8.2 Money's Purchasing Power

1. Oscillations in the Value of Coins at the Beginning of Qing

Qing Dynasty money's purchasing power fell continuously. Over the course of three centuries, silver's purchasing power dropped to one third of its original level, and prices calculated in copper cash rose six or seven fold. Nevertheless, except for the one large scale monetary depreciation which occurred during the xianfeng period [1851-1862], changes in the value of money were gradual.

Practically all of the Qing Dynasty government's expenditures were made in silver, and it also encouraged the people to use silver. But silver's purchasing power was, after all, relatively high, and because it was not minted, every fraction of an ounce of it had to be weighed, which was troublesome. Hence for small daily expenditures and dealings among the common people, copper cash continued to be the main form of money. This phenomenon was already evident during the qianlong period [1736-1796]. From xianfeng times on, since silver was scarce and expensive, even the grain tax was calculated in terms of copper cash.

Although the tendency was for there to be few sudden changes in the value of money, small oscillations were frequent, especially for copper cash, which was so intimately connected with the people's livelihood.

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During the the first century of Qing, this was a troublesome problem.

The Qing court did not then understand the theory behind primary and secondary moneys. It merely believed that it would be best to have a fixed price ratio between silver and copper cash. This was set at 1 ounce of silver to 1,000 cash. From shunzhi 2 (1645) on, they wanted to maintain this ratio, particularly for the coins bearing thousandths of an ounce of silver equivalent inscriptions that they minted from shunzhi 10 on. The other standard coins were also frequently raised or lowered in weight to maintain this price ratio.

The market, however, was more changeable than these official changes in price, and as a consequence, both light and heavy standard cash remained in circulation, with consequent differences in their purchasing power. This in turn stimulated melting down of coins and private coining, i.e. heavy coins were melted down and light ones minted.

Qing standard coins originally were heavier than Ming ones, especially after their weight was increased to 0.14 ounce in shunzhi 17, without their exchange price with silver being raised. This made the intrinsic value of copper cash greater than their face value. If a coin was destroyed for its copper, a profit of 100 percent could be obtained.[1]

The consequence of such destruction of coins was a reduction in the quantity of standard coins, and a rise in their price. This phenomenon was noted by the authorities in kangxi 18. By kangxi 23 (1684), an ounce of silver could only exchange for 800-900 cash. The prices of articles of food and drink for daily use were very low reckoned in copper cash. A bowl of noodles was only 10 cash. A plate of mantou [steamed breads] was only 4 cash.[2] Four hundred cash could buy a pig.[3]

The Executive of the Board of Personnel, Chen Tingjing, proposed reducing the weight of the copper cash from 0.14 to 0.1 ounce, so that there could be a 40 percent increase in the quantity of coins minted. At that time the Beijing Treasure Spring and Treasure Origins Offices annually minted 404,800 strings. The weight reduction would enable them to increase this figure by 161,920 strings.[4] This was

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[1] *Imperial Dynasty Investigation of Literary Remains*, 14, "Investigation of Coins," kangxi 12.

[2] Cf. *Dessicated Words of the Old Man of the Wilderness*, chapters 21 and 16. We can discern prices of the kangxi period from this book's contents. Chapter 16 contains the following: "'You Li asked, How many cash per pot is this tea of yours?' The shopkeeper replied, 'Tea is 2 cash a pot. Steamed breads, sugar strips, melons, preserved dried meat, are all 4 cash per portion.' You Li took 2 cash out of his purse and said, 'Take the coins. I'll just drink half a glass of your tea, and call it a pot-ful.'"

[3] *Suchu New Record*, 19, "Cautious Hut Accidental Jottings," an incident occurring in Shanghai during kangxi 12.

[4] *Imperial Dynasty Investigation of Literary Remains*, kangxi 23, petition by Chen Tingjing: "If we wish to remove the abuse of destroying coins, and seek a system under which coins will be many, there would be nothing better than to mint somewhat lighter coins. . . . Altogether the Treasure Spring and Treasure Origins Offices each annually move 253,000 ounces of tax silver, and handle 3,892,307 odd catties of copper, including a meltage and wastage of 350,307 catties, leaving 3,542,000 catties of pure copper, from which is minted 404,800 strings of coins. If we now change the weight of a coin to 0.1 ounce, an additional 161,920 strings of coins can be minted annually. This would be profitable both to the people and to the state."

