes, the formal quota of land-poll tax reached its peak

[229] Zhao Yi and Ding Liang 赵毅 丁亮, "Cong yin li chai de bianqian kan mingdai junyaofa de yanhua lujing — yi Zhejiang diqu weili" 从银、力差的变迁看明代均徭法的演化路径——以浙江地区为例, *Shehui kexue jikan* 4 (2013): 108-119.

in the mid-18th century and became stagnant afterwards. Salt tax surcharge was the second major source of local incomes, but the increase in licence issuing ended sometime in the 1760s. Although there was a further increase in salt income afterwards, this mainly came from the interests charged upon the capital lent by the state and the imperial household to salt merchants. Transit tax and customs were the only resources that experienced a constant increase in formal tax incomes over the entire eighteenth and first half of the nineteenth century. Even so, tax surcharges from transit tax and customs were mainly applied to the imperial household and the transit gates and customs bureaus rather than civil bureaus such as the county or prefectural government. Thus, the statutory incomes in local governments neither benefited from the increasing population (land-poll and salt taxes) nor the expansion of the domestic market (transit tax and customs). Given China's constant growth in population and economy, this chapter concludes that in both nominal and real terms, the level of administrative funding in Qing's local governments declined in the course of the second half of the 18th and early nineteenth century.

The remaining part of this chapter is structured as follows. Section 1 discusses the fiscal and taxation roots of the low-level administrative funding under the Qing. Section 2 discusses the informal funding system developed in the empire's local governments in response to the low level of funding. Section 3 estimates the size of tax surcharges before the fiscal reform and discusses the reallocation of resources between the state and local governments during the reform. Section 4 discusses the change in the state's policy on tax surcharges and the impact it had on the funding issue in local administration. Section 5 then concludes the chapter.

4.1. High level of resource concentration as a desired target

Since 1617, when the Chinese imperial state tried to raise more taxes to cope with the growing military threat from the Jurchen (Manchu), the fiscal crisis over the following decades profoundly altered the state's policy on tax distributions. By 1685,

four years after the end of the Revolt of the Three Feudatories, the state's policy on tax distributions became significantly biased towards the central government. Among all tax incomes paid in cash, the land-poll tax was the single largest tax category, constituting 81% of all statutory tax incomes to the state.[230] It was also the legal source of administrative funding for the local government. By 1685, 78.48% of the land-poll tax had to be delivered to the central government in Beijing, leaving 21.52% for the local administration (including the provisions to local garrisons).[231] Notwithstanding the restoration of social order, fiscal incomes distributed to the local administration remained at about one-fifth between 1685 and 1724.[232]

During this period, fiscal governance in China clearly reflected the priority that the state's annual incomes needed to satisfy the demands of central government, even if this meant sacrificing local finance. Instead of increasing taxes, the imperial state preferred a low level of investment in local administration while at the same time maintaining a high level of resource concentration to balance the fiscal account.

4.1.1 Income-side constraints on resource allocations

Since the late seventeenth century, one of the aims of China's fiscal governance was that of "calculating the expenditure based on income" (*liangru weichu*), which meant that the state's overall expenditure should adhere to its income level and not go beyond this. Therefore, regular state spending was expected to remain within the given amount of annual income.

The imperial state adopted a cautious attitude to tax expansion. For instance, given that the majority of fiscal revenues came from direct taxes on the land, tax expansion was not only difficult for practical reasons, it was also antithetical to the

[230] Without counting the grain tribute, a tax paid in kind, 1685's total tax incomes were 36,081,058 *taels* of silver, and 29,203,692 *taels* came from the land-poll taxes. Some studies take the figure 24,449,724 *taels* as "land-poll tax" income in 1685, but this figure excluded the poll tax. See 1690's version of *Daqing huidian*, vol.24, 32, 34, and 35.

[231] For 29,203,692 *taels* of the land-poll taxes, 6,289,155 *taels* were assigned as "detainment" by the local government. See 1690's version of *Daqing huidian*, vol.32.

[232] In 1685, the formal land-poll taxes allocation ratio between the central and local governments was 77.72%-22.28%; in 1724, 76.69%-23.21%. See 1732's version of *Daqing huidian*, vol.32, 1647-47; 1657-58.

state's physiocratic and Confucian ideology which viewed light taxation as benevolent governance.[233] Between 1685 and 1724, the statutory tax incomes of Qing empire experienced only a slight growth of 6%, increasing from 36,081,058 *taels* of silver to 38,263,116 *taels*.[234] The conventional wisdom holds that the taxation system, or more generally the fiscal system, in early modern China was essentially static, and that the state's tax basis and incomes remained fixed and stable over the ensuing centuries.[235] This feature was mostly evident in the land-poll tax, as in 1712 the imperial state announced it would forever freeze the poll tax at the 1711 level.[236] This may reflect the fact that the state was unable to accurately survey and tax the population across the empire so, on the government's account, poll-taxes at least were fixed thereafter.[237] Fiscal incomes from other tax categories such as salt tax, transit tax, and customs were more elastic.[238] But since the land-poll tax was the single largest source of fiscal revenue for the Chinese state during this period, the expansion in other tax resources did little to realise any significant growth in the state's fiscal incomes.

Land and poll taxes as a static fiscal resource

Throughout the empire, land was registered into four distinct types: paddy land, dry land, terrace land, and marshland. Among these, paddy and dry lands paid the majority of land taxes. Along with the record on land types, land area and fertility were also surveyed and recorded in the state's account. These three types of records gave each registered land plot a specific tax rate per mu of land based on its type, area, and

[233] Kent Deng, *China's Political Economy in Modern Times: Changes and Economic Consequences, 1800-2000* (London: Routledge, 2011), 16-17.

[234] 1685's total tax incomes are calculated based on land-poll taxes, salt taxes, transit taxes and customs, and miscellaneous taxes recorded in 1690's version of *Daqing huidian*, vol.24, 32, 34, and 35; 1724's total tax incomes are calculated based on records in 1732's version of *Daqing huidian*, vol.32, 49, 52, and 54.

[235] Iwai, *Zhongguo jindai caizheng yanjiu*.

[236] *Guangxu Daqing huidian shili* 光緒大清會典事例, vol.157, 2b.

[237] Chuang Chi-fa 莊吉發, *Qingshizong yu fuyi zhidu de gaige* 清世宗與賦役制度的改革 (Taipei: Xuesheng shuju chubanshe, 1985), 69.

[238] In the example of customs (including both internal transit tax and customs), the conventional wisdom thought that the Qing empire experienced little growth until the Opium War in 1840. But Ni Yuping's research shows that customs income slowly grew over the eighteenth century and then experienced a more significant increase in the first half of the nineteenth century. See Ni Yuping, *Customs Duties in the Qing Dynasty, ca. 1644-1911* (Leiden: Brill, 2016).

fertility. Usually, land fertility was classified by three main grades along with three sub-grades (upper-upper, upper-middle, or upper-lower). In principle, land tax for each taxpayer was calculated as follows:

(tax rate | classification of land type and fertility) x (land area)

From the second half of the seventeenth century onwards, there was no single empire-wide cadastral survey. The Qing state's record on land was largely based on the cadastre compiled in the late-16th century during the early reign of the emperor of the Ming empire.[239] Since the beginning of the Qing empire, the fiscal policy of land taxation adhered to the principle that the registration of taxable land and tax quota should reach but not go beyond the level of that in the late sixteenth century.[240] This principle was further strengthened when the Qing state issued the well-known edict in 1712 that "people born by the flourishing age shall never be taxed".[241] Although the policy was targeted at the poll tax, the empire's local governments also applied it to land taxes.[242]

The consequence of such a practice on land taxes, which was also the Qing state's single largest source of fiscal incomes before the second half of the nineteenth century, was that the statutory funding in local administration could not be increased over time. After the dynastic change in the second half of the seventeenth century, the statutory source of funding for local governments came entirely from land taxation. It was not until the second decade of the 18th century that local governments could legally share the revenues from other fiscal resources of the empire (such as salt tax). However, because the base of taxable land became virtually fixed and the level of local administrative funding was kept low under the formal fiscal system, there were incentives for Qing's local governments to generate extra incomes outside of the statutory funding channel.

[239] Wang, *Land Taxation,* 27.
[240] Iwai, *Zhongguo jindai caizheng yanjiu*; Wang, *Land Taxation*; He, *Qingdai fushui zhengce yanjiu*.
[241] *Guangxu Daqing huidian shili* 光緒大清會典事例, vol.157, 2b.
[242] He, *Qingdai fushui zhengce yanjiu*, 99.

Salt taxation as a more elastic fiscal resource

Like the land tax system, salt tax institutions under the Qing originated from the Ming's practices after 1617. In Qing China, there were eleven divisions of salt tax administrations – 9 in China proper which operated the monopolistic licencing system of salt distribution and 2 in Manchuria that required no licence.[243] Each one of these divisions was territorial and mainly based on the boundary of civil administrative divisions. Each salt tax administrative division thus covered at least one civil administrative division, and the biggest division, Lianghuai, resided on four provinces (this became six provinces after the 18th century when Jiangnan and Huguang were split into 4 new provinces). Similar to the French gabelle du sel, the burden of salt taxes in China varied between divisions. Before the second half of the nineteenth century, Lianghuai division, a counterpart of the Grand Gabelle of the Ancien Régime, provided 40% to 50% of total salt tax incomes to the central government.[244] Given that Lianghuai division contained 35% of China's overall population of that time, consumers in this division bore a disproportional burden of Qing's central salt taxes.[245]

To legally enter the salt business, salt merchants first needed to buy monopolistic charters (yin wo) of a particular region (normally several prefectures and counties) along with the designated number of distribution licences (*yin*) or tickets (piao). Both the wholesale and retail market of that region were then assigned under the name of the

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[243] *Qianlong Daqing huidian* 乾隆大清會典 (originally published in 1732; reprinted in Taipei: Wenhai chubanshe, 1994), 2838. China proper excluded Manchuria, Outer and Inner Mongolia, Xinjiang, and Tibet.

[244] The proportion of Lianghuai salt tax incomes is calculated based on *Qianlong Daqing huidian* 乾隆大清會典, 2834, 2865; *Jiaqing Daqing huidian shili* 嘉慶大清會典事例 (originally published in 1818; reprinted in *Jindai zhongguo shiliao congkan sanbian di liushiwu ji* 近代中國史料叢刊三編第六十五輯, Taipei: Wenhai chubanshe, 1992), 8229; Wang Qingyun 王慶雲, *Shiqu yuji* 石渠餘紀 (originally published in 1890; reprint in Sheng Yunlong ed. 沈云龙, *Jindai zhongguo shiliao congkan diba ji* 近代中國史料叢刊第八輯, Taipei: Wenhai chubanshe, 1967), 471. These figures represent only the proportion of salt tax incomes collected in Lianghuai by the central government. There were many other types of revenues extracted by the central and local governments from the salt industry of Lianghuai and other divisions, but those revenues were not tax incomes collected by the central government.

[245] For population figures, see Cao, *Zhongguo renkoushi*, vol.5, 691-701. I summed up the population of Jiangsu, Anhui, Jiangxi, Hunan, and Hubei. This sum figure is not precisely the population of the Lianghuai division because a small number of counties in the above provinces were assigned to other divisions, and vice versa. But given that most of the population in the above five provinces were included in the Lianghuai division, this sum figure will not be a problem.

merchants who possessed the charter and licences. Several dozens of merchants with monopolistic charters were then registered in the central treasury's account as the exclusive distributors of a salt division (*zong shang*) and took ultimate responsibility for completing the annual quota of salt taxes of each salt division.[246] A slightly different form of tax registration was found in certain parts of the Lianghuai division, where salt merchants with charters ran the wholesale business only and franchised the retail market to smaller merchants.[247] In those places, the exclusive distributors, or "port merchants" (*an shang*), distributed salts at provincial centres of distribution that resided in the designated prefectures, and handed over the verification form containing water transit records (*shui cheng*) to retailers as the permit of sales in downstream markets.[248] Each salt division had slightly different regulations on salt distribution, but in general, merchants had to pay for the monopolistic charter and licences before they were allowed to obtain salts from salt fields.

In theory, the basis of salt taxation is population, and the number of salt licences should be formulated according to the population of each salt division. However, it is important to note that the state's population record, the ting population, in the late Ming and early Qing period was not equivalent to the real population but rather a kind of tax-paying unit.[249] Even if the central treasury issued salt licences based on the number of ting population, the calculation is unlikely to be based on the local population. It was not until 1741 that the state's statistics on 'population' began to shift from the tax-paying unit to the real population. It is highly probable that neither the Ming nor the early Qing state could make empire-wide revisions to the number of salt licences based on population changes. Even so, scattered records exist suggesting that the number of salt licences took account of certain types of population in the empire. For instance, in 1679 when the Revolt of the Three Feudatories came to an end, the central treasury issued salt licences to Chongming county (now a part of Shanghai) and Jingjiang county (now

[246] Chen, *Qingdai yanzheng yu yanshui*, 31-34.
[247] Yang Jeou-yi 楊久誼, "Qingdai yan zhuanmai zhi tedian" 清代鹽專賣制之特點, *Zhongyang yanjiuyuan jindaishi yanjiusuo jikan* 47 (2005): 16
[248] *Ibid*, 18.
[249] Ho, *Studies on the Population of China*, 35; Cao, *Zhongguo renkoushi*, vol.5, 67.

Jingjiang city) of Zhejiang province based on the principle that every 13 ting population was assigned for 1 yin of salt; therefore, these two counties were issued 5,125 yin of salt in total.[250] In 1731, when the administration system of several counties in western Hunan province (today's Xiangxi Tujia and Miao Autonomous Prefecture) was shifting from the native chieftain to a regular bureaucratic administration, the Qing state investigated the local population and allocated 4.913 kg of salts per annum for each person in a total population of 139,356.[251]

Like land taxes, the number of licences issued in the early years of the Qing empire was formulated in accordance with the Ming's quotas issued between the late sixteenth and early seventeenth century. However, because the Ming state was severely short of fiscal incomes at that time, the number of distribution licences issued went far beyond the actual capacity of salt production and consumption in the market.[252] In the second half of the seventeenth century, the Qing state made several adjustments. The most significant change was that it reduced the weight of salt permitted by each licence and expanded the quotas of licences to be issued. In 1644, the first year proper of the Qing's rule in China, the weight of salt per licence in Changlu salt division was cut by 2/3 from 675 jin (401.96 kg) to 225 jin (133.98 kg). Accordingly, to promote the circulation of state salt, the quotas of distribution licences were expanded from 239,850 jin to 719,550.[253] In the same year, Shandong division reduced the weight of salt per licence by 2/3 from 600 jin (357.3 kg) to 200 jin (119.1 kg).[254] In 1646, the weight of salts per licence in Liangzhe division was reduced from 300 jin (178.5 kg) to 200 jin (119.1 kg); accordingly, the number of licences was increased from 444,769 to 667,153

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[250] *Qianlong Daqing huidian* 乾隆大清會典, 2899.

[251] I calculated the amount of salt per person based on the following. The Qing state-planned "a package" of salt for each person. Since these counties were assigned to the Lianghuai salt division, and each "package" of salt in the Lianghuai division during this period weighted 8.25 *jin* of salt. See *Guangxu chongxiu Lianghuai yanfazhi* 光緒重修兩淮鹽法志, vol.99 for the weight of "a package" of salt in Lianghuai division of this time.

[252] Wang Chongyun 汪崇篔, "Mingmo qingchu de lianghuai yanzheng zhuangkuang" 明末清初的两淮盐政状况, *Yanyeshi yanjiu* 2 (2010): 18.

[253] *Yongzheng xinxiu Changlu yanfazhi* 雍正新修長蘆鹽法志, vol.2, 135-136.

[254] *Yongzheng chixiu Lianghuai yanfazhi* 雍正敕修兩淮鹽法志, vol.8, 298. Noticing that 200 jin of salts per licence did not include the extra salts given as "wastage". When the standard of salts per licence was reduced to 200 jin in 1645, each licence was also given extra salts of 27 *jin* as the wastage. See *Kangxi Lianghuai yanfazhi* 康熙兩淮鹽法志, vol.7, 602.

yin.[255] In the same year, the weight of salt per licence in Lianghuai division was reduced from 400 jin (238.2 kg) to 200 jin (119.1 kg), which in turn increased the number of yin from 705,180 to 1,410,360.[256] Hedong division is a special case in this respect as the weight of salt per licence was already 200 jin during the late Ming period.[257] The assessment of salt taxes since the second half of the 17th century thus reflected multiple features of the long evolution of the salt tax administration in previous centuries rather than careful and precise calculations of salt demand throughout the empire.

In comparison to land-poll taxes, salt tax was a more elastic fiscal resource. One of the reasons for this is that it was easier for the Qing state to assess and reassess salt tax income. The assessment of salt taxes was primarily based on two parts. First, merchants had to pay for the monopolistic charters every year at a fixed amount. Each charter conferred the right to possess certain numbers of salt distribution licences. Second, merchants had to pay for a tax per licence and the tax rate varied across regions within and between salt divisions. Each licence gave the right to purchase a fixed amount of salts from salt fields. The majority of salt tax payments came from licence tax and were calculated by the rate of formal and miscellaneous taxes multiplied by the total number of licences possessed. Therefore, salt tax assessment under the Qing was primarily calculated by the number of licences rather than the amount of salts sold and was neither value-based nor price-based. In the state's account, *yin* or *piao* was not only the measurement unit for salt but also an accounting unit for the fiscal administration. To expand its incomes from salt taxation, the state could either increase the tax rate per licence or the number of licences issued.

4.1.2 Expenditure-side constraints on resource allocations

Given the static tax incomes, the only way to meet the fiscal needs of the central government while maintaining a fiscal balance was to reduce unnecessary forms of expenditure in local administration. Table 4.1 indicates the net annual fiscal balance of

[255] *Yongzheng chixiu Lianghuai yanfazhi* 雍正敕修兩浙鹽法志, vol.5, 708.
[256] Ibid, vol.8, 300.
[257] *Yongzheng Shanxi tongzhi* 雍正山西通志, vol.45, 26a.

the central treasury (The Ministry of Revenue) between 1685 and 1724, and shows that local retainment remained constant at the 1685 level in nominal terms. The latter represents hypothetical local spending adjusted by the consumer price index. Because the priority of fiscal governance was central finance, the spending in local governments was tightly controlled. This was demonstrated by the tax distribution policy. In 1685, 21.52% of land-poll taxes were assigned to local government, increasing to 23.21% in 1724.[258] This subtle increase barely compensated for inflation, not to mention the potential administrative expenses caused by population growth. To maintain local spending at the 1685 level in real terms, the state had to spend an additional one to four million *taels* of silver every year, or ensure a reduction of one to four million *taels* in the annual surplus.[259] But given that the central treasury had only three million *taels* of annual surplus on its records, it was difficult for the state to spend all its fiscal surplus under the given tax level. When additional expenditures were incurred by wars, the balance on the fiscal account quickly turned into a deficit, which meant that the state had to draw on its reserves from the past years' fiscal surpluses. Hence, for a premodern state, especially one that relied overwhelmingly on direct taxes from the land, maintaining the administrative expenditure at a low level rather than increasing taxes was a more cost-efficient way to realise a budget balance.

