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Yu-Hung Hong

Georgia State University
ANDREW YOUNG SCHOOL OF POLICY STUDIES

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International Studies Program
Andrew Young School of Policy Studies
Georgia State University
Atlanta, Georgia 30303
United States of America

Phone: (404) 651-1144
Fax: (404) 651-4449
Email: ispaysps@gsu.edu
Internet: http://isp-aysps.gsu.edu

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Land Value without Market Value: Ancient China

Yu-Hung Hong
Lincoln Institute of Land Policy

Introduction

It is generally stated that the market value of land and improvements should be used as the base for property taxation. Yet, implementing a value-based tax system is not without challenges, especially in developing and transition countries where private property and land markets are still in their initial development stage. When property transactions are few and opaque, how could tax assessors gather sufficient and reliable data to value land and buildings for tax purposes? This difficulty has led scholars and practitioners to devise innovative methods, such as establishing a presumptive land value or proxy based on the location, productivity, and desirability of land (Bahl and Zhang 1989; Bell and Bowman 2006; Krupa, Mikesell, and Zorn 2006). In many cases, property tax assessments have become the focus of reform (Bird and Slack 2006). In situations where property values cannot be estimated due to the lack of technical expertise of local government, tax reform efforts may be impeded.

This paper analyzes the extent to which the absence of the market value of land could undermine land taxation. We use the land tax in ancient China as an example. Chinese literature contains a wealth of materials on land taxation, covering a period of no less than four thousand years. During this period, the land tax revenue was the major source of public funds (Huang 1918). More interestingly, land taxation was conducted largely in the absence of fully delineated private property rights and well-developed land markets. This historical fact questions the assumption that the market value of land is essential to taxation and that the absence of this value could hinder property tax reforms in countries with situations similar to ancient China.

To ascertain this argument, I present chronically the development of China's land tax system from the period of Huang Ti to the Qing dynasty (from 2697 B.C to 1911 A.D.). An analytical framework is applied to organize and interpret the vast amount of information. This framework is based on transaction-cost economics which argues that when the costs of conducting exchanges are high, parties involved in repeated interactions will invent new (or revise old) institutions to minimize transactions costs, so as to continue dealing with each other (Coase 1988; Ellickson 1991; Eggertsson 1990; North 1994; Williamson 1975).[1] Institution is defined as a set of formal—constitutions and legislation—and informal—customs and social norms—rules that shape parties' decisions and actions. After presenting this analytical framework, a discussion of the history of the land tax in China will follow. The paper ends with inferences of potential lessons for land and property taxation in developing and transition countries.

1 Also see an annotated bibliography on transaction cost economics compiled by Harvey S. James, Jr. in 2006 http://dass.missouri.edu/faculty/hjames/TCE

Analytical Framework

The connection between transaction-cost economics and property taxation is that capturing the land value is an issue related to externalities. An increase in land value generated by government actions and/or community investment will be a positive externality to the landowner if the benefits obtained do not require any action or risk bearing of the owner.[2] In principle, either the government or the community should recapture the wealth created by their actions and reinvest the gains back into the neighborhood for further development. Whether or not the recapture should be conducted through property taxation or other mechanisms will depend on the nature of the transaction costs involved and the existing institutional environment. During the process, there is always uncertainty as to who have the right to retain the land value, what portion of the increased land value should be allocated to the public and to private landowners, and what mechanisms could be employed to enforce the agreement.

Following Coase's (1960) arguments, a possible way to derive an agreement on land value allocation will be to allow the government and landowners to bargain when transaction costs are zero. Many scholars, such as Williamson (1985), Barzel (1989), and North (1990), have followed Coase's (1988: 1-16) argument of treating the transaction costs as a focus of analysis rather than assuming that they are zero. Vogel (1987: 149-188), Ellickson (1989: 611-630), and Donohue (1989: 549-610) conducted empirical

2 Depending on which perspective a person takes to view the impacts of the increased land value, it can be defined either as a negative or a positive externality. For example, a renter may perceive increases in land value as a negative externality, because the potential rises in rent are not related to his or her actions, but the general increase in demand of housing in the neighborhood. Here, I view the land value increment as a financial gain or source of government revenue. Hence, I refer to it as a positive externality.

studies of the Coase Theorem; their results show that transaction costs in reality are high and depend on many factors such as the number of contracting parties involved, the development level of the market, the governance structure of the state, customary rules, and the role of law in society. These scholars are not concerned with the theoretical propositions of the Coase Theorem. Rather, they concentrate on applying the transaction-cost idea to identify potential problems associated with economic exchanges. Under this framework, they compare the different combinations of institutions, such as the market, the state, and social norms, in terms of their effectiveness in reducing the costs of transacting. This is the approach I use to analyze land taxation in ancient China here. As will be discussed in detail next, when land taxation was hindered by high transaction costs of valuing the tax base, governments in ancient China did not resort to the market for a solution. Instead, other innovative systems were devised to deal with the issue.