The figures for minting that Chen Tingjing quotes do not correspond to those in the *Qing Veritable Records* and *East China Record*. According to the figures in those two works, in around kangxi 23, annual coin production averaged over 294,000 strings, and there was no increase after the weight reduction. The figure in the *Qing Veritable Records* may have been for the Treasure Spring Office alone.

probably the reason for the weight reduction in that year.

The price of coins fell after the weight reduction, and goods prices rose. In kangxi 36 (1697), 1,000 cash could only be exchanged for 0.32 or 0.33 ounce of silver.[5] This represented a three or four fold difference from the level of kangxi 23. That the fall in price exceeded the degree of the reduction in weight was undoubtedly the result of private coining.

The 0.14 ounce coin weight was restored in kangxi 41 (1702), and a separate light coin of 0.07 ounce was also minted. The large standard coins were priced at 1,000 to the ounce of silver. The small standard coins were priced at 1,000 to 0.7 ounce of silver.[6] Because, however, the weights of the standard coins differed, so too did their purchasing power, and this led to a proliferation of coin names. There were new coins and old coins, large coins and small coins. Small coins dominated in the capital; large coins predominated in the provinces.
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This meant that in Beijing 50 coins were used as 100, so that 200 capital cash were actually 100 cash.

There were people who advocated abolition of the small coin, but others said that to do so would cause alarm among the people, and that there was an insufficient quantity of large coins. As a result, the large and small coins should circulate simultaneously until the quantity of large coins should become large enough to allow the gradual melting down of the small coins. In fact, however, as late as qianlong 36 [1771], when the Hunan financial administrator, Wu Hubing, requested investigation of a ban on ancient coins and small coins, the authorities made it clear that the small coins of the kangxi period were not to be included in such a ban.

Once the standard coins had been made heavier, their market price in terms of silver immediately rose. Previously, an ounce of silver could exchange for 800 or 900 cash. In kangxi 61 (1722), it could only exchange for 780 standard coins.[7] This, however, was in terms of capital large coins. The situation was different for small coins and private coins.

In yongzheng 3 (1725), the practice of private coining was in a very flourishing state in Hu-Guang and Henan. Because the value of coins had falled to too low a level in Zhili and Fengtian, an edict was sent down in yongzheng 7 fixing the price of silver at only 1,000 cash per ounce. Evidently the market price of silver then was at some other level. Nevertheless, in qianlong 2 (1737), capital large standard coins still only went for 800 cash per ounce of silver.

Private coining and private melting down of coins advanced simultaneously because increases in the volume of copper production in China then were limited. China had depended on imports of Japanese copper since the kangxi period.[8] The capital mints shifted to use of Yunnan copper in qianlong 3. The lower Yangtze provinces continued to use Japanese copper. In all cases the quantities involved were not very large.

The majority of private coiners depended on melting down large standard coins. There were even cases of recasting coins into utensils because copper objects were so expensive. Reports of such occurrences were frequent during the yongzheng period. The official price then was an ounce of silver for 1,000 cash. The market price was only something over 800 cash. Naturally standard coins were hidden away.

For this reason another depreciation and weight reduction was effected. The green cash were minted in qianlong 5 [1740], which constituted a form of depreciation. Minting of a 10-cash large coin was proposed in qianlong 3. Such a coin would have weighed only 0.4 ounce.[9] The proposal was not adopted, but the Associate Administrative Commissioner, Li Shizhuo, requested that the weight of the standard coin be reduced to 0.1 ounce, and in qianlong 5, Zhili reduced its coin to 0.07 ounce. In qianlong 9, Hubei changed its coin to 0.1 ounce,

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[5] *Qing History Draft*, 54, "Xiao Yongzao": "In kangxi 36 . . . a petition stated that coins were many and their price cheap. A thousand had a market price of 0.32 or 0.33 ounce. The supply for one or two soldiers would come to just a few tenths of an ounce. . . . He requested a temporary halt in minting."