[258] *Yongzheng Daqing huidian* 雍正大清會典, vol.32, 1647-47; 1657-58.

[259] In 1685, 6,284,471 *taels* of silver were retained by the local government (including the provisions to local garrisons). In 1724, 7,028,123 taels of silver (not counting the surtaxes introduced after 1723), representing an increase of only 11%.

Table 4. 1 ***Fiscal Balance of the Central Treasury, 1687-1724***

(unit: million taels of silver)

Year	*Annual Surplus*[1]	*CPI*[2]	*Local Retainment*[3]	*Retainment Constant at 1685 Level in nominal terms*
1685		1	6.284	6.284
1687	2.912	1.362		8.557
1692	2.406	0.753		4.729
1693	3.345	1.039		6.527
1694	3.407	0.982		6.171
1695	1.256	1.285		8.077
1696	0.365	1.248		7.843
1697	-1.989	1.289		8.102
1698	-0.097	1.315		8.267
1704	1.617	1.416		8.901
1709	-3.418	1.465		9.207
1710	2.114	1.26		7.920
1714	-2.359	1.272		7.995
1719	3.05	1.097		6.895
1720	-8.052	1.167		7.334
1721	-6.695	1.243		7.811
1722	-5.467	1.329		8.355
1723	-3.543	1.32		8.297
1724	8.016	1.458	7.028	9.161

Notes and source:

1. Annual surpluses are calculated as the difference between accumulated surpluses in the current year and next year, and data come from Shi Zhihong 史志宏, *Qingdai hubu yinku shouzhi* 清代户部银库收支和库存研究 (Beijing: Shehui kexue wenxian chubanshe, 2014), 93-100.
2. Consumer price index comes from Peng, *Qingdai yilai de liangjia*, 168-176, Appendix 5.
3. Data of local retainment in 1685 and 1724 come from 1732's version of *Daqing huidian*, vol.32, 1647-47; 1657-58.

Accordingly, it is clear that the administrative expenditures in China's local governments during this period were maintained at a low level. This was evident in the following aspects. First, the statutory fiscal resources allocated to local governments had specific and fixed usages, and expenses outside these could not be reimbursed by the formal funding system. Several non-budgetary expenses (the so-called "outer expense"), such as transport fees for the taxes collected between local and central governments, could not be reimbursed by the central government unless the emperor issued a special imperial edict to allow such exceptions. Second, as discussed in the earlier chapter, it was evident in salary payments made in local administration. Because the statutory funding was often insufficient for use in governments, there was no clear difference between public and personal expenses. Various studies demonstrate that part

of the income of local officials had to cover some portion of the spending in their offices, including the need to hire extra workers and additional allowances for subordinate employees.[260] In the earlier chapter, it was evident that the statutory number of local government employees was significantly reduced after the second half of the 17th century, either in terms of the total number of government employees in each prefecture and county, or employees per thousand population. At the same time, the statutory payment standards for local government employees remained stagnant at the level of the 1660s for a long time.

4.2. Informal funding system as a local response

The Chinese state reduced expenditures in local administration as much as possible to achieve a fiscal balance. However, the growth in population and general prices of commodities made it difficult for the existing level of state investments in local governments to meet actual needs. Before the surtax reform commenced in 1723, the imperial state made no significant adjustments to the established fiscal policies. Furthermore, there was no substantial increase in tax incomes nor any alteration in the high level of resource concentration.

How did local governments in China meet their actual needs given the fiscal targets set by the central government? The answer lies in the informal funding system. In comparison with the formal funding received from the state, funding came from local customary surtaxes. These tax surcharges should not simply be considered corruptions as many surtax incomes were used to cover additional spending outside the approved budgets, while the state itself displayed a rather ambiguous attitude towards the legal status of these non-statutory incomes. To a certain degree, the existence of the informal funding system in local governments was a remedial measure to the fiscal policies and institutions of the state that had weighted local finance as less important. This eventually led to a full-scale reform on surtax collections beginning from 1723.

[260] Zelin, *The Magistrate's Taels*, 38-40; Ch'u, *Local Government in China*, 24.

4.2.1 Informal incomes: low-level officials and governments

Surcharges in lower authorities mainly came from the process of tax collection rather than registration or assessment.[261] The most common surcharge was the so-called meltage fee. In early modern China, dozens of silver and copper currencies circulated in the market,[262] and for tax payments, particularly payments to the central government, the state required silver to be melted down into silver ingots with a purity of 93.5% (*kuping* silver). A meltage fee can be charged during tax collection. Tax collectors usually charged extra fees along with the registered payment amount.[263] In other cases, taxpayers were required to melt down silver in the official silversmith shops, and an official stamp was carved on the ingot as a verification of silver purity.[264] When taxes were paid in kind, such as grain tributes, wastage allowance was charged for the storage rot of grains.[265] Because tax quotas required by the imperial state were the net rather than gross amount, meltage fees and wastage allowances were essential. In practice, however, local agents typically charged more than the wear and tear to obtain additional incomes. They became an extremely common source of informal revenues for lower authorities and agents.

Another kind of tax surcharge came from the manipulation of the exchange rates between silver and copper currencies. Although silver was the required intermediary for tax payment, the copper coin was the primary intermediary for daily transactions in the market.[266] When local officials allowed taxpayers to make a payment in copper coins, they could make a small profit by setting a higher ratio of conversion.[267] A similar practice was found in grain taxes paid in kind, where local governments used

[261] Zelin, *The Magistrate's Tael*, ch.2.
[262] Kent Deng, "Miracle or mirage? Foreign silver, China's economy and globalization from the sixteenth to the nineteenth centuries," *Pacific Economic Review* 13, no.3 (2008): 335-338.
[263] Although the central government required all land taxes to be paid directly by taxpayers at tax collection points set up in a county or prefecture (to prevent corruption), this was not always the case. As most land taxpayers, the peasants lived in villages rather than towns; it was practically more convenient to pay their taxes to tax collectors.
[264] Zelin, *The Magistrate's Tael,* 49.
[265] *Ibid*, 48.
[266] Deng, "Miracle or mirage", 338.
[267] Zelin, *The Magistrate's Tael*, 53.

weighted scales or oversized measures at tax-collection points to collect more than the amount required.[268]

The surcharges upon salt taxation were more organised as the monopolistic market structure protected by the state provided opportunities for local agents to manipulate the administrative power they possessed. In 1670, a detailed report explained that salt merchants in Lianghuai division paid certain types of tax surcharges in the following six ways. First, salt merchants were required to submit a certification form (*pi piao*) to the salt bureau listing the number of salt licences possessed, and merchants were only allowed to purchase at salt fields with the official mark on the form. However, local salt bureaus charged various amounts of fees per licence for certification.[269] Second, salt merchants were required to report to the gate-pass in the salt field when they departed, while gatekeepers authorised the departure only by charging various fees per licence to verify whether the amount of salts carried was in accordance with the amount indicated on the certification form.[270] In total, salt merchants had to spend 0.07 to 0.08 *taels* of silver per licence in this process.[271] Third, before entering the market, salts had be transported to salt control stations (*piyan suo*); during this process, an extra fee of 0.1 to 0.2 *taels* of silver per licence was charged from salt merchants.[272] Fourth, after the verification at salt control stations, cabins of cargo ships were sealed and salt merchants retrieved the verification form for water transit records from local salt bureaus with fees of between 0.2 to 0.3 *taels* of silver per licence.[273] Fifth, when cargo ships sailed along the state-designated river routes, several local bureau agents such as anti-smuggling river guards and river custom houses also charged certain fees to let cargo ships pass.[274] Finally, once cargos arrived at the distribution centres and were about to enter the market, certain amounts of fees per

[268] *Yongzheng Daqing huidian* 雍正大清會典, vol.43, 2436.
[269] *Kangxi Lianghuai yanfazhi* 康熙兩淮鹽法志, vol.12, 979.
[270] Ibid, 980.
[271] Ibid, 980.
[272] Ibid, 980.
[273] Ibid, 981.
[274] Ibid, 981.

licences were charged by local salt bureau agents at centres for the verification of water transit records.[275]

Because the registered salt merchants in a salt division received the protection of administrative monopoly from the state, the laws and regulations created entry barriers to the industry to maintain the monopolistic market structure. However, the other side of the administrative monopoly was that states granted local bureau agents the administrative power to enforce the monopoly and monitor the entire process of salt distribution in accordance with the designed procedures. This triangular relationship between the states, salt merchants, and local bureau agents provided opportunities to manipulate the administrative power in salt tax administration.

4.2.2 Informal incomes: high-level officials and governments

The extra incomes for provincial officials and governments came from the surtaxes collected from lower authorities, as a portion of surcharges collected from taxpayers was eventually delivered to the higher authorities in provincial governments in various forms. One such practice was the charge on a visit of official business, where county magistrates or prefectural prefects had to give a certain amount of money to visit their superiors for official business. A report of 1728 pointed out that in Shandong province, county magistrates had to spend 16 *taels* of silver each time they visited the provincial governor, eight *taels* of silver to visit the provincial administrative commissioner, 12 *taels* of silver to visit the provincial commissioner of tax circuit, and so on.[276] It is important to notice that the statutory annual salary of a magistrate was 36 *taels* of silver.[277] When delivering a tax payment to the provincial government, a number of fees were also charged by the higher authority for completing the administrative process, such as the fee for presenting documents, fee for a delivered-tax certificate, registration, and so on. In the case of Shandong province, such a fee

[275] Ibid, 981-82.
[276] *Gongzhongdang yongzhengchao zouzhe* 宫中档雍正朝奏折, vol.11, 285.
[277] *Yongzheng Daqing huidian* 雍正大清會典, vol.54, 3249.

constituted approximately 3% of the total tax payment.[278] In southern Jiangsu province, this was about 5%; in Hunan province, 3.3-3.4%; and in Guangxi province, in Hunan province, 3.5%.[279]

Regarding the salt tax surcharge, the extra income in the higher authority was used not only by officials but also the state. One example of this was the customary charge on salt merchants for "copper procurement" used for coinage. Before this charge was formally compiled into tax quotas between the 1710s and 1720s, the funding on copper procurement came from the "surplus" or "reserves" in the salt bureaus, while the funding on transport fees came from the "donations" from salt officials. Without a statutory budget arrangement, these expenses were inevitably transferred to salt merchants via non-statutory tax liability. One common approach was to permit an extra amount of salt per licence in excess of the quotas defined by the central government. In return, local salt bureaus charged a surcharge at a fixed rate. This was often called the charge on "surplus salt". Another approach was to increase the allowances on "transport wastage" to salt merchants and, in turn, collect the tax surcharge.

A typical case was that of the Lianghuai salt division. Beginning from 1704, the Lianghuai division granted 42 *jin* of salt per licence in addition to the formal quotas as "surplus salt" in exchange for some 500 to 600 thousand *taels* of silver every year.[280] Some 210 thousand *taels* were used to procure coppers on behalf of the imperial court, 230 thousand to compensate the deficit in salt administration and the rest as funding for the Imperial Silk Manufacturing in Jiangning (today's Nan*jin*g).[281] In 1716, a wastage

[278] In the original report, Tian Wenjing listed dozens of fees applied in the process, and for every 1,000 *taels* of silver transfer, about 30 *taels* of silver were needed. See *Gongzhongdang yongzhengchai zouzhe* 宮中档雍正朝奏折, vol.11, 285.

[279] Wang, *Land Taxation,* 56.

[280] *Jiaqing Daqing huidian shili* 嘉慶大清會典事例, vol.178, 8234.

[281] The usage of surcharges from "surplus salt" was recorded in various reports. See *Guangxu chongxiu Lianghuai yanfazhi* 光緒重修兩淮鹽法志, vol.95; for the amount spent on copper procurement; see Li, *Lixu zouzhe*, 159 for the amount spent on the compensation of local deficit; and see Li Xu 李煦, *Lixu zouzhe* 李煦奏折 (Beijing: Zhonghua shuju chubanshe, 1976), 57 for the amount spent on the Imperial Silk Manufacturing in Jiangning. During the first two decades of the 18th century, the Lianghuai salt division was under the governance of one of the favourite ministers of Kangxi Emperor, Li Xu. Moreover, the Imperial Silk Manufacturing in Jiangning was under Li Xu's brother-in-law, Cao Yin. It is commonly considered that Li Xu and Cao Yin embezzled a significant amount of taxations for covering Kangxi Emperor's inspection trips in the Yangtze delta region. To

allowance of 5 *jin* salt per licence was issued to merchants with a surcharge of 0.05 *taels* of silver per allowance.[282] Notably, a transport wastage of 15 *jin* of salt was introduced in addition to the standard weight of 235 *jin* per licence in the early years of the Qing dynasty. Together with the "surplus salt" issued, the extra amounts of salt issued by the local salt bureau in Lianghuai reached 26% of the amount per licence defined by the central government. The surcharge from "surplus salt" could also be found in other salt divisions. For example, in Hedong division, 28,181 *taels* of silver surcharge from "surplus profits" was identified in 1714.[283] Moreover, once salt merchants were given the extra amount of salts or licences in addition to the centrally defined quotas, local salt agents were able to collect more surcharges during the process of salt distribution (such as water transit tax).

4.3. Redesigning tax distributions, 1723-1736

Because the focus of fiscal governance prioritised the fiscal needs of the central government without significantly increasing taxes, local governments had to collect non-statutory tax surcharges in addition to the formal budget to meet some of the local fiscal demands. In fact, the central government was fully aware of these problems. In the early eighteenth century, discrepancies were frequently found between the fiscal balance reported to the state and the money actually stored in local coffers. Official investigations often found that local officials embezzled the money in coffers to cover the expenses that could not be reimbursed by the budget. In a discussion with imperial ministers in 1709, Emperor Kangxi (reign 1662-1722) attributed the deficit to the fact that "initially, there were many miscellaneous taxes remained in the local. Since the revolt of three feudatories [1673-1681], military expenses increased greatly so that every bit of funds that remained in the local were required to be transferred to the central

make up the embezzlement, Li Xu obtained permission from the emperor to procure coppers in his salt division for the imperial court, and in turn, a tax surcharge was introduced upon salt merchants in the Lianghuai division.

[282] Li, *Lixu zouzhe*, 209.

[283] *Yongzheng Daqing huidian* 雍正大清會典, vol.50, 2916.

treasury. What remained only to local governments were salary payments and certain necessary funds that cannot be reduced. Except for those, every tiny bit [of funds] were all sent to the capital city … and provincial, prefectural, and county governments had nothing left to use. Therefore, there was embezzlement. This is the most fundamental reason".[284]

It was not until 1723 that the state acquiesced to the collection of non-statutory tax surcharges without recognising the legal status of such behaviour.[285] Although tax revenues were collected and distributed by the centrally preferred number on paper, in practice the management of governmental finance was far from what the imperial state expected. In the case of salt tax surcharges, tax revenues collected by the local government on average reached more than seventy per cent of the statutory tax quotas. More importantly, some of these tax surcharges were delivered to and used by the central departments. This indicates that despite the state's efforts to manage tax collections and distributions via strict numerical regulations, multiple problems arose in the domains assigned lesser priority in fiscal governance. These problems eventually led to a series of fiscal reforms when the new Emperor Yongzheng succeeded the throne in 1723. The aim of these reforms was to provide more funding to the local administration to prevent corruption and embezzlement.

4.3.1 Outside the targeted domain: tax distributions under the table

As indicated in recorded tax figures, the Chinese bureaucracy was generally able to reach its fiscal targets between 1685 and 1723, which was to complete tax quotas and deliver the tax revenues required by the central government. However, their behaviours outside the targeted domains fell far short of the state's expectations. The imperial state hoped to supervise and control local governments through strict regulations, but instead of challenging the central authority, local governments

[284] *Qingshengzu shilu*, vol.240, 389.

[285] In another discussion in 1709, Kangxi Emperor considers that "an honest official was not the one who did not take a single coin [from people] … if a county magistrate only takes ten per cent [upon the statutory taxes] without any further collection, then he can be regarded as a good official." see *Qingshengzu shilu*, vol.239, 383.

developed their own funding channel outside the formal budgeting system. How many tax revenues were extracted by the local government before the fiscal reform? Estimations of tax surcharges would help to analyse fiscal governance outside the targeted domains. Unfortunately, records of land-poll tax surcharges before the fiscal reform are too scattered to construct such an estimation and ranged from 10% to 50% upon the statutory land-poll taxes.[286] For salt tax surcharges, the second largest fiscal revenues of the empire, more details can be found in Memorials to the Throne (*zouzhe*), officially published Gazetteers of the Salt Tax Administration (*Yanfa zhi*). In the following section, I examine the differences between the centrally designed and actual distributions of fiscal resources using the case of salt tax collections.

Table 4.1 presents estimations of the total revenue incomes collected from the salt industry in 1723.[287] Column 1 presents the statutory tax quotas given by the central government. Column 2 lists estimations of salt tax surcharges. Column 3 presents the estimated total tax revenues, including official tax quotas and surtaxes. Column 4 lists the surcharge rate in each salt division.

[286] Taking the example of Shanxi, Shaanxi, and Gansu provinces, a record of 1697 mentions that the surcharge on land-poll taxes in Shanxi and Shaanxi provinces can be up to 20% to 30%. See *Qingshengzu shilu*, vol.183, 962. In 1712, a report mentioned that the governor-general of Shaanxi and Gansu provinces ordered subordinate local governments to levy a 10% surcharge on land-poll taxes. See *Qingshengzu shilu*, vol.251, 484-2. In 1722, another report shows that land-poll tax surcharges in Shaanxi province ranged from 20% to 50% across subordinate prefectures. See *Qingshengzu shilu*, vol.299, 891-2.

[287] Salt tax surcharges from Guizhou province are excluded here because there are no detailed records available. The salt with official licences circulated in Guizhou came from Sichuan and Yunnan salt divisions, but the salt taxes of Guizhou were excluded from those two divisions and counted separately. Nevertheless, this would not affect the overall estimation. By official records, the salt taxes of Guizhou in around 1726 was only 7,011.75 *taels* of silver, which was 0.18% of total formal salt taxes from the nine divisions. The data on Guizhou's formal salt taxes comes from *Yongzheng Daqing huidian* 雍正大清會典, vol.50, 2992; The data on total salt taxes come from *Yongzheng Daqing huidian* 雍正大清會典 vol.49, 2865. The exclusion of Guizhou's formal and informal salt incomes would thus, not make a significant impact on the estimation here.