Land Tax in Antiquity

The ancient history of the land tax in China can be divided into three main periods—the feudal, private property, and general land tax periods (Huang 1918; Wang 1974). First, the feudal period began with the time of Huang Ti (2697 B.C.) and ended with the fall of the Zhou dynasty (249 B.C.). During this period of nearly two thousand and fifty years, land was held in communal property. The rate of levy which was called "tribute" and later "aid" or "contribution" was mainly set at one-tenth of the agricultural produce of land. More important, the well-known *tsing-tien (nine-square)* system—an ingenious land allocation and taxation system—was invented during that time (Huang

1918). Second, the period of private property commenced with the establishment of the Qin dynasty (221-207 B.C.). In place of the numerous feudal lords with a single leader, the country was united under one monarchy. The equal distribution of land in previous dynasties was abolished. Private property in land was established and legally recognized. The establishment of the Tang dynasty began the third period, extending from 619 A.D. to the close of the Qing dynasty in 1911 A.D. During this period, a general levy on land, combined with the poll tax and household tax, was instituted (Wang 1974).

Tsing Tien (Nine-Square) System

A levy on land was first mentioned in the history of Huang Ti who conquered the feudal lords and made them acknowledge him as their emperor by requiring them to pay tributes based on the agricultural production of land under their control. Although details of these tributes are not available, some writers suggest that they were one-tenth of agricultural outputs similar to those of the Xià dynasty (Huang 1918).

The Xià dynasty is generally regarded by historians as the dawn of China's authentic history. Its founder was the famous Tai Yu who took charge in controlling the damaging floor and succeeded. After becoming the emperor, Yu instituted a system of land holding and taxation known as the tribute system (*kung fa*). Land was belonged to the people at large. When a man reached his twentieth birthday, he was entitled to a piece of land amounting to 50 *mu*.[3] When he reached his sixtieth and was no longer able to make full use of the land, he returned his allocation back to the community. Since neither private property in land nor land markets exited, how did the government of the

3 One *mu* is equal to one-sixth of an English acre.

Xià dynasty structure its land tax system to raise public funds for financing public infrastructure and security?

The kingdom was divided into nine provinces, with all the land revenue of the central province (or imperial domain) reserved for the use of the emperor. As will become increasingly clear as we proceed, this method of dividing land into nine equal portions later became the basic principle of land allocation for the entire period. The cultivators within the imperial domain were required to share with the emperor one-tenth of the gross output of their land, which was in essence a land tax. The kind of produce to be paid was determined by the distance of the cultivator from the imperial capital, divided into five zones. Farmers who were within one hundred *li* of the capital paid their tribute in the entire plants;[4] those who were within two hundred *li* in spikes; those who were within three hundred *li* in non-husked grain; and so on (Huang 1918). The farther away the taxpayers were from the imperial capital, the less bulky the form of their tributes would be, so as to minimize transportation costs.

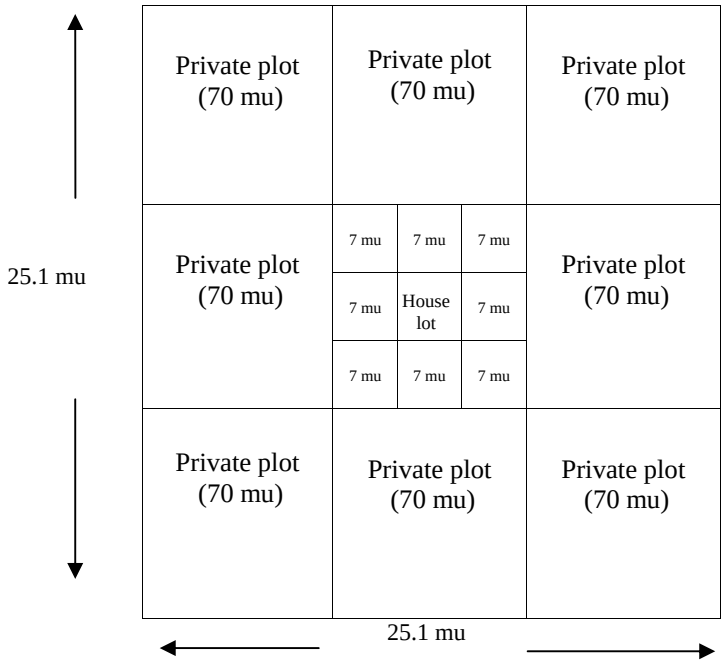
The other eight provinces were parceled out among a large number of feudal princes, and the land levy was the same as in the imperial domain. The princes collected one-tenth of the agricultural output from their subjects, part of which were required to share with the emperor. Due to the long distance from the imperial capital, these princes paid their tributes in salt, flaxen textiles, sea products, silks, precious stones, jades, rattan, ivory, timber, satin, etc. This tribute system of the Xià dynasty lasted for four hundred years.