[6] *Qing History Draft*, 53, "Tang Youceng."

[7] *Imperial Dynasty Investigation of Literary Remains*, "Investigation of Coins."

[8] *Imperial Dynasty Investigation of Literary Remains*, 17, "Coins, 5."

[9] *East China Continued Record*, qianlong 8, qianlong 3, 8th month, day yiyou: "The Proclamation Censor, Silu, . . . memorialized to request minting of 10-cash coins, each of which would weigh 0.4 ounce, and be equal to ten small coins, and five current standard coins. Forty of these large coins could be obtained from a catty of copper, and thus the price of the coins would float along with the price of copper. Illicit
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melting down of coins could be eliminated without any other moves being made. He also requested the reestablishment of coin brokers. . . . It was maintained that it was based on unreasonable doctrine, and the result of a blind desire to change established procedures in a disorderly fashion. . . . Silu's proposal was handed over to the Board for serious discussion."

and in qianlong 11, Liang-Hu shifted to 0.8 ounce.[10] These weight reductions likely evoked popular opposition, and so later on the coin's weight was restored to 0.12 ounce. We can tell from this that the problem with the price of coins lay in the fact that the official price of copper coins in terms of silver was too low.

The authorities expended a lot of effort on the problem of the price of coins at the beginning of the qianlong period. At first, someone advocated setting up ten official coin offices within Beijing and in the provinces at which people could exchange copper coins for ounces of silver. These offices would also weigh the copper coins taken in by pawn shops, since people mostly used copper cash to redeem pawned articles. During seasons when pawn shops needed copper coins, they could

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obtain them at these official coin offices.

Others, however, opposed this proposal. They supposed that it was only necessary for the government to fix the silver-copper coin exchange price ratio, and have the brokers and shopkeepers buy a certain number of strings of cash each day at that price less a small profit for themselves. In this way the circulation of copper cash could be made smooth.[11] As a consequence, though they seem to have set up official coin offices and coin brokers, the price of coins remained unstable.

In qianlong 9 (1744), the Academician E'ertai put forward a petition containing an eight point proposal for circulating copper coins.[12] The gist of it was, first, assemble copper artisans to inspect the copper which entered the shops and to smelt it. Second, deposit funds in the pawn shops, and collect coins for transmission to the official coin offices. Third, have the official rice offices sell rice for coins. There would be no need to accumulate them. They could be sent into the market to exchange for silver. Fourth, the coins accumulated from the pawn shops and sent to the official coin offices would all be sent out to the market. Fifth, the coin brokers would be assembled in one place, and the officials would carefully investigate them so as to prevent them from raising prices. Sixth, the food stores of the capital would be forbidden to use coins to purchase food. Seventh, there would have to be a strict ban on the movement of coins out of the capital city. Eighth, there should be serious study of a ban on storing up coins in places near the capital.

None of these proposals could have had any great efficacy. The authorities wanted to encourage the use of silver in part so as to diminish the demand for standard coins. For example, in qianlong 6, the Guangdong Provisions Chief, Zhu Shuquan, memorialized a request that local officials exhort people to use both silver and coins, and that they not solely use coins for sums above a few ounces.[13]

In qianlong 10, the authorities sent down an order reaffirming the government's original aim to mainly use silver. Nevertheless, the habit of using coins only increased its hold on the people, so the authorities finally adopted a *laissez faire* policy, because the basic cause of the problem was the fall in the price of silver. This encouraged the flow of Japan's Kan'ei coins into China.[14]

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[10]Tang Yuhun, *General Investigation of the Standard Coin.*

[11]*Imperial Dynasty Texts Through the Generations*, 53, "Financial Administration," 28, "Coins," latter part, qianlong 2, Reviewing Policy Advisor Tian Hui, "Petition on Leveling the Price of Coins."

[12]*East China Continued Record*, qianlong 20.