Table 4. 2 ***Estimated salt tax surcharges in 1723***

(unit: *taels* of silver)

Salt Division	*Salt Tax Quotas*[1]	*Estimated Surtaxes*[2]	*Estimated Total*[3]	*Surcharge Rate*[4]
Lianghuai	1,760,532.68	1,150,751.26	2,911,283.94	65.36%
Liangzhe	425,029.69	347,223.40	772,253.09	81.69%
Changlu	426,852.00	178,616.52	605,468.52	41.85%
Shandong	148,429.00	86,747.46	235,176.46	58.44%
Hedong	171,728.79	240,045.57	411,774.36	139.78%
Liangguang	503,590.00	284,713.00	788,303.00	56.54%
Fujian	90,460.00	82,210.00	172,670.00	90.88%
Sichuan	30,716.67	90,300.70	121,017.37	293.98%
Yunnan	168,145.70	204,015.00	372,160.70	121.33%
Total	*3,725,484.53*	*2,664,622.90*	*6,390,107.43*	*71.52%*

Notes and Source:

1. Salt tax quotas are the officially approved tax amounts. Data come from *Yanfa zhi.*
2. Estimated surtaxes are a combination of statutory and non-statutory surtaxes, estimated using data from *Yanfa zhi* and archive materials of surtax investigations during the 1720s. More details can be found in Appendix C.
3. Estimated total = salt tax quotas + estimated surtaxes
4. Surcharge rate = estimated surtaxes/salt tax quotas

The estimations suggest that the extra salt tax revenues collected by local governments may have reached 71% of the statutory tax quotas, despite tax revenues being collected and distributed by the centrally preferred numbers. I define local surcharges as any tax revenues collected outside of the statutory quota of salt taxes. Income collected from the formal fiscal system (the statutory quota of salt tax) was approximately 3,725,484.534 *taels*, which comprised approximately 58.3% of the total. This part of income belonged to the central government. By comparison, revenue incomes collected from the informal fiscal system totalled approximately 2,664,622.9 *taels*. These figures are conservative estimates as tax surcharges can be missed by official investigations and the actual size may therefore be larger.[288] Nevertheless, the surcharge rates on salt taxes are much higher than the commonly observed rates of land-poll tax surcharge (10% - 50%), possibly because the monopolistic market structure protected by the state provided opportunities for local agents to charge non-statutory

[288] Even though there could be some hidden incomes unknown to the central government during the fiscal reform, their amount should be pretty small given that the administrative capability of Emperor Yongzheng and his selected ministers for the reform was generally recognised by historians.

surtaxes at a higher level.

It is also important to note that some of these salt tax surcharges were, in fact, used by the central government. Salt tax surcharges comprised two parts. The first was the surcharge incomes collected on the behalf of the state. These were known to the central treasury but recorded in an account separated from formal taxes. An example is the funding of coinage or salt licence printing fees. The second part was the surcharge incomes collected for local administration. Although these extra incomes were not a secret, the exact amount was unclear to the state.

A typical example of the use of salt tax surcharges can be seen in Lianghuai region, the largest salt division in terms of tax revenues. The extra income in Lianghuai was larger than the statutory quota of salt taxes in any of the salt divisions and comprised 50% of all salt tax surcharges. There were several reasons for this. First, Lianghuai's statutory quota of salt tax alone constituted approximately 50% of total salt taxes, so tax surcharges extracted upon the substantially larger tax basis of Lianghuai would also generate a larger surcharge income. Second, unlike other divisions, Lianghuai division disproportionately funded several central expenses using its tax surcharge, including the spending on copper procurement for coinage, river work for canal maintenance, and the two imperial silk manufacturing bureaus in Jiangning and Suzhou prefectures. These three central expenses needed approximately 330,000 *taels* of silver, which was already larger than the statutory salt tax quota in some other divisions. Although these three expenses were, in essence, the responsibilities of the central government, no specific tax rate was issued by the state. Unlike the statutory salt taxes where tax payments were collected based on a specific tax with the number of salt licenses charged, these three central expenses were funded by the lump-sum payments submitted by the salt bureaus in the name of "donations" or "savings". Second, Lianghuai salt division involved 6 provinces, including a large part of five provinces along the Middle and Lower Yangtze River and a small part of Henan province in the north. Therefore, any surcharge incomes extracted by individual agents or local administration as a whole would lead to a disproportionately larger amount in Lianghuai than in divisions who managed the salt market in one or two provinces only.

In border regions of the Qing empire, the surcharge rates were significantly larger than in inland regions. Two typical examples were Sichuan and Hedong salt divisions. Estimations suggest that the tax surcharge may have reached 293.95% of the statutory tax quota in Sichuan division and 139.78% in Hedong division. These higher surcharge rates might be due to the fact that these two divisions were under the governance of Chuanshan's governor-general, who was in charge of the lengthy military campaigns against the Zunghar Mongolian state in central Asia (c. 1688 - 1758). Precise information is lacking as to whether tax surcharges in these two divisions were mostly devoted to military expenditures. However, after the institutionalisation of tax surcharges, records in 1733 indicate that most of the salt incomes from these regions were spent on the military.[289]

A similar case can be seen in Fujian salt division, where the governor-general was responsible for the coastal defence of the Fujian province (including Taiwan island). In 1723, tax surcharges in Fujian division may have reached approximately 90.88% of the statutory tax quota. Although no details are available on the exact usage of these surcharges before the reform, the records show that between 1729 and 1733, 54.48% of the total salt incomes from Fujian division were directly spent on military provisions, and only 21.62% were directly transported to the central treasury.[290]

Although Liangguang salt division was also located in the southern coastal area (Guangdong and Guangxi provinces), its surcharge rate was significantly lower. This is mainly because 160,000 *taels* of salt tax surcharges had already been identified in 1707 and had to be included in the statutory quota.[291] If we simply remove this amount

[289] The First Archive of China 中国第一历史档案馆, "Yongzheng shiernian gedi xingyan zhengke tiben shang" 雍正十二年各地行盐征课题本(上), *Lishi dangan* 02(1989): 8.

[290] Between 1729 and 1733, 2,204,344.109 *taels* of silver were collected from Fujian salt division. Only 476,683.461 *taels* were transported to the central treasury (transport fees included), which counted about 21.62% of total incomes these years. In comparison, 1,142,995.054 *taels* were directly spent on local soldiers' pay and provisions, 17,828.242 *taels* on armament supplies to the northern provinces, 509.110 tales on fowling-pieces, 35,641.547 *taels* on armament supplies to Taiwan, and 4,000 *taels* on mast timber for shipbuilding. See "Yongzheng shiernian gedi xingyan zhengke tiben shang," 8.

[291] The First Archive of China ed. 中国第一历史档案馆编, *Yongzhengchao hanwen zhupi zouzhe* 雍正朝汉文朱批奏折汇编 (Nanjing: Jiangsu guji chubanshe, 1991), vol.1, 144.

from the statutory quota of 1723 and place it in the category of tax surcharge, the rate of salt tax surcharge in Liangguang reaches 129%.

In contrast to salt divisions in border regions, tax surcharges in inland salt divisions were slightly smaller. For example, 40.05% of Changlu division's salt incomes in 1733 were directly transported to the central government, and 59.11% were stored in the local treasury waiting for further orders from the central treasury (after the portion detained for local government, the remainder was either sent to other provinces as financial aid or the central government).[292]

To sum up, although a considerable portion of salt tax surcharges flowed into personal coffers, a significant amount was used by local administrations or the military for public uses. What we find in the case of salt taxation is that the rate of salt tax surcharge is generally much larger than that of land-poll tax surcharge. In extreme cases, such as Sichuan, Hedong, and Yunnan salt divisions, salt tax surcharges can reach 100% to 200% of the statutory tax quotas. Such a huge difference in surcharge tax rates may be due to the fact that the basis of the statutory land-poll taxation (about 30 million *taels*) was 7.5 times larger than that of salt taxation (nearly 4 million *taels*). Thus, a lower surcharge rate upon statutory land-poll taxation may suffice the need for fiscal resources outside of the formal funding system in local administration.

It is also important to note that the difference in surcharge tax rate may also derive from the differences between land-poll and salt taxation systems. The land-poll tax was directly charged upon the vast number of peasants across the empire. The imperial laws on land-poll taxation explicitly required that such payments have to be paid by each individual in the designated tax collection points, although in reality there were often intermediary tax agents between the government and taxpayers. For the salt tax, there existed 20 or 30 giant salt merchants who took the ultimate responsibility for tax payments in each salt administrative division. Therefore, it was much easier for local administration to manage salt tax surcharges, such as setting up and modifying the rate of these surcharges.

[292] The First Archive of China, “Yongzheng shiernian gedi xingyan zhengke tiben shang,” 8.

However, a more fundamental component might rest upon the monopolistic market structure of the salt industry. For instance, salt merchants in their monopolised market territories enjoyed legal protections from the state. They were able to raise salt prices and make profits under the legal barriers of entry. However, salt production and distribution in each salt division received strict supervision from the state; thus, a series of administrative processes and checkpoints were set up to control the flow of salt in the market. As representatives of the state, local bureau agents had the legal right to punish salt merchants if salt transport and distribution did not meet the necessary requirements. Therefore, the legal monopoly of the salt industry gave salt merchants much higher tax-paying capacity while also providing local governments with an easier way to extract extra revenue incomes from salt merchants.

In addition, the imperial taxation policy on land-poll taxation also made salt tax surcharge a less risky source of informal funding. The Qing state exhibited a clear tendency towards physiocracy from the very beginning of the dynasty, and like all the past dynasties in Chinese history, light taxation was a fundamental part of the state ideology of governance. Attempts to increase land taxation usually provoked critiques from officials and scholars. When the Qing's statutory quotas of land-poll taxes reached the level of the late 16th century, Qing's fiscal incomes from formal land-poll taxes became practically fixed for centuries. Thus, it was less risky, either from a moral or political point of view, to extract a much higher proportion of tax surcharges upon formal salt taxation than formal land-poll taxation.

4.3.2 Reallocation of fiscal resources

Given the problems caused by the existing policy on tax distributions, a major principle of fiscal reform between the 1720s and 1730s was to draw an explicit distinction between income revenues that belonged to the central government and those that belonged to the local government. Accordingly, the reform attempted to demarcate central and local responsibilities in public expenditure. In a memorial sent out in 1724, Emperor Yongzheng asked the governor of Henan province not to count land-poll tax

surcharges as “formal taxes” as these surcharges were supposed to be reserved for local administration to fund local businesses.[293] In 1726, the emperor emphasised once again this principle to the new governor of Henan province.[294]

As explicit as it might be in the case of land-poll tax surcharges, such a distinction in salt tax surcharge was rather less clear. A typical example was the long-established salt tax surcharges for copper procurement (coinage) and river work. These two central incomes were counted within the sum of “formal salt taxes”, but the source of funding still came from tax surcharges after the reform. For instance, in Shandong salt division, the funding of these two central expenses were classified as the responsibilities of the salt-control censor and salt distribution commissioners. For the surcharge income allocated to the salt-control censor (22,738.29 *taels*), 7,000 *taels* needed to be submitted to fund river work and 5,738.29 *taels* to fund transport fees for copper procurement. For the surcharge income allocated to salt distribution commissioners, 3,761.56 *taels* out of 8,761.56 were classified as the funding for copper procurement. Similar examples can also be observed in other salt divisions. This classification of responsibilities under salt incomes may derive from past practice where the funding of copper procurement and river projects originally came from the “savings” and “donations” of salt-control censor and salt distribution commissioners, and the institutionalisation of salt tax surcharges thus retained this custom.

A direct impact of the reform on tax surcharges was an increase in the statutory resources allocated to the local administration. Tables 4.2 and 4.3 present the allocation of land-poll and salt taxes immediately after the reform. For land-poll tax, the revenue income allocated to local government (including tax surcharges) was approximately 31.17% of the total after the reform. This figure was almost 10% larger than the level of 1685. For salt tax incomes, the local share was approximately 18.93% of the total. From an institutional perspective, all legal incomes from the salt industry belonged to the central government prior to the reform. Post reform, local administration was

[293] Xiao Guoliang 萧国亮, "Yongzhengdi yu haoxian guigong de caizheng gaige" 雍正帝与耗羡归公的财政改革, *Shehui kexue jikan* 3 (1985): 100.
[294] Chen, “Lun haoxian guigong,” 26.

allowed to legally share some of the salt tax incomes in addition to land-poll taxes that were retained for local uses. In addition, the share of salt tax incomes distributed to the imperial household was also clearly defined

Table 4.3 ***Allocation of Land-Poll Taxes and Surtaxes in 1736***

(unit: *taels* of silver)

Provinces	*Total Income*[1]	*Local Tax Income*[2]	*Local Surtax Income*[3]	*Local share*[4]
Zhili	2,869,961	621,882	308,138	32.41%
Fengtian	5,866	2,466	3,400	100.00%
Jiangsu	4,426,030	1,446,051	415,250	42.05%
Anhui	1,825,898	432,710	198,273	34.56%
Zhejiang	3,114,624	687,277	140,000	26.56%
Jiangxi	2,293,137	540,705	150,000	30.12%
Hubei	1,219,717	333,543	110,000	36.36%
Hunan	1,327,755	265,379	117,952	28.87%
Fujian	1,368,462	208,253	105,000	22.89%
Shandong	3,961,878	691,141	540,000	31.07%
Shanxi	3,401,586	328,290	371,000	20.56%
Henan	3,467,734	626,623	400,000	29.61%
Shaanxi	1,913,575	265,499	303,528	29.74%
Gansu	294,919	72,274	40,000	38.07%
Sichuan	429,852	13,030	100,455	26.40%
Guangdong	1,217,451	339,143	159,000	40.92%
Guangxi	371,505	86,946	6,000	25.02%
Yunnan	187,280	53,597	14,756	36.50%
Guizhou	86,576	13,314	19,915	38.38%
Total	*33,783,807*	*7,028,124*	*3,502,667*	*31.17%*

Notes and Source:

1. Total land-poll taxes are the sum of local formal income, local surtax income, and central formal income. See records on central formal income in *Yongzheng Daqing huidian*, vol.32, 1658-1666.
2. Local formal land-poll taxes are 1724's figures, see records in *Yongzheng Daqing huidian*, vol.32, 1658-1666. The exact figure of the 1730s may differ from the quotas in 1724, but the margin would not be significant as the total quota of land-poll taxes was around 30 million *taels* during this period.
3. Land-poll tax surcharge rates are based on Chen Feng's modified figures in “Lun haoxian guigong”, 22. Noticing that these figures are the overall surcharge tax rates of each province, and each lower-level administration within a province had different surcharge rates.
4. Local share of land-poll tax = (Local surcharge + Local formal income) / Total land-poll taxes.

Table 4.4 ***Allocation of Salt Taxes and Surtaxes in 1736***

(unit: *taels* of silver)

Salt division	*Total Income*	*Central Income*	*Imperial Household*	*Local Income*	*Local Share*
Lianghuai	3,090,891.55	2,061,319.64	305,044.15	724,527.76	23.44%
Liangzhe	836,648.50	706,920.10	6,600.00	123,128.40	14.72%
Changlu	504,016.03	497,249.72	6,766.31	70,088.82	13.91%
Shandong	266,144.72	215,792.38	700.00	49,652.34	18.66%
Hedong	465,453.51	396,208.00	288.961	68,956.55	14.81%
Liangguang	633,136.28	579,787.35	0.00	53,348.93	8.43%
Fujian	412,441.30	373,445.10	2,871.36	36,124.84	8.76%
Sichuan	202,417.60	149,046.57	0.00	53,371.03	26.37%
Yunnan	325,775.94	229,955.46	0.00	95,820.48	29.41%
Total	*6,736,925.42*	*5,209,724.32*	*322,270.78*	*1,275,019.14*	*18.93%*

Source: Appendix C.

These new sources of funding in local administration were primarily used in three ways. First, to make up tax arrears (between provincial and central government); second, to provide public expense funds; and third, to improve payment standards to local officials (which was also called the "nourishing-honesty" payment). Any amount remaining was to be stored in the local treasury as reserves. In the first few years of the fiscal reform, a large amount of land-poll tax surcharges were used to make up tax arrears in provincial governments. An example of this was Shanxi province, where the surcharge rate of land-poll tax was initially set at 20% between 1723 and 1725 and then reduced to 13% after 1726 when tax arrears were cleared.[295] This part of the surcharges was then either removed or employed for other usages.

The second usage was that of so-called "public expense" funds. This part of spending comprised the allowances given to low and high-level officials to cover any non-budgetary expenses (such as the fees and expenses incurred in sending taxes and reports to the central government).[296] The third usage was the "nourishing-honesty"

[295] Chen, “Lun haoxian guigong,” 21.

[296] Zelin, *The Magistrate's Tael*, 175. In her research, Zelin considers that the "public-expense" fund was also used for "local- and provincial-level irregular and emergency expenses". While in many cases, the funds on the latter usage, emergency expense, came from provincial reserves (*yu yin*) rather than "public expenses" fund, and public expense funds usually had specific purposes of usages and did not reserve for emergency spending. In fact, until the second half of the 18th century, provincial governments had considerable freedom to use land tax surcharges, and the funding sources for various usages differed across places.

payment, which aimed to increase the statutory incomes of local officials. Nourishing-honesty payments can be dozens of times higher than the original salary standards. For instance, a governor-general's nourishing-honesty money can be 83.87 to 129.03 times higher than his salary, while a county magistrate's nourishing-honesty money can be 8.9 to 50.2 times higher than his salary.[297] However, the nourishing-honesty money was not entirely spent on the official's personal expenses. A local official managed a certain number of government employees under his position and may hire additional employees outside of the statutory budget (such as clerks whose statutory budgets were entirely cut off by the central government after 1657). Therefore, a part of the nourishing-honesty payment could be used as allowances or salaries for subordinate employees.

4.4. The problem recurring: Tax distributions after 1736

By 1736, the basic principles for tax surcharges had generally been settled, which is that surtaxes were charged at specific percentages on top of the formal tax incomes. Under such a mechanism, local budgets could be expanded in two ways, either the state increases tax quotas or surcharge rates. However, neither of these approaches were adopted by the imperial state in the eighteenth century. On the contrary, fiscal revenues assigned to the local administration diminished significantly by the end of the century. During the fiscal reform of Yongzheng's reign, the clear vision of the central state was to draw an explicit line between income revenues belonging to the central government and those belonging to the local government. The state also aimed to differentiate between central and local responsibilities in public expenditures. However, these principles were gradually overturned. Akin to the situation before 1723, the decline of the funding in local administration in both nominal and real terms inevitably motivated governments to resort to the informal funding system, which was to collect non-statutory (or illegal) tax revenues outside the formal budgeting system.

[297] Chen, "Lun haoxian guigong," 33.

In this case, the problems in fiscal governance that were observed in the late seventeenth century recurred. Even though the reform on tax surcharges increased local incomes, there was no paradigm shift in the state's fiscal policy. Throughout the eighteenth century, fiscal management in China continued to prioritise the demands of the central government without substantially increasing taxes. Moreover, over time, a larger share of surtax incomes was redistributed to the central government. By the early nineteenth century, fiscal revenues retained in local administration were even smaller than the amount assigned in the early eighteenth century. In this sense, the basics of fiscal policies in China were maintained throughout the late seventeenth and early nineteenth centuries.

4.4.1 A reversal to the 1720s policy

Since 1736, critiques on tax surcharges became increasingly strident among imperial officials. Several criticisms centred on the fact that the use of tax surcharges, unlike formal taxes, was not subject to the strict supervision of the central treasury.[298] In fact, some of these critiques were reasonable. In the early stage of the reform, Emperor Yongzheng explicitly rejected the claim that the use of tax surcharges should be approved by the central treasury.[299] Instead, local governors-general had the autonomy to approve the use of surtaxes in the lower authorities, and only needed to report annual expenditures to the central treasury for record purposes. Such an institutional arrangement aimed to distinguish between the use of tax and surtax incomes as well as increase fiscal autonomy and flexibility in local administration. However, at the same time, the audit of local finance largely relied on the personal jurisdiction of governors-general in charge. In the following years, several governors-general and provincial governors were accused of funding abuses; therefore, from 1732 onwards, the state began to introduce more regulations on the use of tax surcharges, requiring the central treasury to review the cash flow of surtax incomes.