4 One *li* is equal to four-tenths of a mile.

During this period, there was no buying or selling of land because it was held in communal ownership. The base for the levy on land was the produce. The rate was one-tenth of the total output, applied uniformly throughout the country. The system is certainly crude according the modern standard. Yet, the methods of setting the base and rate for the levy incurred very little transaction costs, thereby rendering the long duration of the system.

The Shang dynasty succeeded the Xià in 1783 B.C. The emperor adopted the well-known *Tsing tien (nine-square)* system, which has been heralded by many scholars as the most ingenious land holding and taxation system in Chinese history (Chen 1912: 497-553). At the beginning of the *tsing tien* system, all land that could be cultivated was divided into lots of 630 *mu* each, which was further subdivided into nine squares of 70 *mu* each. Every square, except the central one, was allotted to a family for cultivation. All output from the assigned lots was retained by farmers. In return, the eight families living within the *tsing tien* neighborhood shared the responsibilities of cultivating the central plot whose products went to the emperor in lieu of taxes on the entire area. In order to set the tax rate to one-tenth of the produce, part of the land in the central lot which amounted to 14 *mu* was reserved for the dwellings of the eight families, as illustrated in Figure 1. This reduced the total area of the commons from 70 to 56 *mu*,or seven *mu* to each family. Because each household received 70 *mu* of land for private cultivation, it took care of 7 *mu* in the common plot, so as to meet the tax quota equivalent to one-tenth of their farm production.

Figure 1: *Tsing Tien* System



Source: By the author.

The discussion of the economic and social implications the *tisng tien* system is beyond the scope of this paper (see Chen 1912). It suffices to point out that as far as taxation is concerned, the *tsing tien* system was an improvement over the tribute system in the Xià dynasty. Under the tribute system, the tax rate was originally in proportion to the annual farm output; but in the course of time, it became a fixed amount based on the average of several years. When the harvest was good, the average rate was often too low. Conversely, in a bad year, the required tributes would become too high. Under the *tsing tien* system, however, the levy was the produce of the central plot cultivated in common by the eight farmers who shared the entire cultivable land equally. Taxes in lieu to the government would rise in good years and dropped during bad harvests (Huang 1918). The *tsing tien* system was a clever institutional arrangement to minimize the transaction

costs of adjusting the levy according to varying conditions during the period when money had not been invented and when the standard of measurements were primitive.

Although the *tsing tien* system was invented in the Shang dynasty, it did not reach its maturity until the Zhou Dynasty (112-249 B.C). The position of the Zhou dynasty in the history of Chinese civilization is profound. Many of the legal codes, political institutions, and social systems of China originated from this period. In terms of taxation, the founder of the Zhou dynasty combined the tribute system from Xià and the *tsing tien* system from Shang. For lands locating close to the imperial capital, the tribute system was substituted for the *tsing tien* method. The reason was that the tribute system which needed yearly adjustments of the amount of contributions according to the fluctuation in farm production required a close contact between tax collectors and taxpayers and the supervision of the central government. Being closer to the imperial capital, it made the administration of the tribute system possible. For the other areas of the Zhou dynasty, the *tsing tien* system remained intact.

The land distribution system in the Zhou dynasty was similar to that of the Shang dynasty. Each of the nine squares, except the middle one, was assigned to one of the eight families that were responsible for cultivating 80 percent of the central lot collectively and turn in all the produce to the government. The remaining land was set aside for the dwellings of the participating households.

There were, however, marked distinctions in the way that lands were allocated under the *tsing tien* system in the Zhou dynasty. First, instead of dividing land into 630 *mu*, each lot of land was divided into 900 *mu*, which then subdivided into nine squares of

one hundred *mu* each. Second, the land assignments were also taken into the consideration of differences in soil productivity. Lands were classified into three classes. Lands that could be cultivated every year were classified as best, whereas those cultivable every other year were categorized as good. The last classes of lands were those that could only be farmed every third year, and they were labeled as medium. Then the amount of land assigned to each farmer was based on three criteria: (1) the quality of the land received, (2) the amount of prairie lands assigned, and (3) the age of male members in the household. Similarly every male member of the family was entitled to his allotment when he reached the age of twenty. He was required to return his allotment to the community when he reached sixtieth.