[13]*Qing Emperor Gaozong Veritable Record*, 139, qianlong 6, 3rd month, day guiwei: "The Guangdong Provisions Chief, Zhu Shuquan, memorialized to say that coins were expensive because they were few in number. . . . In former years though silver was used in trade, both ancient coins and silver were used. Now, those who once used silver have mostly shifted to use of coins. Those who had used ancient coins have mostly shifted over to use of current coins. In places like the region south of the Yellow River and the Miao frontier, all are using yellow coins. . . . There should be instructions to local officials to exhort people to use both silver and coins, and for transactions of several ounces and more, they should not solely employ coins. Only then can coins' price be stabilized at a lower level. This was accepted."

[14]*East China Continued Record*, qianlong 36: "In qianlong 17, 7th month, day jiashen, there was a proclamation to the high military officials: In the past We have heard that in places along the seacoast there are places where Kan'ei coins are circulated. In qianlong 14, Fang Guancheng memorialized to request that a ban on this be investigated. Because We saw that standard coins were expensive, We did not order a deep investigation to be made, and We considered that even what the market calls clipped edge sand-board types of coins also bear the name of this dynasty. In recent days in Zhe province there has been a case of a foreign bill being captured along with a pirate, and there is also talk of circulation of Kan'ei coins. These coins bear the inscription Kan'ei Circulating Treasure. Standard coins of this dynasty, and coins bearing Yuan year-period names, or private coins and small coins all circulate together. Punishment is only levied for private coining. If there are these Kan'ei Circulating Treasure coins, then their source must be seriously investigated. We have also heard that from the Huai and Yangtze on south, they have circulated in especially large numbers in the rice and salt markets. When exchanging an ounce of silver for coin, among the standard coins this sort of coin has come to constitute half the number. Since such coins are being minted, and they are enter-

The productive power of Qing coin casting furnaces seems also to have risen. The Treasure Spring Office altogether had 50 formal furnaces and 10 hired service furnaces. It could turn out at least 1 or 2 *mao* of coins per month, and as many as 6 or 7 *mao*. One *mao* was 12,498 strings.[15] Evidently the maximum productivity per annum per furnace was 17,497 strings, which was more than double the figure for early Ming, and over five times the Tang level. However, the above figure is a later one.

Generally speaking, during the first century of Qing, the price of coins was relatively stable. Though coins were minted every year, since there were limits to the supply of copper, the quantity minted could not be greatly increased, and the annual production figure for the entire country probably averaged around 3 billion cash.[16] This was not enough to keep up with the increase in the population, and so the phenomenon of a slight constriction in the money supply appeared, particularly since the policy had always been to keep the supply of coins steady. There was a still more severe constriction during the yongzheng period. Except in Yunnan, which produced copper, the price of standard coins vis à vis silver was very high.[17]

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ing into the markets to be circulated, people must be opening furnaces, and there must be places where they are being sold."

There is also a memorial by Yinjishan and Zhuang Yougong: "The Kan'ei coin is minted by the Wa of the Eastern Sea. They are carried by merchant vessels of the Inner Territory to ports like Shanghai in Jiangsu and Ningbo and Zhapu in Zhejiang, where they circulate in especially large numbers."

[15] *Great Qing Collected Statutes*, 24.

[16] The figures contained in the *Qing Veritable Records* for the shunzhi, kangxi and yongzheng periods are as follows (These must be the figures for the Beijing Treasure Spring Office alone. Cf. subsection 8.2.6.):

shunzhi	1	71,663,900 plus cash
	2	443,751,760
	3	624,823,960
	4	1,333,384,794
	5	c.1,449,494,200
	6	c.1,096,910,000
	7	c.1,682,424,510
	8	c.2,430,509,050 (plus 213,370 old minted coins)
	9	c.2,097,632,850 (plus 201,210 old minted coins)
	10	2,521,663,740 (thousandth coins) (213,370 old coins)
	11	2,488,544,460 (thousandth coins) (201,210 old coins)
	12	2,413,878,080 (thousandth coins) (186,210 old coins)
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	13	2,604,872,380 (thousandth coins) (213,370 old coins)
	14	2,340,870,816 (thousandth coins) (201,210 old coins)
	15	140,173,990 (thousandth coins) (201,210 old coins)
	16	191,805,710 (thousandth coins) (213,370 old coins)
	17	280,394,280 (201,210 old minted coins)
	18	291,584,600