[298] *Guangxu Daqing huidian shili* 光緒大清會典事例 vol.169, 42a.
[299] Chen, "Lun haoxian guigong," 26.

The review of surtax policies eventually produced the Tax Surcharge Regulations (*haoxian zhangcheng*) between 1740 and 1750.[300] These not only defined the total amounts and rates of tax surcharges in each province but also the purposes for which surtax incomes were used, which comprised three categories: "expenses with particular uses and amounts", "expenses with particular uses but no specific amounts", and "expenses without particular uses and amounts".[301] In 1760, the imperial state also required the central treasury to review and disapprove, if the spending was considered unnecessary, the use of tax surcharges in local administration.[302] Multiple versions of the Regulations indicate that centrally approved uses of surtax incomes were reduced over time. In the 1750s version, there were 575 centrally approved uses for "expenses with particular usages and amounts" in 18 provinces.[303] In the 1820s version, the figure was reduced to 538.[304] For expenses with "particular usages but no particular amount", there were 129 approved uses in both versions of the Regulations, meaning that in each province, only 33 categories of spending on average could be approved by the central treasury. For "expenses without particular usage and amounts", any expenses beyond 100 *taels* of silver needed to be approved by the central treasury.

Notwithstanding the goodwill inherent in managing tax and surtax incomes with strict audits, these regulations unavoidably reduced the fiscal flexibility in local governments. By the end of the century, the management of surtax incomes became no different from that of formal taxes in practice, and a portion of surtaxes needed to be delivered to the central government in accordance with the required quotas.

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[300] Some scholars consider that *haoxian zhangcheng* were compiled in 1740, as Wang Qingyun recorded the year of compilation as 1740 in his book *Shiqu yuji* 石渠餘紀, vol.3 published in 1890. However, some other people consider that *haoxian zhangcheng* were compiled in 1748 and modified in 1750 – these are the dates recorded *Guangxu Daqing huidian shili* 光緒大清會典事例, as vol.170. So it is more likely that the compilation started in 1740 and the final version finished in 1750.

[301] *Guangxu Daqing huidian shili* 光緒大清會典事例, vol.170, 19b-20a.

[302] *Ibid*, 17a.

[303] Yang Yongkang and Lu Junxia 杨永康, 卢俊霞, "Haoxian zhangcheng biancuan kao" 耗羡章程编纂考, *Lilun jie* 002 (2017): 74.

[304] *Ibid*.

4.4.2 Maintaining a high level of resource concentration

The continuation of the state's fiscal targets was reflected not only in the audit of government spending but also in the distribution of tax incomes. From 1736 onwards, local funding mainly came from land-poll taxes and surtaxes. However, the tax quota reached its peak in the middle of the eighteenth century and thereafter became stagnant. Correspondingly, surtaxes levied on top of the land-poll tax were not increased. Salt tax surcharge was the second major source of local income. Although salt taxes expanded over the eighteenth century, revenues distributed to the local government hardly increased. At the same time, the state and the imperial household increasingly lent out capitals to salt merchants for the return of interests, but these revenue incomes were mostly distributed to the central government and the imperial household. Transit tax and customs increased steadily over the eighteenth and early nineteenth century. Even so, tax surcharges from this category were mainly delivered to the imperial household and transit gates and customs rather than civil bureaus such as county and prefectural governments. Hence, the local administration neither benefited from the increasing population (land-poll and salt taxes) nor the expansion of the domestic market (transit tax and customs).

Shrinking local incomes from land-poll taxes

The land-poll tax was the single largest source of fiscal revenues to the state, and the biggest source of funding for local governments. Nevertheless, throughout the entire eighteenth century, it remained fairly constant. The basis of land-poll taxes, as the name suggests, was the land under cultivation and population. However, incomes from land-poll taxes did not substantially reflect the expansion in arable land and population. According to official records, land acreages under cultivation grew from 683,791,427 mu in 1724 to 790,224,423 mu in 1812, and the population increased from 209,839,546 in 1766 to 361,693,179 in 1812.[305] Because underreporting was a common issue during this time, the real basis for the land-poll tax should be larger than the officially reported

[305] Liang, *Zhongguo lidai hukou*, 391-401.

figures.[306] Nevertheless, land-poll taxes remained at approximately 29 million *taels* during this period, while surtax incomes remained at approximately three million *taels*.[307]

Although the overall land-poll tax and surtax incomes remained fairly constant, the share of tax revenues distributed to the local authority declined after the middle of the eighteenth century. Figure 4.1 presents the allocation of land-poll tax surcharges in 1736 and 1810, respectively. Except for a small part of surtax incomes that were allocated to the central government as food allowance and meltage fees, the majority of the land surtax income was retained in local administration. Together with the local share in formal tax revenues, roughly ten million *taels* of silver were retained in local administration, which constituted 31.17% of the total. However, in 1800, more than half of the surtax incomes were transferred to the central government, even though they were originally set up to increase local funding. At the same time, the central share of the distribution of formal land-poll tax revenues also increased and, overall, land-poll taxes and surtaxes assigned to the local authority declined to 5,803,063.51 *taels* circa 1800, which was only 18.44% of the total. Even in nominal terms, this figure was smaller than the level in 1685 (6,284,471 *taels*).[308] If 1736 is taken as the base year and the impact of inflation considered over this period, local incomes in 1800 were approximately 55% of the level in 1736 in real terms.[309]

[306] Discussion on Qing's real population size see Cao, *Zhongguo renkoushi diwu juan*, vol.5. Land acreages see Shi Zhihong 史志宏, "Qingdai qianqi de gengdi mianji ji liangshi chanliang" 清代前期的耕地面积及粮食产量估计, *Zhongguo jingjishi yanjiu* 2 (1989): 47-62; Cao, Xue, et al. 曹雪等, "Jin 300 nian zhongguo gengdi shujuji chongjian yu gengdi bianhua fenxi" 近 300 年中国耕地数据集重建与耕地变化分析, *Dili xuebao* 69, no.7 (2014): 896-906.

[307] Liang, *Zhongguo lidai hukou*, 391-401.

[308] *Kangxi Daqing huidian* 康熙大清會典, vol.32.

[309] Here, I use the estimated consumer price index from Peng Kaixian 彭凯翔, *Qinngdai yilai de liangjia* 清代以来的粮价 (Beijing: Shiji wenjing, 2006), Appendix 5, Table A5.1. Peng's CPI takes 1760/80 as the base year, and I adjusted it to 1736.

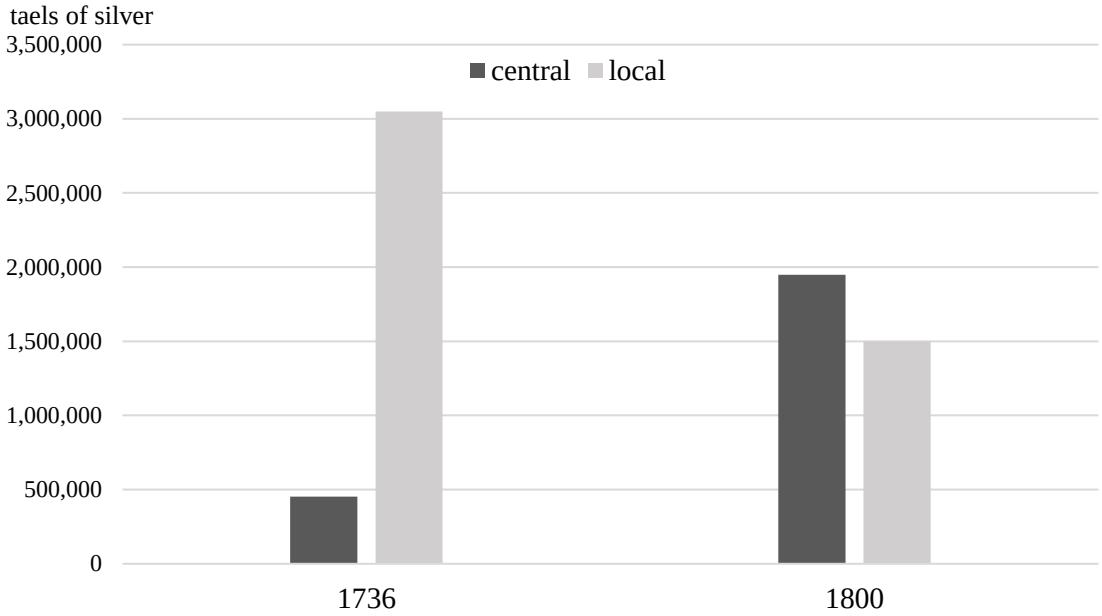

Figure 4.1 ***Allocations of land-poll tax surcharge in 1736 and 1800 (taels of silver)***

Notes and Source:
1736 from Table 4.3; 1800 from 1818's version of *Daqing huidian shili*, vol.143-144, 6383-6433. There was no explicit date on the figures in 1818's version of *Daqing huidian shili*, but the figure of salt taxes in a different volume was recorded in 1800, and I presume that the land-poll tax data came from the same year. Incomes assigned to the central government in 1736 included central food allowances and meltage fees.

Stagnant local incomes from the salt industry

As the empire's second-largest source of fiscal incomes, salt taxes can be expanded in two ways. The central treasury can either increase the number of salt licences issued by population growth or raise the tax rate per licence by price growth in the market. Before the mid-eighteenth century, increases in salt licences did not appear to be connected with population growth and salt consumption.[310] Usually, when a salt field produced more salts than the required production quotas, additional salt licences were issued. In other cases, surplus licences were issued simply because local officials or the government presented proposals. In fact, until 1774 the Qing empire's "population" records barely reflected the real population. It would have been unlikely for the government to calculate the potential salt consumption in the market and make corresponding adjustments in license issuing. In addition, the state's formal tax rates on salt do not appear to react to the long-term changing prices of salt in the market. Taking

[310] There was no expansion to the original quotas of salt licenses. Instead, all increases came from the so-called "surplus licence" (余引). These surplus licences, just like the regular licence, had quotas and were not constantly adjusted.

the example of the lar Lianghuai salt division, the formal tax rate in Hunan and Hubei provinces remained at 1.1727 *taels* per yin (license) over the entire Qianlong reign (1736 to 1795).[311] During the same period, the wholesale price of salt in Hankou (Hubei province) increased from 6.0028 *taels* per yin in 1741 to 12.37368 *taels* per yin in 1789.[312]

Although the salt industry continued to provide additional fiscal revenues over the eighteenth century, a growing portion of these incomes eventually flowed into the central treasury and the imperial household. Outside the state's tax system, the central government and imperial household also lent loans to salt merchants, more or less forcefully, in return for the interest. Because loans were mainly issued by the treasury of the imperial household, the emperor was able to circumvent the established salt tax system and control the use of interest incomes.[313] Occasionally, local treasuries were approved to make such loans, but the interest was mainly used on local troops.[314] This meant the local share of salt revenue incomes declined over time. Table 4.5 and Figure 4.2 present my estimations on salt tax and surtax allocations in 1800. By 1736, roughly 18% of salt tax revenues were distributed to the local administration (Table 4.4), whereas by 1800, even if lending interests are included, the local share declined to 14%.

[311] *Guangxu chongxiu Lianghuai yanfazhi* 光緒重修兩淮鹽法志, vol.99.
[312] Ibid.
[313] Unlike business loans, the majority of the money lent by the imperial household and the central government had no ending date and, the payment of interest was perpetual unless terminated by the emperor.
[314] In the Fujian salt division, incomes from the lending interests were mostly used to supplement navy provisions. See *Daoguang Fujian yanfa zhi* 道光福建鹽法志, vol.16.

Table 4.5 ***Estimated salt taxes, surtaxes, and lending interests in 1800.***

(unit: *taels* of silver)

Salt division	*Total income*	*Central income*	*Imperial household*	*Local income*	*Local share*
Lianghuai	3,848,988.17	2,342,122.17	790,058.79	716,807.22	18.62%
Liangzhe	1,214,924.30	1,077,193.66	50,884.72	86,845.92	7.15%
Changlu	776,657.00	676,669.03	53,139.15	46,848.82	6.03%
Shandong	368,101.69	304,126.97	5,894.49	58,080.23	15.78%
Hedong	516,467.73	409,093.31	13,018.56	94,355.87	18.27%
Liangguang	819,071.63	773,162.32	0.00	45,909.31	5.61%
Fujian	414,133.53	373,877.34	2,871.36	37,384.84	9.03%
Sichuan	270,497.53	219,295.25	0.00	51,202.29	18.93%
Yunnan	576,928.79	401,743.40	0.00	175,185.39	30.37%
Total	*8,805,770.37*	*6,577,283.43*	*915,867.07*	*1,312,619.87*	*14.91%*

Source: Appendix C.

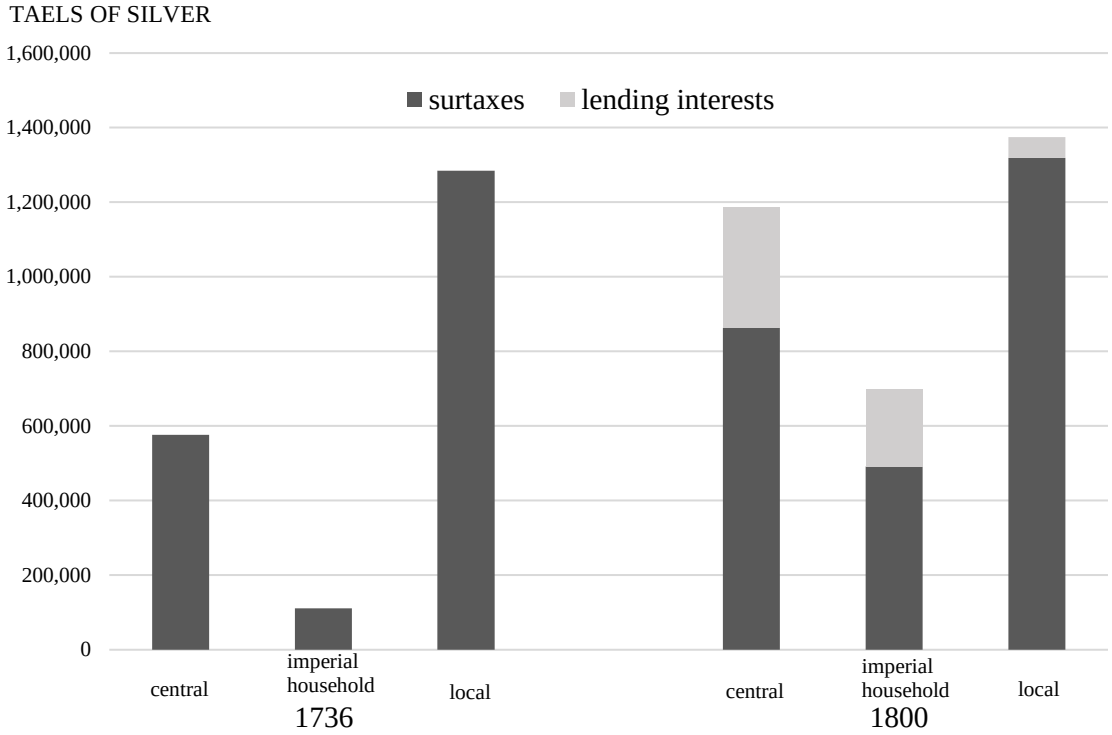

Figure 4.2 ***Estimated allocations of salt tax surcharge and lending interests in 1736 and 1800 (taels of silver)***

Source: 1736 from Table 4.4; 1800 from Table 4.5.

Limited growth from transit tax and customs

Unlike land-poll and salt taxes where a pre-registration of the tax base was essential, transit tax and customs were collected at piece rates upon the flow commodities passing through each transit gate and customshouse. A higher flow of

commodities would automatically generate a higher tax income. Although tax quotas also applied to transit tax and customs, the imperial state constantly revised these quotas.[315] Despite this, local incomes received from this tax category could not match those from land-poll and salt taxes. Every financial year, land-poll taxes provided nearly 30 million *taels* of silver with surtax incomes of more than three million *taels*. However, in the second half of the eighteenth century, transit tax and customs generated only five to six million *taels*.[316] Surtax incomes from this category were even smaller. From 1736 onwards, the rate of surtax on transit tax and customs was generally reduced to 10% and generated only 500 to 600 thousand *taels* of surtax incomes.

Although the central treasury occasionally made upward adjustments in surtaxes, these were often small.[317]Adjustments at each transit gate and customshouse were slightly different, the most common of which was the so-called "reimbursement fee" for silver impurity (平余银) and "food allowance" (饭食银) which was also seen in land-poll and salt tax surcharges. The former permitted a 2.5% surtax rate upon the formal taxes collected,[318] and half of this income, which was a 1.25% tax surcharge, was in fact delivered to the central government. The latter, food allowance, was charged at 0.7% on top of formal taxes. Together, these new surtaxes could generate 97,500 to 111,700 *taels* of local incomes. There were also various region-specific new surtaxes, but the rates of surcharge were generally low, and like salt tax surcharges, a portion of surtax incomes from transit gates and customshouses, which totalled approximately 200,000 *taels*, was eventually transferred to the imperial household rather than remain as local funding.[319]

Hence, tax incomes from transit gates and customshouses continued to expand over the eighteenth century but played a much smaller role in local finance. Moreover,

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[315] Ni, *Customs Duties*, 34-112.
[316] Ibid, 133, Table 7.1.
[317] Lai Hui-min's research show that the most majority of new surtaxes under transit tax and customs were introduced before the 30th year of Qianlong's reign (1765). See Lai Hui-min 賴惠敏, "Qing qianlongchao de shuiguan yu huangshi caizheng" 清乾隆朝的稅關與皇室財政, *Zhongyang yanjiuyuan jindaishi yanjiusuo jikan* 46 (2004): 53-104.
[318] 25 *taels* per thousand *taels* of formal tax income.
[319] The data on the imperial household's incomes from transit taxes and customs come from Lai, "Qing qianlongchao de shuiguan yu huangshi caizheng," 76-77.

surtax incomes from this tax category were mainly used in transit gates or customshouses rather than county and prefectural governments.

4.4.3 Recuring problems: fiscal capacity of the central and local government

Traditional Chinese historiography asserts that there was no significant growth in China's fiscal revenues over the eighteenth century.[320] This does not take into account the statutory surtax incomes. However, even if surtaxes are included, the statement is not refuted. Figure 4.3 presents my modifications and estimations to the most commonly referenced tax records in 1685, 1724, 1753, 1766, and 1800 (without lending interests). Between 1685 and 1723, although the state's fiscal revenues increased slowly due to the recovery of social order and production, taxes paid in cash increased only by approximately 5%. Since 1723, the empire's statutory tax revenues significantly increased due to the reform on tax surcharges. Even so, taxes paid in cash hardly changed over time. Taxes paid in kind, including grains delivered to the capital city and local garrisons, also remained fairly stable, but their cash values had been constantly increasing in conjunction with rising prices over the century. In general, total taxes counted in cash values were gradually, but very slowly, increasing in the second half of the eighteenth century.