The tax rate during the Zhou dynasty was also one-tenth of the gross agricultural output of the family, irrespective of the land assignment method. There were two exceptions, however. First, a heavier land tax would be imposed on a recipient who did not make full use of the allotted land. A family that received land from the state but failed to cultivate it was liable to pay taxes three times as heavy as the normal amount. Second, a family that received land for housing purposes were required to plant flax and mulberry trees; or else, they would be liable to pay the tax in silk twenty-five times as heavy as those paid by their neighbors.

In addition to the levy which farmers had to pay from the produce of their land, they were also required to render to the government certain military and non-military services. For the military services, each *tsing tien* area was taken as a unit. Every 64 lots (eight *tsing tien* units*)* were required to furnish hour horses, one chariot, three charioteers,

72 foot soldiers, and 25 men. For non-military services, urban dwellers between the age of 20 and 65 were liable to serve. People living in the rural areas might be called upon to service between the age of 16 and 60. There was however a law that prohibited the government from demanding more than one member from each household at a time, and the period of services could not be longer than three days.

Despite its ingenuity, assessments of the effectiveness of the *tisng tien* system are mixed. Some scholars, such as Chen (1912), praise the system as one of the greatest invention in the history of China, representing an equitable system of land allocation and taxation. Others, such as Shaw (1930), believe that the absence of supervision during the latter part of the Zhou dynasty plagued the system with free ridership and huge reductions in the contributions to the emperor. Unfortunately, data are unavailable to validate either one of the two arguments. These uncertainties notwithstanding, one thing is clear: the *tsing tien* system had survived over 1,500 years of time-proven test. According to many historians, the system allowed the rulers of the Shang and Zhou dynasties to raise resources for building infrastructure and providing local services to the population (Chen 1913; Huang 1918). The system started to break down only after the feudal lords violated the principle of *tsing tien* and raised the “tax rate” beyond one-tenth of farmers' output, so as to meet the expenditures of the war against each other. This land tax system did not require the presence of a land market. Nor was the monetary value of land the tax base. The system relied on a set of simple and equitable rules for land allocation and taxation to which involved parties were able to understand and thus willing to oblige. The transparency and fairness of the system might have been the key ingredients that kept

the system alive for so long.

Beginning of the Private Property in Land

After 26 years of struggle over the supremacy among the feudal lords, the Prince of Cheng in Ch'in finally conquered the other six states and became the first emperor of a centralized kingdom. The emperor was an ambitious ruler. It was he who undertook the erection of the Great Wall and the construction of the famous palace. Regarding land taxation, the emperor applied the new system of taxing land that had been in vogue in his state before he conquered the other feudal lords to the whole empire. The *tsing tien* system was abolished before the establishment of the Qin dynasty. It was Duke Shiao and his minister Shang Yan who saw that the territory of Ch'in was extensive and thinly populated, whereas their neighboring state, Tsin, was small but inhabited by huge population. In order to attract the people of Tsin to migrate to Ch'in and develop the land, the Duke abolished the *tsing tien* system and allowed migrants to take up as much land as they could cultivate. With the abolition of the communal ownership system, the land was taxed as private property. Unlike the *tsing tien* system in which land was the subject of the tax, the owner became the subject during this period.

Lands were bought and sold during the Ch'in dynasty, and the only condition of landholding was the payment of the land tax to the government which was assessed on the gross output of the land. According to Han (1910), the land tax was heavy. The average taxes per person on land and on iron and salt amounted to twenty times as much as the taxes in the earlier part of the Chow dynasty. The level of tax paid in services was

thirty times as much. During the Chow dynasty, the amount of forced labor was limited to three days per year. But the emperor of Ch'in changed it to three months per year.

The result of these changes was far reaching. This was the first time in the history of China that a distinction between landowners and tenants was made. Owing to the severity of the land tax, many small cultivators sold their lands to the rich merchants who in turn became big landlords. Land distribution became skewed. With heavy taxes and an uneven distribution of wealth, the second emperor who was even more extravagant than his father was overthrown in 206 B.C., bringing an end to a dynasty that lasted only 14 years.