[320] Tang Xianglong 汤象龙, "Yapian zhanzheng qianxi zhongguo de caizheng zhidu" 鸦片战争前夕中国的财政制度, *Caijing kexue* 1 (1957): 49-83; Peng Zeyi 彭泽益, "Qingdai caizheng guanli tizhi yu shouzhi jiegou" 清代财政管理体制与收支结构, *Zhongguo shehui kexue yanjiushengyuan xuebao* 2 (1990): 48-59.

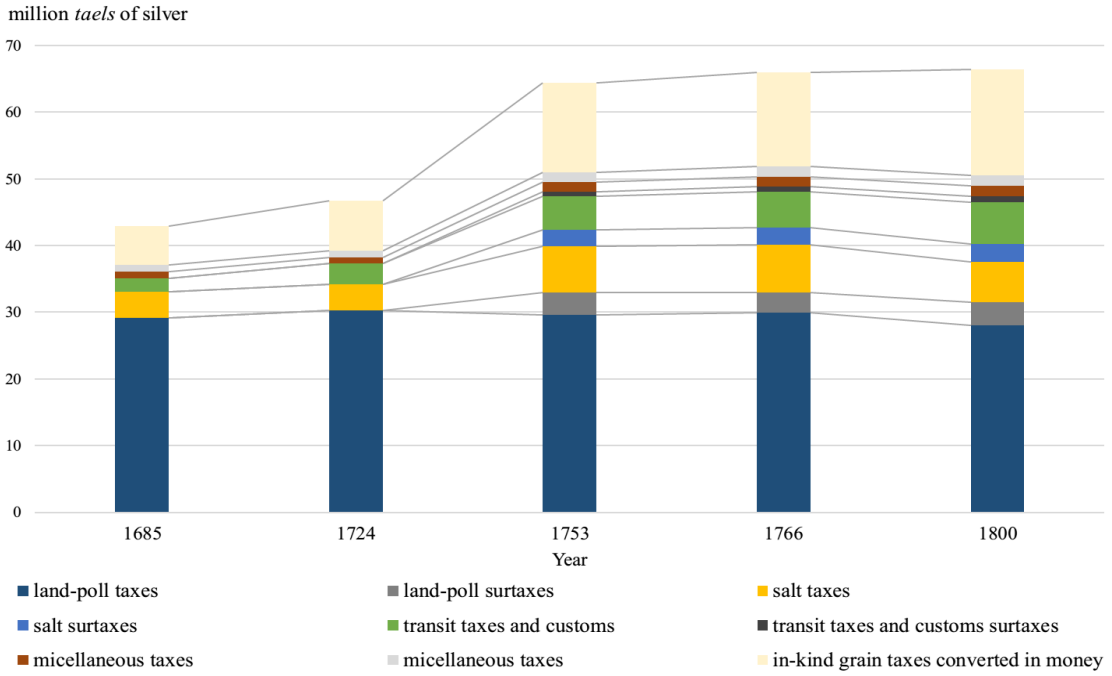

Figure 4.3 ***Estimated total statutory tax revenues in 1685, 1724, 1753, 1766, and 1800 (taels of silver)***

Note and source:

* Land-poll and salt taxes incomes are taken from *Daqing huidian*; the mineral tax in miscellaneous taxes is taken from Ma Qi 马琦, "Shizheng, dinge yu zouxiao qingdai yunnan kuangshui yanjiu" 实征、定额与奏销: 清代云南矿税研究, *Qing History Journal* 3(2018): 86-88; all other miscellaneous taxes are taken from *Daqing huidian*. The transit tax and customs are taken from Yuping Ni, *Customs Duties in the Qing Dynasty, ca. 1644-1911* (Leiden: Brill, 2016), 128-133.
* Land-poll surtaxes are taken from *Daqing huidian*. Salt surtaxes from Table 4.4 and Table 4.5. Surtaxes on transit tax and customs as well as miscellaneous taxes are my estimations using 14% surtax rates — 10% comes from the general surtax rate, 3.2% is the "balance fee" and "food allowance" charged at 32 taels per thousand taels formal tax incomes, and the rest 0.8% is several other miscellaneous surtaxes.
* In-kind grain taxes in this table include both taxes and surtaxes. 1685 and 1766's figures are taken from *Qingshi gao* vol.125; 1724's figure is estimated using the average of 1685 and 1766's; 1800's figure is estimated using the average of 1766 and 1825's. I use rice prices from Peng, *Zhongguo huobi shi*, 571 to calculate money values.

Without any significant expansion in overall tax incomes, the concentration of revenues in the central government ensured the central authority remained in a good fiscal condition over the eighteenth century. In early modern China, the cumulative fiscal surplus in the Ministry of Revenue was an important indicator of fiscal health. In comparison with the Ming empire in the sixteenth century, the fiscal reserves of the Qing empire's central government continued to increase over the eighteenth century. Between 1766 and 1780, these even exceeded the empire's overall annual statutory tax

revenue (including tax and surtax incomes, and taxes paid in cash and in kind).[321] Over the same period, the Qing state also achieved military successes in its western frontier near Central Asia. Hence, from the perspective of central government, the institutional designs of such a fiscal structure helped the state to reach some of its policy targets, and tax redistributions between the central and local governments constituted one way to increase central incomes without substantially increasing the tax level. However, the fiscal situation of local governments was entirely the opposite. Over the second half of the eighteenth century, the local budget was significantly reduced, both in nominal and real terms. This gave the local administration motivation to seek additional revenue incomes outside the budgetary funds. For example, in nineteenth century Baxian, Sichuan province, government staff charged service fees for a wide range of public services, including filing lawsuits, summoning plaintiffs and defendants to court, and issuing tax warranties.[322] Given that the state's formal investments in local administration were too low, these fees and charges seem to have become conventions accepted by local residents.

4.5. Conclusion

Since the late seventeenth century, fiscal governance in China repeatedly lingered between policy targets and real situations. The management of governmental finance was centred around two aims. First, to complete the annual tax quotas set by the central government. Second, to ensure a high level of resource concentration that prioritised the fiscal demands of the central government. However, the state's willingness to increase taxes was rather restrained. This meant that the core of the fiscal policies eventually came to prioritise central finance under a given level of tax incomes, and when needed, redistributed the incomes between central and local governments. For land-poll taxes, the most important source of fiscal revenues to the empire, statutory

[321] Shi, *Qingdai hubu yinku shouzhi*, 189-194.
[322] Li Rongzhong 李荣忠, "Qingdai baxian yamen shuli yu chaiyi" 清代巴县衙门书吏与差役, *Lishi dangan* 01 (1989): 95-102.

tax quotas became fixed at the beginning of the eighteenth century. For salt taxes, the second largest income, expansions in tax revenues did not bring about a substantial increase in overall fiscal revenues. However, state investments in local administration have been maintained at a low level since the late seventeenth century.

Given the fiscal structure, local governments often had to compromise between the demands of the central government and what was actually required in local administration. Although the management of fiscal resources on the central government's account appeared to be orderly, this was not the case in practice. In the case of both land-poll and salt taxes, local bureaucrats levied a substantial amount of non-statutory fiscal revenues, taxing and distributing these incomes in an organised and systematic way. These taxes were not only used to cover local expenditures but also delivered to the central departments, becoming a practical solution to cope with situations that lay outside the prioritised domains in fiscal governance

In several aspects, the fiscal relationship between the central and local governments was regulated by detailed rules. The state not only set targets for tax distribution but also rules on where tax revenues should be spent. However, there has always been a gap between what was designed on paper and what was practised in reality. To some extent, this is a result of weighing the importance of different fiscal domains. In many cases, the central government, even the emperors, were fully aware of the issues created by the low-level of state investment in local governments. Nevertheless, the overall aims in fiscal administration remained unchanged over time. Even though the reform in the 1720s increased local government incomes by allowing tax surcharges at rates approved by the central authority, no paradigm shift took place in the state's tax and distribution policies. The state's primary concern was to fulfil the fiscal demands of the central government, a goal it has more or less achieved over the late seventeenth and eighteenth centuries. However, problems emerged outside those targeted domains, where the imperial state intentionally kept local administrative expenditures low. Given that population and prices in China continued to grow in the eighteenth century, local funding distributed under the formal fiscal system inevitably declined in real terms. This generated incentives for the local administration to bypass

the formal regulations to obtain additional incomes for practical reasons.

During the eighteenth century, there was no fundamental change in China's fiscal structure. Under the formal fiscal system, the overall tax level and distribution structure remained stable for a long time. Outside the formal system, the central government found it difficult to effectively regulate local tax behaviours. The more the central government needed fiscal revenues, the more it preferred to retain such a distribution structure. The more stable this structure, the more the local government needed to obtain revenue incomes outside of formal budgeting. In this sense, it was the flexibility outside of formal institutions that maintained the highly concentrated structure of tax distribution.

CONCLUSION

In the final part of this research, I summarise my arguments and make concluding remarks. First, I summarise my arguments and identify a numerical logic in the state's capacity-building process with reference to the case of China. I then revisit the discussion on some of the historical arguments for China's fiscal capacity in premodern times.

A numerical logic of capacity-building

Throughout this research, I have identified the development in China's fiscal capacity based on a numerical logic. This interprets the exercise of state power as governing via numbers. It views fiscal and state capacity as the ability to discipline behaviours with calculative practices. Accordingly, capacity-building with numerical logic can be illustrated in non-physical forms, such as the state's ability to abstract information in the form of numbers, monitor organisations and agents using calculative practices, and discipline behaviours through the manipulation of numbers.

In the case of premodern China, this framework enabled me to evaluate the impacts of technical changes and calculative practices on the state's capacity-building during the transition from a fiscal system based on payments in kind to one based on monetary payments. This transition introduced silver *tael* as a standard numeraire in the state's statistical and accounting system, and enabled the central government in China to measure incomes and expenditures in local administration. Transformations in fiscal institutions also enabled the central government to further intervene in the details of fiscal management in local governments. Over the centuries, the Ming and Qing states continued to build up a local budget system, predicting and monitoring local spending with rigid regulations on the use of tax resources. In the face of warfare and fiscal pressure, local budget figures also became the basis for actions, enabling the state to reconfigure fiscal revenues between the central and local authorities. When social order

was eventually restored in the late seventeenth century, the Chinese state established a more centralised fiscal system.

All these changes in China's fiscal system have co-developed with changes in social settings after the mid-fifteenth century, when silver *tael* was introduced as a numeraire in market transactions and fiscal accounting. Before fiscal (re)monetisation, incomes and expenditures in local governments remained largely unknown to the central authority in China. One reason for this was the lack of a stable unit of measurement for taxes charged and spent in kind. Except for garrison supplies and officials' salaries, all other local spending was levied from a customary tax system in the form of tax farming, ranging from labour services to all kinds of office supplies. Given that the government had not been able to provide a stable monetary system since the late fourteenth century, these local levies were counted in dozens of units in kind, each having a separate entry on the government's account. When silver *tael* was adopted as a unit of accounting after the mid-fifteenth century, a standard budgeting system gradually developed in local administration, specifying local tax rates in detail and making tax payments comparable in calculations. Local governments could still collect taxes in kind, but on the fiscal account a growing number of tax incomes began to be counted and recorded in the same monetary unit regardless of time and space.

The creation of new figures for local finance exerted significant impacts on fiscal governance in China. For instance, they re-quantified government incomes, expanding the reach of the statistical network of the central authority. They also helped to mobilise taxable resources that were far away from the calculation centre, weighing and deploying fiscal revenues before moving them around in reality. Another important impact was to displace the original meanings of the taxed objects with narrower definitions, establishing a two-way relationship between the numbers and objects they represented. Whenever and wherever government incomes and spending were reviewed and discussed on paper, they were always referred to in terms of their cash values and mobilised in their concrete forms, displaying a direct connection between the numeraire and the actual tax items collected and spent. Thus, the communication between higher and lower authorities was standardised.

These developments in fiscal governance are clearly evidenced by corvée conscriptions. Before they were measured in silver *tael*, the meaning of corvée "cost" varied according to individual circumstances. It may refer to the loss of a labour force in the family, or the drinking, eating, and all other living costs a person had to prepare for their term of service. These varied greatly between individuals. But when it came to silver numeraire, the "cost" alluded to whether the person was able to spend a certain amount of money during their service; thus, the meaning of corvée costs was narrowed and standardised. In the sixteenth century, the concept of "corvée conscription" further developed into a type of tax payment. Even though residents in several parts of the empire continued to pay their services in person, the government began to measure and record corvée conscriptions in cash values, calculating the overall incomes from corvée labours in silver *tael*. Without a stable monetary numeraire, the state could not view corvée conscription as a kind of "income" that was comparable to other types of tax payments.

The fiscal system in China was further centralised during the seventeenth-century crisis when the state was constantly facing challenges from social and military crises. Under the ever-growing fiscal pressure of military expenditures, local budget figures became the basis for redistributing fiscal revenues. Eventually, a high level of resource concentration came into being after the dynastic change in the mid-seventeenth century, the new fiscal structure of which embodied a strong focus on central rather than local fiscal needs. During this process, the statistics produced from the monetised fiscal accounts played a key role: they helped the central government to decompose the empire's income and spending structures, reconfiguring tax distributions and eventually altering the central-local fiscal relationship. In local governments, the number of *ya yi* (sub-official functionaries) was reduced significantly during the dynastic change of the mid-seventeenth century. Furthermore, the structure of local spending was also standardised such that all *ya yi* were paid according to the same wage standard and all local officials in the same positions were given the same types and numbers of *ya yi* regardless of place.

Before the mid-seventeenth century, tax redistributions mainly occurred between

the central departments. This centralised the management of fiscal incomes in the central treasury, the Ministry of Revenue. One outstanding feature in China's fiscal administration since the late fourteenth century was the intentional design of fragmentation in fiscal management. There was no unitary agency in the central government to receive and manage all central tax incomes. Instead, different departments, such as the Ministry of Revenue, the Ministry of Work, or the Ministry of War, managed their departmental coffers and received tax incomes directly from the tax collection agents. This institutional arrangement was initially designed to prevent power concentration, but it unavoidably resulted in numerous practical problems.

Fiscal monetisation made resource redeployment possible as tax incomes from cash payments could be reassigned for different purposes. Over the sixteenth century, the annual net income of the Ministry of Revenue increased from 1.5 million *taels* of silver in 1506 to more than 4 million in 1600. In 1581, for example, 36.88 per cent of the treasury's receipts came from the reduction in local garrison supplies, and 4.65 per cent from the incomes transferred from the Ministry of Work. These incomes were originally paid in kind and could not really be used for a different purpose (such as raw materials for construction). However, it was not until the mid-seventeenth century when the Qing dynasty replaced the Ming that the state was able to redistribute resources between the central and local authorities. In the last two decades of the Ming empire, a growing amount of central income was retained by the empire's local governments and never delivered to the central treasuries. When the Qing regime broke through the Ming's defence along the Great Wall, the explosion in military expenses forced the Qing state to exercise much stronger control over local bureaucracy in its occupied territory. Without monetising corvée labours and other local levies in the previous century, the imperial state would not have been able to decompose the spending structure in local governments and redeploy the resources for other uses.

When the social order in China was eventually restored after 1681, a high level of resource concentration came into being. This prioritised central finance, rendering local demands a secondary concern in policy design. The fundamental features of such fiscal arrangements were well maintained into the nineteenth century. Although this

enhanced the fiscal capacity of the central government, insufficient investments in local administration caused a series of problems. The central authority possessed the ultimate legal rights to design local budgets and redeploy fiscal revenues but was not capable of calculating the actual needs of a local authority, as a result of which authorised local budgets deviated from reality. In response, local governments had to resort to non-statutory revenue incomes, filling the gap outside the targeted domains of the state.

In fact, the existence of such an informal fiscal channel was the key factor in sustaining the tax distribution structure after the late seventeenth century. The formal fiscal system in China embodied the ideal policy priorities of the state, while the informal system represented the actual situations in local administration. Under the formal system, the overall incomes from taxations were fairly static and the local share of tax incomes remained disproportionally small. While outside the formal system, surtax incomes allowed the local authority certain flexibilities. By supplementing new data on salt incomes in the eighteenth century, the empire's local governments levied a substantial amount of non-statutory surcharge incomes to compensate for the lack of state investment prior to the reform in 1723. Far from simply being corrupt, these local behaviours were highly organised and systematic.

The problem recurred during the second half of the eighteenth century when the state once again reduced formal investments in local administration by a significant margin, directing tax incomes to the central authority. In the wider context of China's long-term economic and population growth, the diminishing funding in China's local administration once again created incentives for local agents to resort to non-statutory resources to fulfil their fiscal needs. Except for surtax incomes developed by local governments themselves, the state invested no further resources in local administration other than those at the level of the late seventeenth century. Even surtax incomes experienced almost no increase after the mid-eighteenth century — they were set to be charged at fixed proportions upon formal taxations, but formal taxations remained fairly static over the rest of the century.

Between the late seventeenth and eighteenth centuries, the highly centralised structure of tax distribution in China was akin to an ideal fiscal relationship that

provided a behavioural framework for both central and local authorities. On the one hand, the central government had the motivation to remain a highly centralised fiscal structure, as it was able to receive a stable tax inflow via the established arrangements. On the other hand, this institutional stability created incentives for local governments to constantly seek unapproved tax revenues outside the given budget. Under such a framework, the central authority clearly emphasised the fiscal priority, setting the performance targets for local officials. Outside the targeted domains, the local authority took actions around the framework, responding to the changing circumstances over time without altering the formal fiscal structure.

Historical arguments: fiscal capacity in premodern China

Curreent research on the fiscal capacity of the Chinese state is centred around a core debate: whether China's lower taxation level, in comparison to contemporary European states, was a result of the weakness of absolutism or the benevolence of the Confucian ideology. These debates come from the implications derived from the level of China's tax per capita in the eighteenth century. The advantage of using tax per capita as a measurement of fiscal capacity is comparability. However, such a measurement may eliminate the contextual information embedded in those tax figures, hence the debates around the implications of China's tax level. Fiscal administration is in essence the politics of numbers. Different domestic and geopolitical backgrounds could generate different incentives for the use of numbers.

In early modern Europe, the politics of numbers largely focused on the military domain. Wars in Europe nourished political and fiscal centralisation as well as the rise and triumph of state authority. Over a long period of time, wars and interstate competitions were the major engines driving state formation and the growing tax capacity. As Charles Tilly describes it, "war made the state and the state made war".[323] The Chinese state between the 1620s and 1670s may fit into this fiscal-military framework, as state expenditure, and the corresponding expansion in incomes, were

[323] Tilly ed., *The Formation of National States*, 73.

driven by the ever-increasing military pressure during this time. Yet the role of wars in China's politics of numbers never exerted a similar impact after this period. There were no *de facto* challengers to state authority in China by European standards, and neither the Chinese local elites nor regional authorities enjoyed a power equivalent to that held by their European counterparts.

Given these differences in historical settings, I found that coverage of local finance in premodern China is missing in numerous studies. Unlike premodern Europe, where local authorities possessed *de jure* and *de facto* political and fiscal autonomy, local governments in premodern China were derived from the central government and reflected the expansion of the central authority. From a legal and institutional perspective, any statutory local incomes in premodern China, in contrast to many European cases, were the "retainment" of incomes that by law belonged to the central government. Changes in local budgets had to be approved by the Ministry of Revenue, and local incomes could be reduced by the central government and redirected to the central treasury. Therefore, the question of how (well) the central state in China maintained this power relation is key to our understanding of fiscal capacity and the politics of numbers in premodern China.