The Han dynasty (206 B.C. – 220 A.D.) succeeded Ch'in. To release the population from heavy taxes, the founder of the Han dynasty immediately reduced the rate of the land tax to one-fifteen of the gross output and the amount of forced labor to three days. The taxes on iron and salt were also abolished. Emperor Wen who was under the influence of his prime minister went event further by eliminating the taxes on land. They expected, albeit erroneously, that any shortfall of the tax revenue could be recovered by introducing a system of selling official titles for grains. The value of grain would increase, thereby encouraging more agricultural production. The land tax was eliminated and did not resume for twelve years until after the death of Emperor Wen. The rate of the land tax in the first period of the Han dynasty which was known as the Eastern Han remained light, ranging form one-thirtieth to one fifteenth of the gross product of land.

The low rate for the land tax did not benefit small cultivators, however. Land

holding by the time of the Han dynasty had already fallen into the hands of big landlords. While the low land tax benefited the propertied class, farmers who were usually tenants had to pay as much as 50 percent of their produce to landowners as rents (Lee 1951). The situation was aggravated by the capitation tax which fell mainly on the poor. There were intents to revert to the *tsing tien* system and to establish measures to limit land ownership. For instance, when Emperor Wu (140-134 B.C.) first came to power, he issued a decree declaring that every family of less than eight persons which possessed more than one nine-square lot should distribute the surplus to their kinsmen. These efforts, however, faced strong opposition from a land aristocracy and were failed to go through the government which was influenced by the propertied class (Huang 1918).

There are three observations for this period of the land tax development. First, the establishment of private property in land and the emergence of market transactions did not lead to any changes in the assessment of the tax base. The amount of tax was still determined based on the output of the land. Second, in the face of the increased concentration of landownership, shifting from the land tax to other instruments, such as the grain title fees and poll tax, was not a good policy. The tax burden was transferred from the big landowners to small cultivators, thus exacerbating the already uneven distribution of income. Third, after the abolition of the *tsing tien* system, it was impossible to reverse the change due to the opposition from the propertied class. This indicates that land allocation and taxation policy was “path dependent” (Skocpol and Pierson 2002: 665-6). That is, once actors have ventured far down a particular path, they are likely to find it very difficult to reverse course. Resistance from the elite to the

redistribution of land was so strong that made the restoration of the *tsing tien* system untenable. It would be an overstatement that the establishment of private property led to the downfall of the Qin dynasty. Yet, the uneven distribution of landownership certainly did not help spread the heavy tax burden equitably among the population. With the harm of the new system inflected disproportionately on the non-propertied households, the disadvantaged parties had no other options but to revolt against the entire regime. This shows that any tax reform initiated by a government that does not weigh the benefit and cost of the undertaking could lead to an increase, not decrease, in transaction costs.

Period of the General Land Tax

With the beginning of the Tang dynasty (619 A.D.), two new land tax systems were introduced. First, it was the system of *tsu-yun-taio* (rent, personal-service, and household tax). The system was based on the principle of equal land distribution that each farmer was entitled to one hundred *mu* of land. Of the one hundred *mu*, eighty percent was revertible to the government, and the balance became a permanent private property. The reason for this division is not entirely clear in history. The allocation was conducted in areas where the government owned a lot of land. In other regions where private landownership prevailed or where available public land was not sufficient for equal distribution, the new land allocation scheme was not implemented.

Under this land distribution system, each farmer was obligated to pay the

government (1) two *tou* of rice (or wheat) as rents;[5] (2) 20 days of labor as personal services; and (3) a certain amount of silk as household taxes. If the personal services required by the government exceeded 25 days, the farmer would be exempted from the household tax. If it exceeded 30 days, both the rent and household tax would be exempted. Taxpayers could also claim an exemption from the payment of rent when a bad year reduced the output to one-fourth of the normal yield. They could also asked for an exemption from both the rent and household tax if the produce dropped to one-sixth; and they would pay not taxes at all if the harvest was reduced to one-seventh of the normal level (Huang 1918). This tax system only applied to the agrarian population, with the nobility, public officials, scholars, filial sons, and widows being exempted from these levies. Because this system required close supervision and the collection of three different types of levies increased transaction costs, lax administration had gradually led to its breakdown.

The situation brought forth the famous tax reform organized by Yang Yen in 780 A.D. He replaced the three levies and the other subsidiary taxes by a single land tax, which was made payable in two installments—one in the summer, and another in the autumn. Because Yen recognized that farmers were no longer possess equal amount of land, thus calculating tax liabilities based on the person or household was inequitable. Instead, he brought back the old system of land classifications, and in each of the categories, a general rate was set for the land tax payable in two installments. The tax rate of the first installment on the best land was one *tou* of grain. On the second and the

5 One *tou* was equal to 10 *sheng* (or 10.95 quarts)

third categories, the tax rates were six-tenth of a *tou* and two-tenth of a *tou*, respectively (Huang 1981).

For the first time in China, the government established a system of apportionment. Initially, Yang Yen's idea was to fix the tax rates and allow them to change only due to occasional reduction or remission in case of crop failure. He however felt that the government should not adjust its expenditure to the return of the taxes. Instead, it should first determine the amount of expenditures and then apportioned the required funding among the districts according to the classifications of their lands. The general rates were therefore subjected to increase or decrease according to the need of the government. According to some historians, the reform was well received by the population (Tung 1950). After the fall of the Tang dynasty, China went into a period of chaos which was referred to as the Epoch of Five Dynasty until the Sung dynasty (960-1277) came to power.

The founder of the Sung Dynasty introduced three important changes to the land tax system. First, there was a division of all arable lands in the country into lots of one thousand *pu* square; thus each lot contained 41 *ching*, 66 *mu* and 160 square *pu*. The classification of the land was first expanded into five grades and later to ten. In general, the rate for the land tax during the Sung dynasty was light, ranging from one-twentieth to one-thirtieth of the gross output of the land. Second, the government differentiated land into public land, farm land, and urban land. Receipts from these land types formed the first three of the five kinds of land revenues, including (1) rent from public land, (2) taxes from farm land, (3) taxes from urban land, (4) poll tax, and (5) miscellaneous taxes.

Third, the government instituted a tax on the transfer of land either by sale, inheritance, or gift. Although the tax rate was not recorded (at least from the varied sources that I examined), the estimated amount of collection from this tax was over four and a half million string of cash in 1132, which indicates its extensive use (Huang 1981).

Later in the Sung dynasty, the famous financier, Wang An Shih, introduced the general property tax which was imposed on both land and properties. As a result, land was subject to both the regular land tax as well as the general property tax. The latter, however, rested most heavily on the wealthy classes.

After the Sung dynasty, the tax system in the Yuan and Ming dynasties was similar to that of the late Tang dynasty. Starting from the middle of the fifteenth, the tax system in the Ming dynasty was much disturbed. The tax roll was not updated. Many extra levies were imposed on the population (Wang 1936). The regular land tax and different levies were heavy and confusing. The government therefore decided to establish the *i-tiao-pien* (or one whip) system, in which the regular land tax and the various heavy charges were consolidated into one payment. Judging from the name, "one whip", one can imagine how burdensome this levy was on the people. Yet, according to Huang (1981), the one whip was still considered as an improvement by the taxpayers, because it lowered the transaction costs of tax collection and compliance.

The improved condition was however short-lived. Lawless and disorder broke out in Liaotung, thereby necessitating additional levies to cover the expenditures for maintaining security. Among all the levies, the so-called "Liaotung supplies", collected for the military expenditure were particularly heavy, causing widespread dissatisfaction

and confusion (Wang 1936). The weight of these levies finally led to the downfall of the dynasty.

The land tax of the Qing Dynasty (1644-1911) was partly a heritage of the preceding dynasty, and party a development based on its unique situations. The distinct feature of the tax system was the *tien-fu* (the general land tax), which comprised a number of contributions and taxes. Basically, there were four distinct elements in the *tien-fu*: (1) the land tax proper, (2) the grain tribute, (3) the poll tax, and (4) the surtax (Liu and Fei 1977; Wang 1971). The land tax proper was inherited from the Ming dynasty, with the exclusion of the "Liaotung Supplies." Tax rates for the land tax were determined according to the fertility of the land. Land in each province was divided into three to twelve kinds. Each kind was then divided into three categories, and each category was further subdivided into three grades. The tax rate for each of the nine classifications of land was varied. The central government set only a maximum and a minimum rate for each kind of land, and the determination of the actual amount (or rate) for each grade of land was left to the district magistrates. The complexity of the rates could be illustrated by an example. In Chihli (Hebei), there were more than twelve kinds of land. One of them was the *min-fu-tien* (or "people's" land) which was subject to a tax, varying from Tls 0.081 to Tls 0.013 in silver, one to ten *sheng* of rice, and 0.908 to 4 *sheng* of beans per *mu* of land. For the military land, the tax rates ranged from Tls 0.007 to 0.0783 in silver, 0.879 to 0.072 *sheng* of rice and 0.438 to 3.6 *sheng* of beans, and 192 to 417 bundles of straw. According to Huang (1918), such a complex system of rates was by no means exceptional. The tax consisted of two parts, one payable in money and

another in rice, wheat, millet, beans, or other products.

Of all the tax laws that were passed during the Qing dynasty, none was more important than the 1713 “Permanent Settlement.” This law declared that the number of taxable heads in the country and the land tax were to be fixed for all time after the year of its establishment. The tax therefore became apportioned tax, that is, the amount collectible from each district was based on the collections in 1713. Although there were increases in the land tax during the Qing dynasty, these increments were disguised as surcharges.