The Chinese tax data can also be problematic. Current attempts to compare China's tax level to that of other countries have not been able to include all statutory tax incomes. It is well known among fiscal historians of China that extreme care is required in the use of Chinese historical records. The lack of data for certain periods is a secondary issue. What really creates a problem is misunderstanding the statistical meanings of those fiscal records. One outstanding issue is misinterpreting the sum figures of taxes. For statistical and accounting practices in China between the fifteenth and nineteenth centuries, total incomes from one tax category were recorded separately in several accounting books. This practice aimed to avoid confusion among the taxes received by different local and central agents, as each tax usually had a specific purpose. Also, separate accounting books were produced to differentiate the tax and surtax incomes, even if they were received by the same agents. This was the case after the eighteenth century when the imperial state legalised tax surcharges. In a large

proportion of cases, the recorded "total sum" of a particular tax income was only the amount delivered to the Ministry of Revenue. These records normally excluded tax or surtax incomes that belonged to the central government but were delivered to a different department. These are not the problems caused by a state that failed to produce data but the problems caused by our misinterpretations of past records.

Given these limitations in existing research, this thesis made the following contributions to the literature. First, I examined China's state capacity using a numerical logic. At the centre of this numerical logic is a numerical network of power. It is "numerical" because all states unavoidably rely on statistics to govern. It is a "network" because the state relied on a statistical and information network to mobilise and distribute resources. This framework helps to decompose several key numbers in fiscal management, tracing their formations and uses back and forth through the history of China. Second, I examined local finance in China and central-local power relations between the fifteenth and nineteenth centuries. Finally, I collected new data for China's central and local incomes between the sixteenth and nineteenth century. This not only helped to depict a more comprehensive picture of taxation in China but also contributed to an analysis of the allocation of tax resources between the central and local governments over time, which was key to observing the development in power relations.

This research argues that between the mid-fifteenth and early nineteenth century, the central state in China achieved considerable success in attaining its political and fiscal goals and was far from being the weak state described in some studies.

Overall, the success of the central state in using numbers for fiscal governance is evidenced by the following. First, the statistical capacity of the state has been significantly strengthened. In the fifteenth century, local incomes and expenditures remained largely unknown to the central state. After the second half of the seventeenth century, the state established a rigid (over-rigid) budgeting system, monitoring local income flows in great detail. During these centuries, the Chinese states re-quantified tax payments in money numeraire, counting corvée labours in their cash values. Second, the state strengthened its capacity to redistribute fiscal revenues between the central and local authorities. In the later period, the central government retained most tax

incomes (roughly eighty per cent) and maintained this distribution structure into the first half of the nineteenth century. Finally, the fiscal condition of the central government significantly improved. In the sixteenth and the early seventeenth century, the tax incomes of the central government struggled to keep pace with the growing expenditure, as a result of which the government frequently had to face deficits in the fiscal account. By the late-eighteenth century, cumulated reserves from the annual surplus in the central treasury had reached nearly two times the amount of the empire's annual tax incomes (lower if surtax income is counted).

However, more problems lay outside the state's targeted domains, and issues in China's local administration had a profound impact on the overall governance of the imperial state as they weakened China's fiscal capacity. The core of the problem was the conflict between central supervision and local autonomy. Given the political and fiscal structure in premodern China, the central authority found it difficult to maintain a balance between these two. For Ming China, local finance had certain degrees of fiscal flexibility and autonomy, but the state's supervision over local finance was relatively weak and it was impossible to measure local taxes levied from a corvée system that combined the conscription of labour services and customary taxes. This was particularly true with respect to the "spending" side of the story. Even after the sixteenth century, when fiscal monetisation gradually made local tax figures available, extremely diverse socio-economic circumstances in China made it difficult for the state to produce a precise measure of local incomes and expenditures.

For Qing China, the state had stronger control and supervision over local finance but eliminated much of the fiscal flexibility in local administration. As a result, local agents continuously looked for non-statutory incomes as compensation. While the Ming's difficulties resulted from measuring issues, the Qing state inherited this problem and added something extra: a fiscal system that fundamentally prioritised central fiscal demands, rendering formal investments in local administration far from sufficient. Even after the reform in the early eighteenth century, there lacked a dynamic mechanism to expand local incomes in the light of population growth and market expansion. Therefore, the centrally designed fiscal institutions created strong incentives for Qing

China’s local administration to seek non-statutory revenues; consequently, it was difficult for the central authority to control and supervise the scale of local incomes and expenditures outside formal fiscal arrangements.

Appendix A. Notes and data source on cash incomes and expenditures at the Ministry of Revenue

In *Mingdai zhongye hou taicang suichu yinliang de yanjiu* 明代中葉後太倉歲出銀兩的研究 (Annual expenditures at the Ministry of Revenue in the mid and late Ming peeriod) and *Mingdai zhongye hou taicang suiru yinliang de yanjiu* 明代中葉後太倉歲入銀兩的研究 (Annual incomes at the Ministry of Revenue in the mid and late Ming period), Han-Sheng Chuan and Lung-Hua Li made no difference between budgetary and actual incomes and expenses. Before 1618, budgetary figures are usually lower than the actual incomes and spending. After 1618, they were much higher as the Ming empire was unable to collect taxes in full. So their data cannot be used for my purposes of study. I re-examined the primary sources they used and supplemented a few more data from some other materials. For expenditures after 1644, I use Chen Feng's 陈锋 research in 清代军费研究 (Military expenditures during the Qing), 241-248.

Table A. 1 ***Cash incomes and expenses at the Ministry of Revenue, 1549-1678***

(unit: *taels* of silver)

Year	Actual income	Source	Actual spending	Source
1549	3,957,116	MSZSL, vol.356, 3	4,122,727	MSZSL, vol.356, 3
1551	8,485,714	MSZSL, vol.456, 7712-3. Original records are the expenses of 14 months.	6,857,142	MSZSL, vol.456, 7712-3. Original records are the expenses of 14 months.
1552			5,310,000	MSZSL, vol.456, 7712-3
1553			4,730,000	MSZSL, vol.456, 7712-3
1554			4,550,000	MSZSL, vol.456, 7712-3
1555			4,290,000	MSZSL, vol.456, 7712-3
1556			3,860,000	MSZSL, vol.456, 7712-3
1557			3,020,000	MSZSL, vol.456, 7712-3
1564	3,630,000	MSZSL, vol.552, 8887	3,630,000	MSZSL, vol.552, 8887
1567			5,530,000	MMZSL, vol.15, 413
1568			4,400,000	MMZSL, vol.48, 1196
1569			3,790,000	MMZSL, vol.48, 1196
1571	3,100,000	MSZSL, vol.5, 192	3,200,000	MSZSL, vol.5, 192
1573	2,819,153	MSZSL, vol.20, 554-55	2,837,104	MSZSL, vol.20, 554-55
1577	4,359,400	ZTYXSWJ, vol.43, 20a-21b,	3,494,200	ZTYXSWJ, vol.43, 20a-21b
1578	3,559,800	ZTYXSWJ, vol.43, 20a-21b.	3,888,400	ZTYXSWJ, vol.43, 20a-21b. Cash spending on nine-garrison districts were 2.6 million *taels*, and on capital city 0.7-0.8 million *taels.*
1583	3,720,000	MSZSL, vol.148, 2755	5,650,000	MSZSL, vol.148, 2755

1587	3,890,000	MSZSL, vol.188, 3516. Incomes were recorded in July so may not represent the whole financial year	5,920,000	MSZSL, vol.188, 3516. Expenditures were recorded in July so may not represent the whole financial year
1589	3,270,000	MSZSL, vol.218, 4083	3,460,000	MSZSL, vol.218, 4083
1590	4,440,500	MSZSL, vol.234, 4333	4,060,000	MSZSL, vol.234, 4333
1592	4,512,000	MSZSL, vol.262, 4857	5,465,000	MSZSL, vol.262, 4857
1593	4,723,000	HMJSWB, vol.389, 1b	3,999,700	HMJSWB, vol.389, 1b
1599	4,520,000	MJSSYB, vol.5, 7a	7,710,000	MJSSYB，vol.5, 7a
1600	3,700,000	MJSSYB, vol.5, 7a	5,610,000	MJSSYB，vol.5, 7a
1601	2,320,000	MJSSYB, vol.5, 7b	6,080,000	MJSSYB，vol.5, 7b
1602	4,700,000	MSZSL, vol.381, 7170	4,500,000	MSZSL, vol.381, 7170
1604	4,223,000	MSZSL, vol.416, 7831	4,223,000	MSZSL, vol.416, 7831
1605	3,549,000	MSZSL, vol.416, 7831	3,549,000	MSZSL, vol.416, 7831
1620	5,830,247	MXZSL, vol.4, 227	6,086,692	MXZSL,vol.4, 227
1621	8,752,745	MXZSL, vol.4, 227	8,877,900	old taxes see MXZSL, vol.9, 442；the rest see MXZSL, vol.17, 895-96
1622	4,968,796	MXZSL, vol.29, 1492-94	5,627,721	MXZSL, vol.29, 1492-94
1625	3,030,726	MXZSL, vol.66, 3159. Original texts indicates that new taxes and spending have been included in this figure.	2,854,370	MXZSL, vol.66, 3159. Original texts indicates that new taxes and spending have been included in this figure.
1626	3,986,241	MXZSL, vol.66, 3159. Original texts indicates that new taxes and spending have been included	4,279,417	MXZSL, vol.66, 3159. Original texts indicates that new taxes and spending have been included
1628	6,327,275	old taxes see DZZY, TG, vol.7, 38b-40b; new taxes：DDZY, XXS, vol.5, 4b-44b	8,072,549	old taxes see CCZB, vol.19, 1162-65; new taxes see DZZY, XXS, vol.3, 46a
1643	5,199,000	NWZZS, vol.11, 11a-12a		
1659			30,000,000	Qingdai junfei yanjiu, 242
1660			37,630,000	Qingdai junfei yanjiu, 242, where 35.63 million taels on the account plus unreported 2 million taels.
1661			37,415,430	Qingdai junfei yanjiu, 242
1678			25,354,296	Qingdai junfei yanjiu, 248. 1,967,296 taels of spending from fiscal reserves, 3 million taels from annual fiscal surplus, 3,387,000 taels from local coffers, 13 million taels from regular military expenses, 4 million taels of expenditures in the capital city,

Notes:
For records between 1549 and 1564 , MSZSL = *Mingshizong shilu* 明世宗實錄
For records between 1571 and 1619 , MSZSL = Mingshenzong shilu 明神宗實錄
MMZSL = *Mingmuzong shilu* 明穆宗實錄
MXZSL = *MinGWxizong shilu* 明熹宗實錄
CZCB = *Chongzhen changbian* 崇禎長編
DZZY, BBS = *Duzhi zouyi bianxiang si* 度支奏議, 邊餉司
DZZY, TG = *Duzhi zouyi tanggao* 度支奏議, 堂稿
DZZY, XXS = *Duzhi zouyi xinxiang si* 度支奏議, 新餉司
MJSWB = *Ming jingshi wenbian* 明經世文編
MJSSYB = *Ming jingshi shiyong bian* 明經世實用編

QDXWXTK = *Qinding xuwenxian tongkao* 欽定續文獻通考
NWZZS = *Niwenzhen zoushu* 倪文貞奏疏
QSG, SHZ = *Qingshi gao shihuo zhi* 清史稿, 食貨志
ZTYXSWJ = Zhangtaiyue xiansheng wenji 張太岳先生文集

Table A. 2 *Budget incomes and expenses at the Ministry of Revenue, 1549-1654*

(unit: *taels* of silver)

Year	Budget income	Source	Budget spending	Source
1549	2,125,355	MSZSL, vol.351, 6340	3,470,000	MSZSL, vol.351, 6340
1551	2,000,000	MSZSL, vol.380, 6737		
1552	2,000,000	MSZSL, vol.456, 7712-3.		
1553	2,000,000	1553-1557: The original texts	5,000,000	MSZSL, vol.456, 7712-3
1554	2,000,000	did not explicitly mention the		
1555	2,000,000	income budget, but the texts	3,800,000	MSZSL, vol.425, 7361
1556	2,000,000	shows that the budgetary figure		
1557	2,000,000	should be the same as in 1552.		
1563	2,200,000	MSZSL, vol.528, 8610	3,400,000	MSZSL, vol.528, 8610
1564	2,470,000	MSZSL, vol.552, 8887		
1565	2,200,000	HMJSWB, vol.303, 97		
1567	2,314,100	MMSZL, vol.12, 330	3,710,000	MMSZL, vol.12, 330
1568	2,300,000	MMZSL, vol.48, 1196	3,800,000	MMZSL, vol.48, 1196
1569	2,500,000	MMZSL, vol.48, 1196		
1570	2,300,000	MMZSL, vol.48, 1196	3,800,000	MMZSL, vol.48, 1196
1578			3,400,000	MSZSL, vol.73, 1589-90
1581	3,694,142	Wanli kuaiji lu, vol.1	4,224,731	Wanli kuaiji lu, vol.1
1583	3,676,100	MSZSL, vol.144, 2684	4,224,700	MSZSL, vol.144, 2684
1584	3,676,100	MSZSL, vol.154, 2852	4,224,700	MSZSL, vol.154, 2852
1587	3,700,000	MSZSL, vol.184, 3436		MSZSL, vol.186, 3484
1588	3,700,000	MSZSL, vol.194, 3649		
1590	3,740,500	MSZSL, vol.234, 4333		
1600	4,000,000	XWXTK, vol.36，51a-52b	4,500,000	XWXTK, vol.36，51a-52b
1602	4,518,500	MSZSL, vol.381, 7170		
1612			4,000,000	MSZSL, vol.502, 9530
1618	3,890,000	MSZSL, vol.571, 10774	4,210,000	MSZSL, vol.571, 10774
1620				
1621	8,056,186	Old tax budget from MXZSL, vol.9, 438; new tax budget from Liang, *Zhongguo lidai hukou* 中国历代户口, 379		
1623	8,250,000	MXZSL, vol.36, 1837	9,870,000	MXZSL, vol.36, 1837
1627			9,000,000	MXZSL,vol.86, 4163
1628	7,064,200	old taxes see DZZY, TG, vol.7, 38b-40b; new taxes：DDZY, XXS, vol.5, 4b-44b	9,568,942	old taxes see CCZB, vol.19, 1162-65; new taxes see DZZY, XXS, vol.3, 46a
1630	9,281,029	old taxes see DZZY, BXS, vol.4, 4a-16a. I included incomes from venal offices etc here (備邊荒田關稅及事例捐助並還官等銀). New taxes: DZZY, XXS, vol.27, 13a	9,101,099	old taxes see DZZY, BXS, vol.4, 4a-16a. I included incomes from venal offices etc here (備邊荒田關稅及事例捐助並還官等銀). New taxes see DZZY, XXS, vol.27, 13a
1631	12,249,195	DZZY, XXS, vol.27, 33a-64b	11,125,252	DZZY, XXS, vol.27, 33a-64b
1634	12,812,000	QDXWXTK, vol.30,68a	12,153,000	QDXWXTK, vol.30,68a

1641	17,195,230	Chuan's figure is the tax quota without deducting exemptions. I assume that the exmpetion in 1641 was the same as in 1642 and 1643. See Chuan, *Mingdai zhongye hou taicang suiru yinliang de yanjiu*, 136		
1642	15,845,027	NWZZS, vol.8, 8a-19b	21,221,487	NWZZS, vol.8, 8a-19b
1643	15,728,600	NWZZS, vol.8, 8a-19b	21,221,486	NWZZS, vol.11, 11a-12a
1652			18,000,000	QSG, vol.125，SHZ, vol.6，19a.
1654	17,824,084	QSZSL, vol.84, 665-2	17,318,400	*Qingdai junfei yanjiu*, 241. 1,3318,400 regular expenses plus 4 million military expenses in the capital.

Notes:
For records between 1549 and 1564 , MSZSL = *Mingshizong shilu* 明世宗實錄
For records between 1571 and 1619 , MSZSL = Mingshenzong shilu 明神宗實錄
MMZSL = *Mingmuzong shilu* 明穆宗實錄
MXZSL = *Mingxizong shilu* 明熹宗實錄
CZCB = *Chongzhen changbian* 崇禎長編
DZZY, BBS = *Duzhi zouyi bianxiang si* 度支奏議, 邊餉司
DZZY, TG = *Duzhi zouyi tanggao* 度支奏議, 堂稿
DZZY, XXS = *Duzhi zouyi xinxiang si* 度支奏議, 新餉司
MJSWB = *Ming jingshi wenbian* 明經世文編
MJSSYB = *Ming jingshi shiyong bian* 明經世實用編
QDXWXTK = *Qinding xuwenxian tongkao* 欽定續文獻通考
NWZZS = *Niwenzhen zoushu* 倪文貞奏疏
QSG = *Qingshi gao* 清史稿
ZTYXSWJ = Zhangtaiyue xiansheng wenji 張太岳先生文集

Table A. 3 ***Cash budgets of nine-garrisons districts,***

Ministry of Revenues, 1447-1618

(unit: taels of silver)

Year	Budget	Source and notes
1447	100,000	MYZSL, vol.154, 3015
1449	180,000	*Mingdai nianliyin, 49*
1450	235,000	*Mingdai nianliyin, 50*
1451	282,000	*Mingdai nianliyin, 50*
1452	315,000	*Mingdai nianliyin, 50*
1453	100,000	*Mingdai nianliyin, 50*
1456	255,000	*Mingdai nianliyin, 50*
1457	165,000	MYZSL, vol.277, 5900
1458	410,000	MYZSL, vol.287, 6156
1459	480,000	MYZSL, vol.301, 6386
1460	355,000	MYZSL, vol.313, 6557-8
1500	350,000	MXZSL, vol.159, 2864
1505	480,000	MWZSL, vol.2, 57
1506	489,388	MWZSL, vol.18, 538-41. The original record is the spending for 17 months, I recalculated it as 12 months spending
1521	430,000	MSZSL, vol.22,582
1539	590,000	MSZSL, vol.311,8404
1542	410,000	MSZSL, vol.318, 5922
1546	872,000	Xuanfu and Datong's budget see MSZSL, vol.317, 5917; the rest see MSZSL, vol.318, 5922
1547	1,015,000	MSZSL, vol.332, 6097
1548	762,400	MMZSL, vol.41, 1030-1
1549	2,210,000	MSZSL, vol.381, 6751
1551	2,800,000	MSZSL, vol.425, 6751
1552	2,800,000	MSZSL, vol.425, 7361
1555	3,800,000	MSZSL, vol.425, 7361
1559	2,400,000	MMZSL, vol.41, 1030-1
1562	2,300,000	MSZSL, vol.511, 8404
1564	2,510,000	MMZSL, vol.41, 1030-1
1567	2,360,000	MMZSL, vol.12, 330
1568	2,800,000	MMZSL, vol.48, 1196
1569	2,760,000	MMZSL, vol.31, 813
1570	2,800,000	MMZSL, vol.48, 1196
1574	2,700,000	MSZSL, vol.73, 12
1578	3,157,855	WLKJL, vol.1, 18-22
1587	3,159,400	MSZSL, vol.3484
1591	3,435,000	MSZSL, vol.234, 4333
1593	3,800,000	MJSWB, vol.444, 479-80
1601	4,000,000	MJSSYB, vol.5, 11b
1595	3,000,000	MSZSL, vol.282, 5205
1607	4,100,000	MSZSL, vol.437, 8269
1608	4,900,000	MSZSL, vol.449, 8505
1610	4,000,000	MSZSL, vol.468, 13
1612	3,890,000	MSZSL, vol.500, 9465
1618	3,819,029	MSZSL,571, 10774

Notes:

For records between 1521 and 1566 , MSZSL = *Mingshizong shilu* 明世宗實錄

For records between 1573 and 1620 , MSZSL = Mingshenzong shilu 明神宗實錄

MYZSL = *Mingyingzong shilu* 明英宗實錄
MXZSL = *Mingxiaozong shilu* 明孝宗實錄
MWZSL = *Mingwuzong shilu* 明武宗實錄
MMZSL = *Mingmuzong shilu* 明穆宗實錄
WLKJL = *Wanli kuaiji lu* 萬曆會計錄
MJSWB = M*ing jingshi wenbian* 皇明經世文編
MJSSYB = *Ming jingshi shiyong bian* 明經世實用編

Appendix B. Notes and data source on *ya yi* funded under land taxes, 1501-1835

Most of the data on *ya yi* and their wages are collected from the government's financial account recorded in local gazetteers. A minor part is collected from the original local financial books such as The Complete Book of Taxations and Corvée (赋役全书). However, additional explanations are necessary for these data. First of all, not all the *ya yi* "number" recorded in the financial accounts are the actual numbers of personnel. A small part of *ya yi* was financial allowances appropriated in the form of "employees" to local officials, though they all have a fixed number and annual wage in local financial accounts. The most typical examples of these allowances are "horsemen" (马夫), "firewood servants" (柴薪皂隶), "state school cooks" (儒学膳夫), and "state school servants" (儒学斋夫). These allowances were very common not only in local but also in central government budgets. Therefore, I did not count these "people" in my dataset.