Besides the land tax, there were five kinds of grain tributes: (1) the principle tribute, (2) the auxiliary tribute, (3) the white-rice tribute, (4) the millet tribute, and (5) the black-bean tribute. Table 1 shows the amount and purpose of each tribute. The figures, however, did not constitute the total quotas for the provinces. A number of extra levies were added in the course of time to the principle amount originally required.

Table 1. Grain Tributes in The Qing Dynasty

Grain Tribute	Amount	Purpose
Principle	3.3 million *shihs* of grain	To Peking for maintaining the Banner troops
Auxiliary	272,650 *shihs* of grain	Sent to Tungzhou for the use of princes and officials
White-rice	135,225 *shih*	For the use of the imperial household
Millet	9849 *shih* o	For the use of the imperial household
Black-bean	208,199 *shih*	For feeding the horses of the troops in the North

Source: Huang (1918: 92)

As mentioned earlier, the poll tax was first introduced in the Han dynasty in lieu of military and other services. The tax was extended to the succeeding dynasty, including the Qing dynasty. For the purpose of collecting the poll tax, the people were divided into four classes. Each class was then subdivided into three grades. The taxes that a taxpayer had to pay were based on the so-called "material strength" of the individual. The tax rates in each district were set by the magistrate, as in the case of the land tax. Thus, they varied from the minimum to the maximum across the whole country.

After the permanent settlement was enacted, one province after another amalgamated the poll tax with the land tax (Wang 1974). It is because the amount of collections was fixed for the poll tax. Besides, China was then predominantly an agricultural nation, and the chief form of wealth was land. Both the land tax and poll tax were based on the produce of the land. Since the amount of the poll tax apportioned to each province was immutable, it was cost efficient to combine the two taxes into one

levy. For example, in Guangtong, the poll tax rate was set at Tl. 0.164 to every *tael* of the land tax. In Shantung, it was Tl. 0.115 for every *tael* of the land tax. One drawback of combining the two taxes was that the varied tax rates of the former added further confusion to the already very complex rates for the land tax.

Owing to the permanent settlement, the number of surcharges had expanded tremendously. Between 1796 and 1820, the government reported that in the 18 provinces, there were as many as 538 expenditure items designated to be covered by surcharges (Huang 1918: 106). In order to pay for these expenditures, the amount of extra charges collected by the district magistrates had to be increased, and in some provinces, funds from other sources were regularly appropriated to the surcharge account to cover any deficiencies. The major surcharges included the “collectors' fees”, “meltage charge”, and “wastage charge”, all of which acted as extra payments for covering the costs of tax collection. Huang (1918: 106) estimated that these charges amounted to several times of the original amount of taxes assessed in 1713. In Table 2, I estimate the surcharges for the combined land and poll tax and the grain tributes in difference provinces by comparing their quotas with actual collections. As can be seen from the table, for each levy the actual amount of revenue collected was much higher than the quota; the difference had to be the surcharges. For the combined land and poll tax, the estimated surcharges were 41 million *taels* in 1908, more than half of the total amount of taxes collected. The surcharges on the grain tributes were 24 million *shih,* accounted for over 75 percent of the collection.

Table 2. Estimated Amount of land Taxes in 1908
(in 1,000 taels)

Province	Area of Registered Land (1,000 mu)	Land Tax plus Poll Tax		Surcharges	Grain Tribute		Surcharges	Total
		Quota	Amount Collected		Quota (in 1,000 *shih*)	Amount Collected		
		(1)	(2)	(3)=(2)-(1)	(4)	(5)	(6)=(5)-(4)	(7)=(2)+(5)
Chihli	68,589	2,445	6,185	3,740	97	531	434	6,716
Shantung	98,283	3,339	6,244	2,905	437	2,357	1,920	8,601
Honan	71,685	2,839	6,093	3,254	231	1,508	1,277	7,601
Shansi	50,000	2,988	4,478	1,490	117	351	234	4,829
Fengtien	39,162	543	2,718	2,175	131	1,359	1,228	4,077
Kirin	31,200	486	1,400	914	---	---	0	1,400
Heilungkiang	15,000	253	800	547	---	---	0	800
Shensi	30,593	1,623	3,247	1,624	198	712	514	3,959
Kansu	18,781	225	585	360	330	1,062	732	1,647
Sinkiang	10,555	---	---	0	302	1,036	734	1,036
Kiagsu	75,117	3,038	5,882	2,844	1,674	8,566	6,892	14,448
Chekiang	46,778	2,767	5,479	2,712	900	3,465	2,565	8,944
Fukien	13,452	1,228	2,608	1,380	96	415	319	3,023
Quangdong	35,227	1,223	2,786	1,563	380	1,842	1,462	4,628
Anhwei	34,064	1,588	3,187	1,599	387	1,666	1,279	4,853
Kiangsi	47,343	1,930	4,439	2,509	829	2,405	1,576	6,844
Hupei	59,220	1,170	3,401	2,231	306	1,396	1,090	4,797
Hunan	34,874	1,246	2,371	1,125	297	823	526	3,194
Kwangsi	8,652	379	775	396	144	432	288	1,207
Szechwan	47,062	669	7,906	7,237	---	---	0	7,906
Yunan	9,319	293	631	338	204	673	469	1,304
Kweichow	2,679	96	198	102	163	405	242	603
Total	847,635	30,368	71,413	41,045	7,223	31,004	23,781	102,417