Secondly, the number of *ya yi* recorded in the local accounts can only be regarded as budgetary personnel, and they do not represent the actual number of people conscripted or hired. Many records indicate that local officials often used their salaries to hire additional *ya yi*. In many cases, non-statutory surtax revenues were also a source of funding to hire additional work hands in government - this was more common after 1644 when local budgets became so small. Nevertheless, these issues do not affect our use of budget figures to compare the change in *ya yi* number over the Ming-Qing transition, as budgets on *ya yi* in the local financial accounts represented the formal level of state investment.

An additional note on *ya yi*'s number. In the Ming-Qing period, a *ya yi* did not work 365 days a year in the government. Instead, one year's work was usually divided into 3 or 4 terms, and one person served only one term. Accordingly, "annual payment per *ya yi*" was divided into multiple parts in practice, and all people who served the same job over a year were recorded as "per *ya yi*". Nevertheless, these rotations are not reflected in local financial accounts, as the budget was written as "annual payment per *ya yi*", regardless of how many people served under "per *ya yi*".

Finally, there are cases where multiple jobs recorded in the local gazetteers published in the Qing period did not have a specific number of people but only an overall annual payment budget. However, because the Qing state standardised the

number of *ya yi* and their payments across all the territory, I managed to calculate those unlisted numbers based on the standards shown in other local gazetteers.

The following is the complete list of the literature used to construct the dataset on ya yi.

Anqing prefecture 安慶府

Yang Ziqi and Sang Yu 楊子器, 桑瑜, *Zhengde Anqing fuzhi* 正德安慶府志 (originally published in 1521; reprinted in Sikuquanshu cunmu congshu bianzuan weiyuanhui ed. 四庫全書存目叢書編纂委員會編. *Sikuquanshu cunmu congshu Shibu yibawu* 四庫全書存目叢書史部一八五. Jinan: Qilu shushe, 1996, vol.185), vol.9, 376-378.

Zhang Kai 張楷, *Kangxi Anqing fuzhi* 康熙安慶府志, (originally published in 1721; reprinted in *Zhongguo difangzhi jicheng Anhui fuxianzhi ji 10* 中國地方志集成安徽府縣志輯 10. Nan*jing*: Jiangsu guji chuban she, 1998), vol.5.

Datong prefecture 大同府

Juluoshilin and Chu Dawen 覺羅石麟, 儲大文, *Yongzheng Shanxi tongzhi* 雍正山西通志 (originally published in 1734; reprinted in Harvard-Yenching Library, 1940), vol.56.

Wu Fuhong ed. 吳輔宏, *Qianlong Datong fuzhi* 乾隆大同府志 (originally published in 1782; reprinted in Harvard-Yenching Library, 1938), vol.13.

Ganzhou prefecture 贛州府

Wang Zongmu and Lu Wangai 王宗沐, 陸萬垓, *Jiangxisheng dazhi* 江西省大志 (National Archives of Japan), vol.2.

Huang, Ruquan., and Zhang, Shangyuan 黃汝銓, 張尚瑗. *Kangxi Ganzhou fuzhi* 康熙贛州府志. (National Library of China), vol.54.

Guangdong province 廣東省

Dai Jing and Zhang Yue etc. 戴璟, 張岳等, *Jiajing Guangdong tongzhi chugao* 嘉靖廣東通志初稿 (originally published in 1535; reprinted in *Beijing tushuguan guji zhenben congkan 38* 北京图书馆古籍珍本丛刊 38. Beijing: Shumu wenxian chubanshe, 1998), vol.25; vol.26; vol.28.

Hao Yuling and Lu Zengyu et al., 郝玉麟, 魯曾煜, *Yongzheng Guangdong tongzhi* 雍正廣東通志 (originally published in 1731; reprinted in Harvard-Yenching Library, 1940), vol.20; vol.23.

Hangzhou prefecture 杭州府

Peng Zexiu et al., 彭澤修等, *Wanli Hangzhou fuzhi* 萬曆杭州府志 (originally published in 1579; reprinted in Wu, Xiang ed. 吳湘. *Mingdai fangzhi xuan di si ce* 明代方志選 (第四冊). Taipei: Taiwan xuesheng shuju, 1965), vol.31.

Zheng, Yun., and Shao, *Jin*han 鄭沄 邵晉涵, *Qianlong Hangzhou fuzhi* 乾隆杭州府志 (originally published in 1784; reprinted in Harvard-Yenching Library, 1940), vol.45; vol.58.

Huizhou prefecture 徽州府

Ding Tingjian and Zhao Jishi, 丁廷楗, 趙吉士, *Huizhou fuzhi* 康熙徽州府志 (originally published in 1699; reprinted in *Zhongguo fangzhi congshu no.237* 中國方志叢書第二三七號, Taipei: Chengwen chubanshe, 1975), vol.6.

Wang Shangning et al., 汪尚寧等, *Jiajing Huizhou fuzhi* 嘉靖徽州府志 (originally published in 1566; reprinted in Wu, Xiang ed. 吳湘. *Mingdai fangzhi xuan dier ce* 明代方志選 (第二冊), Taipei: Taiwan xuesheng shuju, 1965, vol.2), vol.8.

Kuizhou prefecture 夔州府

Cui Yijun et al., 崔邑俊等, Qianlong Kuizhou fuzhi 乾隆夔州府志 (originally published in 1747; reprinted in Gugong bowuyuan ed. 故宫博物院编, *Sichuan fuzhouxian zhi di 14 ce* 四川府州县志第 14 冊, vol.14, Hainan: Hainan chubanshe, 2001), vol.3-4.

En Cheng et al., 恩成等, *Daoguang kuizhou fuzhi* 道光夔州府志 (originally published in 1827; reprinted in *Zhongguo difangzhi jicheng di ershiliu ce* 中国地方志集成第二十六册. Chendu : Bashu shushe, 1992), vol.9

Quanzhou prefecture 泉州府

Yang Siqian, Xu Minxue, and Wu Weixin 陽思謙, 徐敏學, 吳維新, *Wanli chongxiu quanhou fuzhi* 萬曆重修泉州府志 (originally published in 1612; reprinted in Liu, Zhaoyou ed. 劉兆祐主編. *Zhongguo shixue congshu sanbian disiji* 中國史學叢書三編第四輯. Taipei: Taiwan xuesheng shuju, 1987, vol.3, issue 4, no.38), vol.6.

Guo Gengwu, Huang Ren, and Huai Yinbu 郭賡武, 黃任, 懷蔭布, *Qianlong chongxiu Quanzhou fuzhi* 乾隆重修泉州府志 (originally published in 1763; reprinted in *Zhongguo difangzhi jicheng Fujian fuxianzhi ji 22* 中國地方志集成福建府縣志輯 22. Shanghai: Shanghai shudian chubanshe, 2000), vol.21.

Xuzhou prefecture 徐州府

Mei Shoude and Ren Zilong et al., 梅守德, 任子龍等, *Jiajing Xuzhouzhi* 嘉靖徐州志(originally published in 1564; reprinted in Liu, Zhaoyou ed. 劉兆祐主編 *Zhongguo shixue congshu sanbian disiji* 中國史學叢書三編第四輯. Taipei: Taiwan xuesheng shuju, 1987), vol.3, issue 4, no.62), vol.7.

Shi Jie and Wang Jun 石傑, 王峻, *Qianlong xinxiu Xuzhou fuzhi* 乾隆新修徐州府志 (originally published in 1742; reprinted in Harvard-Yenching Library, 1939), vol.4; vol.5; vol.7.

Yangzhou prefecture 揚州府

Xiong Shangwen et al., 熊尚文等, *Chongding fuyi chenggui* 重訂賦役成規 (originally published in 1615; reprinted in Shanghai: Shanghai guji chubanshe, 1995), vol.1-10.

Cui Hua and Zhang Wanshou 崔華, 張萬壽, *Kangxi Yangzhou fuzhi* 康熙揚州府志 (originally published in 1685; reprinted in Sikuquanshu cunmu congshu bianzuan weiyuanhui ed., 四庫全書存目叢書編纂委員會編, *Sikuquanshu cunmu congshu Shibu eryisi* 四庫全書存目叢書史部二一四. Jinan: Qilu shushe, 1996, vol.214), vol.10; vol.12.

Akedanga and Yao Wen*jin*g et al., 阿克當阿, 姚文田等, *Jiaqing chongxiu Yangzhou fuzhi* 嘉慶重修揚州府志 (originally published in 1810; reprinted in Chenwen chubanshe ed. 成文出版社編, *Zhongguo fangzhi congshu di yibaisishiwu hao* 中國方志叢書第一百四十五號. Taipei: Chengwen chubanshe, 1974), vol.20; vol.24.

Yanzhou prefecture 兗州府

Lu Yi 陸鈰, *Jiajing Shandong tongzhi* 嘉靖山東通志 (National Archives of Japan), vol.8.

You, Jixun and Bao Daguan et al., 游季勛, 包大爟等, *Wanli Yanzhou fuzhi* 萬曆兗州府志. originally published in 1573; reprinted in *Tianyige mingdai fangzhi xuankan xubian di wushisan ce* 天一閣明代方志選刊續編第五十三冊. Shanghai: Shanghai shudian chubanshe, 1990), vol.26-27.

Zhang Penghe ed., 張鵬翮, *Kangxi Yanzhou fuzhi* 康熙兗州府志 (National Library of China), vol.13; vol.16.

Yongzhou prefecture 永州府

Shi Chaofu and Chen Liangzhen 史朝富, 陳良珍, *Longqing Yongzhou fuzhi* 隆慶永州府志 (originally published in 1571; reprinted in Sikuquanshu cunmu congshu bianzuan weiyuanhui ed. 四庫全書存目叢書編纂委員會編. *Sikuquanshu cunmu congshu Shibu yibawu* 四庫全書存目叢書史部一八五. Jinan: Qilu shushe, 1996, vol.201), 635; 671-677.

Jiang Chengji and Chang, Zai 姜承基, 常在, *Kangxi Yongzhou fuzhi* 康熙永州府志 (originally published in 1694; reprinted in *Zhongguo difangzhi jicheng Hunan fuxianzhi ji 42* 中國地方志集成湖南府縣志輯 42. Nanjing: Jiangsu guji chuban she, 2002), vol.6; vol.10; vol.11.

Yuezhou prefecture 岳州府

Zhong Chongwen 鍾崇文, *Longqing Yuezhou fuzhi* 隆慶岳州府志, Originally published between 1567-1572; reprinted in *Tianyige cang Mingdai fangzhi xuankan di wushiqi ce* 天一閣藏明代方志選刊第五十七冊. Shanghai: Shanghai guji shudian, 1963), vol.11.

Huang Ningdao and Xie Zhongxun 黃凝道, 謝仲坤, *Qianlong Yuezhou fuzhi* 乾隆岳州府志. (originally published in 1746; reprinted in *Zhongguo difangzhi jicheng Hunan fuxianzhi ji 6* 中國地方志集成湖南府縣志輯 6. Nanjing: Jiangsu guji chuban she, 2002), vol.11, 125-174.

Yunnan province 雲南省

Zou Yinglong and Li Yuanyang 鄒應龍, 李元陽鄒, *Longqing Yunnan tongzhi* 隆慶雲南通志 (National Library of China), vol.6.

E Ertai, Yin Jishan, and Jing Daomo 鄂爾泰, 尹繼善, 靖道謨, *Qianlong Yunnan tongzhi* 乾隆雲南通志 (originally published in 1736; reprinted in *Beijing tushuguan guji zhenben congkan 44* 北京图书馆古籍珍本丛刊 44. Beijing: Shumu wenxian chubanshe, 1998), vol.12.

Ruan Yuan, Wang Song, and Li Cheng et al., 阮元, 王崧, 李誠等, *Daoguang Yunnan tongzhi gao* 道光雲南通志稿 (originally published in 1835; reprinted in Harvard-Yenching Library, 1928), vol.43; vol.63-66.

Appendix C. Notes and sources on salt tax estimates, 1723-1800

The data I collected for estimating salt tax surcharges in 1723 came from three kinds of materials, namely *Yanfa zhi* (Gazetteer of Salt Administration), Memorials to the Throne under Yongzheng (1723-1735) and Qianlong's reign (1736-1795), and several auxiliary materials. *Yanfa zhi* (Gazetteer of Salt Administration) were originally published between the late seventeenth and nineteenth century. They were official publications served mainly as encyclopaedia and handbooks for local salt tax administration. They were nine formal divisions of salt administration in China proper (which excluded Inner and Outer Mongolia, Xinjiang, Manchuria, and Tibet). Except for the Yunnan division (which covered Yunnan province in modern south-west China bounded by Vietnam, Myanmar, and Laos), all other eight divisions have survived at least one Yanfa zhi in modern time. In principle, each later version contains all the records in the previous version. These gazetteers contain two kinds of records. First, records on "quotas". These include quotas on salt production outputs and formal salt taxes at different times (including all sub-categories of tax items). Second, records on officials' reports to the central government mentioned the actual numbers of salt tax collections in specific years, including a large number of details on the investigations of local tax surcharges between the 1720s and 1730s. For the Yunnan division, I rely on the local gazetteer of Yunnan province of the Qianlong reign, as it contains several volumes on "salt administration". Memorials to the throne related to Yunnan's salt affairs also supplements certain information. I will explain in the latter part how I use these records.

Memorials to the Throne are archive materials initially stored in the imperial archives and were published either in the Qing era or modern time. Among them, I search specifically for materials on local surcharges on the salt tax. The appropriate memorials mentioned detailed accounts on tax surcharges in localities and recorded policy debates over collecting those surcharges. Since both Yanfa zhi and memorials to the throne include officials' reports, they overlap on certain information. Nevertheless, they also supplement each other in certain ways. First, as Yanfa zhi were handbooks while the survived memorials were the communications between the central and local, their focuses are different. Second, as memorials to the throne were reports of local

officials, they sometimes recorded more details for certain issues. I have also noticed that both materials are far from complete to trace down every aspect of local salt administration every year, so my strategy is to focus on the early eighteenth century where I can find relatively more information on local surcharges and then construct a reference for the later period.

To verify the statutory quotas of formal taxes in 1723, I reference another source of the official records, *Daqing huidian*, on salt taxes in 1726. *Daqing huidian* is generally considered a collection of administrative codes compiled by the central government, and each entry in *Daqing huidian* had the legal effect of defining the administrative institutions of the Qing empire. The significant discrepancy between my data and *Daqing huidian's* record on Fujian' salt income is caused by the latter summed up the quota of formal tax income with the quota of local surcharge for "public expenses", which was taken into the fiscal account in 1724. If we add up the amounts of formal tax quota (90,460 taels) and local "public expenses" (82,210 taels), the sum, 172,671 taels, was precisely the statutory quota of 1726 recorded in *Daqing huidian*. On September 2nd, 1725 (in traditional Chinese calendar), a report mentioned that "as for salt taxes in Fujian division, they have always been 90,460 tales. Besides, there were public expenses money, 82,210 taels. In total, they were 172,671." The classification of salt incomes mentioned in this report followed that in *Daqing huidian*, as the latter source marked the quota of 172,671 taels as the sum of formal taxes and miscellaneous charges. See the original report published in *Yongzhengchao hanwen zhupi zouzhe huibian* 雍正朝漢文硃批奏摺彙編, vol.8, 21.

Except for the Fujian division, where the salt income was marked as "formal and miscellaneous taxes" (*zheng za ke*), records on all other divisions in *Daqing huidian* were marked as "formal taxes" (*zheng ke*). In *Daqing huidian*, most of these records on salt incomes were incomes from *yin* and (or) *piao*, plus the tax on "increased weight" salt (*jia jin*), which was introduced during and after the Revolt of the Three Feudatories (1673 to 1681). In *Yanfa zhi* (gazetteers of salt tax administration), these two or three taxes are classified as "formal taxes". Some minor differences in Column 2 and 3 are caused by the increase in the quotas of formal salt taxes or "surplus" salt licences issued after 1723.

Lianghuai salt division 两淮盐区

GXCXLHYFZ = *Guangxu chongxiu Lianghuai yanfa zhi* 光緒重修兩淮鹽法志
TZLHYFZ = *Tongzhi Lianghuai yanfa zhi* 同治两淮鹽法志

1736 tax incomes:
Taxes under central audit and assessment 造入奏销考核
- Source: GXCXLHYFZ, vol.93, 6a-14a.

Taxes under central assessment 造入考核正册
- Source: GXCXLHYFZ, vol.93, 14a-16b.

Formal taxes, non-assessed 不入考正课
- Source: GXCXLHYFZ, vol.93, 16b-18a.

Huainan miscellaneous taxes 淮南杂项
- Source: GXCXLHYFZ, vol.93, 18a-24b.

Huainan miscellaneous fees 淮南杂费
- Source: GXCXLHYFZ, vol.93, 26a-29a.

Huaibei miscellaneous fees 淮北杂费
- Source: GXCXLHYFZ, vol.93, 29b-32a.

Lending interest 帑息
- Source: TZLHYFZ, vol.17, 1b-14b.

1736 tax distributions:
- Same as tax incomes. Distributions of lending interests 帑息 also take references from Lai, Hui-min 賴慧敏, *Qianlong Huangdi de hebao* 乾隆皇帝的荷包.

1800 tax incomes:
Same as 1736 tax incomes

1800 tax distributions:
Same as 1736 tax distributions

Liangzhe salt division 两浙盐区

JQCXLZYFA = *Jiaqing chongxiu liangzhe yanfa zhi* 嘉庆重修两浙鹽法志

1736 tax incomes
Merchant taxes 商课
- Source: JQCXLZYFA, vol.3, 3b-10b

Salt field taxes 县场课
- Source: JQCXLZYFA, vol.3, 11a-16b

Miscellaneous taxes 功绩, 牙税, 包税, 杂饷，滴珠
- Source: JQCXLZYFA, vol.3, 17a-20a.

Miscellaneous charges 杂征
- Source: JQCXLZYFA, vol.3, 25a-30a.

Lending interests 帑息
- Source: JQCXLZYFA, vol.4, 42a-44a.

1736 tax distributions

Public expenses 公费
- Source: JQCXLZYFA, vol.4, 30a-33b.

Surtaxes 盐规
- Source: JQCXLZYFA, vol.4, 33b-34a.

Public fees 程费
- Source: JQCXLZYFA, vol.4, 31b, 34b-36a.

Licence fees 引费
- Source: JQCXLZYFA, vol.4, 36a-38a.

Transport fees 车脚
- Source: JQCXLZYFA, vol.4, 38b.

Meltage fees 平费
- Source: JQCXLZYFA, vol.4, 39a.

Salt field surtaxes 各场引规
- Source: JQCXLZYFA, vol.4, 39b-40a.

West Lake taxes 西湖租息
- Source: JQCXLZYFA, vol.4, 39b-40a.

Excess tax incomes 溢课盈余
- Source: JQCXLZYFA, vol.4, 40b.

Additional licences charges 余引租价
- Source: JQCXLZYFA, vol.4, 41a.

Surtaxes
- Source: JQCXLZYFA, vol.4, 41a-41b.

Lending interests 帑息
- Source: JQCXLZYFA, vol.4, 42a-44a.

1800 tax incomes
- Same as 1736

1800 tax distributions
- Same as 1736

Shandong salt division 山东盐区

JQSDYFZ = *Jiaqing Shandong yanfa zhi* 嘉慶山東鹽法志
JQDQHDSL = *Jiaqing Daqing huidian shili* 嘉慶大清會典事例

1736 tax incomes:
Formal taxes on salt licences 引课
- Source: JQSDYFZ, vol.12, 1b-4a.

Formal taxes on salt tickets 票课
- Source: JQSDYFZ, vol.12, 5a-6b.

Miscellaneous taxes 商课杂款
- Source: JQSDYFZ, vol.12, 8a-24a.

1736 tax distributions:
Salary allowances 养廉 from JQSDYFZ, vol.12, 26b-30b; Food allowances 饭食 from JQSDYFZ, vol.12, 31b-36b; Military provisions 给兵公费 from JQSDYFZ, vol.12, 37b-38b. The rest are the same sources as 1800 tax incomes.

1800 tax incomes:
Formal taxes on salt licences 引课
- Note: I checked records in JQSDYFZ against records in JQDQHDSL. Tax quotas are the same.

Formal taxes on salt tickets 票课
- Note: I checked records in JQSDYFZ against records in JQDQHDSL. Tax quotas are the same.

Lending interest 帑利
- Source: JQSDYFZ, vol.12, 40a-41a

The rest are the same sources as 1736 tax incomes.

1800 tax distributions:
Lending interest 帑利
- Source: JQSDYFZ, vol.12, 40a-41a

The rest are the same sources as 1736 tax distributions.

Changlu salt division 长芦盐区

JQCLYFZ = *Jiaqing Changlu yanfa zhi* 嘉慶長蘆鹽法志
JQDQHDSL = *Jiaqing Daqing huidian shili* 嘉慶大清會典事例

1736 tax incomes
Formal and miscellaneous taxes 正杂课银
- Source: JQDQHDSL, vol.177, 8189.
- Notes: Tax quotas are checked against records in JQCLYFZ, vol.11, 1a-11b; vol.12, 1a-3b.

Surpluses 盈余银
- Source: JQDQHDSL, vol.177, 8189.

1736 tax distributions

Formal taxes

- Source: JQCLYFZ, vol.11, 1a-11b; vol.12, 1a-3b.

Miscellaneous taxes and surtaxes

- Source: JQCLYFZ, vol.12, 4a-12a.

1800 tax incomes

Lending interests:

- Source: *Qianlong huangdi de hebao* 乾隆皇帝的荷包, 176.

The rest are the same sources as 1736 tax incomes

1800 tax distributions

Same as 1736 tax distributions

Hedong salt division 河东盐区

SXTZ = *Shanxi tongzhi* 山西通志

XXHDYFBL = *Guangxu xinxiu hedong yanfa beilan* 光緒新修河东盐法备览

YZDAHD = *Yongzheng Daqing huidian* 雍正大清会典

YZCHWZPZZHB = *Yongzhengchao hanwen zhupi ozuzhe huibian* 雍正朝汉文朱批奏折汇编

1736 tax incomes:

Formal and miscellaneous taxes 正杂课

- Source: XXHDYFBL, vol.3b, 16a-21a; SXTZ, vol.45
- Note: Local incomes from "public expenses from original quotas of tax incomes" (额引官钱公务银) are taken from SXTZ, vol.45. Transport fees for copper procurements are Estimated by the tax rate (0.05 taels) and copper quotas (300,000 *jin*) in 1777. See also YZCHWZPZZHB, vol.3, 868.

Balancing fee 余平

- Source: XXHDYFBL, vol.3b, 24a-25a.
- Note: Distributions of balancing fee 余平 are estimated by the tax rate in 1807.

Additional miscellaneous taxes and fees 额外杂课

- Source: XXHDYFBL, vol.3b, 26b-27b

1736 tax distribution:

- The same source as 1736 tax incomes

1800 tax incomes:

Formal and miscellaneous taxes 正杂课

- Source: XXHDYFBL, vol.3b, 16a-22b.
- Note: Local incomes from "public expenses from original quotas of tax incomes"

(额引官钱公务银) are taken from SXTZ, vol.45. Transport fees for copper procurements are Estimated by the tax rate (0.05 taels) and copper quotas (300,000 jin) in 1777. See also YZCHWZPZZHB, vol.3, 868.

Balancing fee 余平

- Source: XXHDYFBL, vol.3b, 23a-23b.
- Note: Distributions of balancing fee 余平 are estimated by the tax rate in 1807.

Additional miscellaneous taxes and fees 额外杂课

- Source: XXHDYFBL, vol.3b, 24a-27b
- Note: Distributions of salt taxes of Quyang and other 29 counties (counted in "Additional miscellaneous taxes and fees") are estimated by by the tax rate of "public expenses" in tax incomes from "surplus licences", times salt tax incomes from Xizhou, Daning, and Yonghe (1176.93 taels)

1800 tax distribution:

- The same source as 1800 tax incomes

Liangguang salt division 两广盐区

GXLGYFZ = *Guangxu Liangguang yanfa zhi* 光緒兩廣鹽法志
DGLGYFZ = *Daoguang Liangguang yanfa zhi* 道光兩廣鹽法志
QLLGYFZ = *Qianlong Liangguang yanfa zhi* 乾隆兩廣鹽法志
JQDQHDSL = *Jiaqing Daqing huidian shili* 嘉慶大清會典事例

1736 tax incomes:

Guangdong and Guangxi formal salt taxes 东西省引饷正课

- Source: JQDQHDSL, vol.180, 8333.
- Note: It is the record of 1737, and I presume that tax quota in 1736 was the same.

Guangxi levies (西省)抽税

- Source: JQDQHDSL, vol.180, 8333.
- Note: The figure in JQDQHDSL is exactly the same as the tax quota in 1725 (see DGLGYFZ, vol.24, 340).

Salt field taxes

- Source: DGLGYFZ, vol.24, 340.
- Note: It is 1737's figure, and I presume that tax quota in 1736 was the same.

Salt field surtaxes and miscellaneous surtaxes 场羡，杂羡

- Source: QLLGYFZ, vol.19, 193-200.

Miscellaneous charges 杂项

- Source: DGLGYFZ, vol.24, 329-374.
- Note: Charges on printing salt licences and government fiscal reports (纸朱, 引费, 奏销银) are estimated using the following method: this charge came from a fixed tax rate times the total number of salt licences issued. In 1811, this charge counted about 1.24% of Guangdong and Guangxi formal salt taxes. So I presume that this percentage remained the same figure in 1736. Besides,

incomes from food allowance sent to the central government (饭食银协饷并解京) and meltage fee (平头银) were 1737's figure. I presume that tax quota was the same for 1736. There are no separate record for these two category but only a single sum. I calculated these figures with their tax rates, where food allowance was charged at 15 *taels* per thousand formal taxes, and meltage fee was charged at 33 *taels* per thousand formal taxes. See DGLGYFZ, vol.24, 340.

1736 tax distributions:

Guangdong salt tax incomes

- Source: QLLGYFZ, vol.19, 546-586.

Guangxi salt tax incomes

- Source: QLLGYFZ, vol.19, 587-590.

1800 tax incomes:

Guangdong and Guangxi formal salt taxes 东西省引饷正课

- Source: JQDQHDSL, vol.180, 8333.
- Note: I checked records of formal salt taxes in JQDQHDSL against records in DGLGYFZ and GXLGYFZ, and except for the new taxes introduced after 1820, the rest are the same.

Guangdong surplus incomes 东省盈余银

- Source: JQDQHDSL, vol.180, 8333.

Guangxi taxes 西税

- Source: JQDQHDSL, vol.180, 8358.
- Note: Guangxi taxes in JQDQHDSL are exactly the same tax quota recorded in 1758 (see GXLGYFZ, vol.5, 28a)

Guangxi surplus income 西省盈余银

- Source: JQDQHDSL, vol.180, 8358.

Salt field surtaxes and miscellaneous surtaxes 场羡，杂羡

- Source: DGLGYFZ, vol.19, 44-61.

1800 tax distributions:

Guangdong salt tax incomes

- Source: DGLGYFZ, vol.25, 437-479.

Guangxi salt tax incomes

- Source: DGLGYFZ, vol.25, 485-487.

Fujian salt division 福建盐区

DGFJYFA = *Daoguang Fujian yanfa zhi* 道光福建鹽法志
QLLGYFZ = *Qianlong Liangguang yanfa zhi* 乾隆兩廣鹽法志
FJTZ = *Fujian tongzhi* 福建通志
JQDQHDSL = *Jiaqing Daqing huidian shili* 嘉慶大清會典事例

1736 tax incomes:

Salt taxes, fees, and public expenses 盐课垣折盐菜, 盐斤, 公费等银

- Source: FJTZ, vol.12.
- Note: It is the tax quota of 1737, and I presume that tax quota in 1736 was the same

Surplus 盈余银

- Source: JQDQHDSL, vol.179, 8315.
- Note: This is the tax quota of 1732, and I presume that tax quota in 1736 was the same.

Additional surplus 额外盈余

- Source: JQDQHDSL, vol.179, 8315.

Salt licence fees 引费

- Source: FJTZ, vol.12.

Price increase tax 长价银两

- Source: DGFJYFA, vol.14, 507.

Qianshui tax 钱水银两

- Source: DGFJYFA, vol.14, 521-527.

Surtaxes

- Source: DGFJYFA, vol.14, 528-533.

Salt licence fees 引费

- Source: DGFJYFA, vol.14, 533.

Food allowance 随解饭食银

- Source: DGFJYFA, vol.14, 534.

Food allowance for delivering the salt licence 解领缴引目饭食银

- Source: DGFJYFA, vol.14, 534.

Additional licences 贩引银两

- Source: DGFJYFA, vol.14, 541.

Lending interest 帑息

- Source: DGFJYFA, vol.16, 586.

1736 tax distributions:

Distributions under formal taxes 正额课费项下

- Source: DGFJYFA, vol.15, 543.

Distributions under surplus 盈余课项下

- Source: DGFJYFA, vol.15, 543-545.

Distributions to salt fields and bureaus 场馆支解

- Source: DGFJYFA, vol.15, 548-561.

Distributions under miscellaneous categories 每年杂项支解各目

- Source: DGFJYFA, vol.15, 561-568.

Distributions under official's salary category 俸银

- Source: DGFJYFA, vol.15, 569-571.

Distributions under lending interest 帑息项下

- Source: DGFJYFA, vol.16, 573-599.

1800 tax incomes:

Formal taxes 正盐引课

- Source: JQDQHDSL, vol.179, 8315.
- Note: According to the tax accounts recorded in DGFJYFA, vol.14, 468, *qiuzhe yin* 坵折银 has already been included in formal taxes. So I did not count it in formal taxes.

Expanded salt licences 额余引课

- Source: JQDQHDSL, vol.179, 8315.

Surplus 盈余银

- Source: JQDQHDSL, vol.179, 8315.

Additional expanded salt licences 额外余引

- Source: JQDQHDSL, vol.179, 8316.
- Note: additional expanded salt licences had no fixed quota and varied from year to year.

Price increase tax 长价银两

- Source: DGFJYFA, vol.14, 507.

Qianshui tax 钱水银两

- Source: DGFJYFA, vol.14, 521-527.

Surtaxes

- Source: DGFJYFA, vol.14, 528-533.

Salt licence fees 引费

- Source: DGFJYFA, vol.14, 533.

Food allowance 随解饭食银

- Source: DGFJYFA, vol.14, 534.

Food allowance for delivering the salt licence 解领缴引目饭食银

- Source: DGFJYFA, vol.14, 534.

Additional licences 贩引银两

- Source: DGFJYFA, vol.14, 541.

Lending interest 帑息

- Source: DGFJYFA, vol.16, 586.

1800 tax distributions:

Distributions under formal taxes 正额课费项下

- Source: DGFJYFA, vol.15, 543.

Distributions under surplus 盈余课项下

- Source: DGFJYFA, vol.15, 543-545.

Distributions to salt fields and bureaus 场馆支解

- Source: DGFJYFA, vol.15, 548-561.

Distributions under miscellaneous categories 每年杂项支解各目

- Source: DGFJYFA, vol.15, 561-568.

Distributions under official's salary category 俸银

- Source: DGFJYFA, vol.15, 569-571.

Distributions under lending interest 帑息项下

- Source: DGFJYFA, vol.16, 573-599

Sichuan salt division 四川盐区

JQDQHDSL = *Jiaqing Daqing huidian shili* 嘉慶大清會典事例
GXSCYFZ = *Guangxu Sichuan yanfa zhi* 光緒四川鹽法志
QLSCTZ = *Sichuan shengzhi* 乾隆四川通志

1736 tax incomes

Licence taxes

- Source: QLSCTZ, vol.40; GXSCYFZ, vol17, 21b-22a.
- Notes: Tax incomes are calculated in the following method: salt licence numbers are calculated according to the records on licences adjustments recorded in QLSCTZ and GXSCYFZ. By 1736, the licence quota was 61,889. Salts transported via land were charged at 3.405 *taels* of silver per licence. Salts transported via waterways were charged at 0.2724 *taels* per licence.

Licence printing fees, transport fees, food allowances 盐引纸朱, 脚力，饭食，山东司饭银

- Source: GXSCYFZ, 16a-16b.
- Notes: I calculated these incomes using their individual tax rates.

Meltage fees 余平

- Notes: I estimated this income with the tax rate (25 *taels* per thousand tax incomes) times formal tax incomes.

Salt well fees 井羡 (盐羡)

- Source: GXSCYFZ, vol.20, 15a.
- Notes: I take the average tax rate to calculate tax incomes.

Inspection fees 截角

- Notes: I estimated this income with the tax rates time the number of salt licences and tickets. Tax rates can be found in GXSCYFZ, vol.20, 17a-17b.

Salt worker and salt well taxes 竈课, 井课

- Notes: Calculated at 17.55% of Licence tax incomes

1736 tax distributions

Source: GXSCYFZ, vol.26, 2a-14b.

1800 tax incomes

Licence taxes, salt worker taxes, salt well taxes, and surpluses 水陆引正课, 竈课, 井课, 余引

- Source: JQDQHDSL, vol.181, 8369.
- Notes: The figure from JQDQHDSL should have already included licence printing fees 纸朱 and transport fees 脚力 – I checked the records on “formal taxes”, “licence printing fees”, and “transport fees” in GXSCYFZ, vol.17, 21a; and vol.26, 1b. The sum of these tax incomes seems to match the record in JQDQHDSL.

Salt well fees 井羡

- Source: GXSCYFZ, vol.20, 15a.
- Notes: I take the average of tax rates to calculate tax incomes.

Inspection fees 截角

- Notes: I estimated this income with the tax rates time the number of salt licences and tickets. Tax rates can be found in GXSCYFZ, vol.20, 17a-17b.

Meltage fees 余平

- Notes: I estimated this income with the tax rate (25 *taels* per thousand tax incomes) times formal tax incomes.

1800 tax distributions

Source: GXSCYFZ, vol.26, 2a-14b.

Yunnan salt division 云南盐区

DGYNTZG = *Daoguang Yunnan tongzhi gao* 道光雲南通志稿
JQDQHDSL = *Jiaqing Daqing huidian shili* 嘉慶大清會典事例
YNTZ = *Yunnan tongzhi* 云南通志

Noticing that salt productions and distributions were managed by the government, so a part of the salt incomes in Yunnan came from selling profits. In my estimations, I only counted net tax incomes instead of gross salt incomes (which included tax incomes and business profits). Production and business costs are excluded in my estimated figures.

In 1800, the gross incomes from salt business in Yunnan was about 1,310,429.175 *taels* of silver — this is calculated by the price (6.9 *taels*) times salt licences (189,917.272 *yin*). More details can be found from DGYNTZG, vol.71, 25a-45b; vol.72, 3a-3b.

1736 tax incomes

Formal taxes 正课

- Source: YNTZ, vol.11.
- Notes: 1732's figure. I presume that the tax quota remained the same in 1736.

Surpluses 正额盈余

- Source: YNTZ, vol.11.
- Notes: 1732's figure. I presume that the tax quota remained the same in 1736.

Additional surpluses 额外盈余

- Source: YNTZ, vol.11.
- Notes: 1732's figure. I presume that the tax quota remained the same in 1736.

1736 tax distributions

DGYNTZG, vol.71, 25a-45b; vol.72, 3a-3b.

1800 tax incomes

Formal taxes 正课

- Source: JQDQHDSL, vol.181, 8381.

Salary Allowances under formal taxes 公廉银

- Source: DGYNTZG, vol.71, 14b-15a.
- Notes: Estimated with the tax rate (0.45911 *taels* per licence) times total salt licences.

Administrative funds under formal taxes 经费银

- Source: DGYNTZG, vol.71, 14b-15a.
- Notes: Estimated with the tax rate (0.46332 *taels* per licence) times total salt licences.

Surplus salts taxes 盈余盐银

- Source: JQDQHDSL, vol.181, 8381.

Salary Allowances under surplus salts 公廉银

- Source: DGYNTZG, vol.71, 14b-15a.
- Notes: Estimated with the tax rate (0.45911 *taels* per licence) times total salt licences.

Administrative funds under surplus salts 公廉银

- Source: DGYNTZG, vol.71, 14b-15a.
- Notes: Estimated with the tax rate (0.46332 *taels* per licence) times total salt licences.

1800 tax distributions

DGYNTZG, vol.71, 25a-45b; vol.72, 3a-3b.

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