Source: Wang (1973)

The history of land taxation from the Tang to Qing dynasty shows that the land tax was the outcome of a complex historical process through which interested parties tried to revise the rules to lower transaction costs. These efforts comprised, for instance, the attempt at the beginning of each dynasty to reform the land tax system to ensure its equity and acceptability to the population. Subsequently, the government refined the tax

system to try to increase the buoyancy of the tax. Owing to imperfect information and bounded rationality, outcomes were not always desirable. The land tax system became too complex, thereby increasing the transaction costs of tax collection and compliance. When the reforms failed, some dynasties took actions to simplify the system by consolidating different tax items and charges into a single levy. In the Qing dynasty, the Emperor Kang-Chi went even further by declaring the immutability of the land tax and the poll tax after 1713. Yet, the limitation on the increase in tax collections led to the emergence of legal and extra-legal surcharges, which imposed even heavier burden on the population than did the combined land and poll tax. Besides, the complexity of the land and surcharge systems gave rise to all sorts of irregularity and corruption.

A hypothetical question related to this paper is: To what extent might land taxation in this period have been less complex and costly, had some form of market-value based system been adopted by policymakers? Based on the interpretation of the history, my speculation is that it might not have been able to reduce the transaction costs. Indeed, many reform efforts initiated during this period were to differentiate the taxable values of land. Land is classified into refined grades according to their quality; and then, different tax rates were applied to varied categories of land. A value-based tax system might have performed a similar, or even a more precise, function if data for land transactions conducted by willing buyers and sellers in the land markets were available. This is, however, no evidence of the existence of such records in this period. Besides, landholdings were unevenly distributed. If the government were to tax land based on its market value, such a reform would have undermined the interests of the powerful

propertied classes. Thus political resistance from landowners would have prohibited the initiative from moving forward. In other words, my guess is that a market-value based system would have at best incurred the same level of transaction costs of valuing land for tax purposed, or at worst increased the costs.

Conclusions

The discussion of the land tax system in ancient China has provided at least three lessons. First, having the market value of land was not a prerequisite for land taxation in ancient China. For over four thousand years, different dynasties taxed land without replying on its market value as the base. Certainly, as indicated, the land tax systems were not trouble free. Yet, the problems were largely related to tax administration. As for the assessment of the tax base, there is no evidence that the market value approach would have been preferable to using the gross output of the land as the base. Besides, wars that led to overtaxing the population were the major reason for the collapse of most systems.

Although the value-based tax model played almost no role in land taxation in ancient China, it does not mean that it should not be considered in other times and spaces. The period of the Chinese history examined in this study was unique. The country was predominantly rural, and the knowledge about the market economy was not as well understood as it is today. The critical point is: The decision to use the market value of land (or for that matter, any measurements) as a tax base should not be predetermined;

instead, it should be based on a thorough comparison of the transaction costs associated with this method with those of other alternatives. The difference will be determined by the existing institutional environment.

Second, the simplest method always works the best because its operations incur very little transaction costs. The *tsing tien* system was illustrative. It was easy to understand for both public officials and taxpayers. The amount of tax payments was consistent and predictable, thereby easing tax collection and enforcement. Most importantly, it was fair. Every participating farmer in the *tsing tien* area made in-kind contributions equivalent to one-tenth of their farm output in lieu of taxes to the government.

Third, land (and perhaps property) taxation is a dynamic process. The evolution of the land tax in ancient China indicates that the system was constantly in flux. This was mainly because the changing institutional environment led to the emergence of different set of transaction costs involved in land taxation. When affected parties took actions to lower these costs, their attempts were not always successful, thereby setting off an unexpected dynamic that further complicates their efforts. This experience implies that it would be hard to give recommendations for land and property tax reform.

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