kangxi	1	297,896,380	kangxi 29	289,930,600
	2	295,735,360	30	289,921,050
	3	295,909,500	31	289,925,400
	4	298,652,400	32	289,958,670
	5	295,879,800	33	236,536,550
	6	293,953,600	34	236,940,670
	7	287,133,400	35	237,063,050
	8	287,656,560	36	238,063,060
	9	290,543,250	37	238,065,400
	10	290,475,830	38	238,065,400
	11	298,652,400	39	238,065,800
	12	293,476,680	40	238,065,800
	13	293,477,530	41	238,065,800
	14	293,476,600	42	238,066,800
	15	231,365,360	43	238,065,900
	16	231,365,360	44	238,065,900
	17	231,365,360	45	238,075,800
	18	231,365,360	46	238,085,900
	19	231,365,360	47	268,422,600
	20	231,398,600	48	294,942,600
	21	294,851,480	49	297,963,400
	22	294,851,480	50	374,933,400
	23	294,851,480	51	374,936,800
	24	294,851,480	52	375,629,800
	25	289,869,080	53	386,559,900
	26	289,936,700	54	386,559,900
	27	289,869,080	55	398,969,900
	28	289,930,650	56	399,167,300
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kangxi	57	413,268,800	60	437,325,800
	58	437,455,800	61	461,700
	59	437,325,800		
yongzheng	1	499,200	7	748,480,000
	2	409,200	8	757,865,000
	3	675,160	9	1,048,759,660
	4	675,160	10	910,171,120
	5	723,528,000	11	684,362,000
	6	746,304,000	12	685,390,000

[17] The figures in the following table are drawn from *Qing Veritable Records*, *Qing Dynasty Investigation of Literary Remains*, *Great Qing Collected Statutes Elucidated* and *Imperial*

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QING DYNASTY STANDARD COIN MARKET PRICE TABLE (1)

Date	Quantity of Standard Coins Per Ounce Silver
shunzhi 1 (1644)	700
kangxi 9 (1670)	1,250 (Beijing)
23	800-900 (Beijing)
61	780 (Beijing)
yongzheng 4 (1726)	845
qianlong 2 (1737)	900
	800 (capital region)
4	830 (Beijing)
5	800 (various provinces)
	700 (Jiangsu)
6	800 (bad coins)
	800 (Jiangsu green coin)
8	700-815 (Guangdong)
10	720-740 (Shaanxi)
13	750 (Shandong)
14	800 (Zhili)
16	781 (Shanxi)
	820 (capital region)
18	830-870
24	885 (Gansu)
25	880
31	1,100 (Yunnan)
35	1,150 (Yunnan)
40	955 (capital region)
41, 4th month	955 (capital region, large coins)
5th month	885 (capital region, large coins)
43	890 (Shaanxi)
	1,200 (Yunnan)
44	880 (capital region)
45	910 (Zhili & nearby provinces)
56	1,550 (Sichuan)
59	2,450 (Yunnan)
	1,400 (Min, Zhe)
60	1,000 (Shanxi)

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Dynasty Texts Through the Generations. Of these, all except the shunzhi 1 figure are market prices. Official prices were mostly set at times when the weight of the coin was changed. Later, the authorities generally desired to maintain the exchange price of 1,000 cash to the ounce of silver.

There is a point we must emphasize here: By the price of coins we mean their price in terms of silver, and not in terms of goods. Qing government calculations were made in terms of silver. in the view of the government, copper cash were virtually no more than commodities.

During the first century or so of Qing the trend was for the price of silver to fall. During the qianlong period in particular there were internal wars requiring large expenditures in silver. Even though expenditures were matched by income, and there were even frequent surpluses in the treasury, nevertheless because the price of silver was falling abroad, large quantities of silver flowed into China, and so prices calculated in silver rose rather sharply. In qianlong 10 [1745], Yang Xifu said that in his home town rice cost only 0.2 or 0.3 ounce (of silver) per picul during the kangxi period, but that by yongzheng times the cost had risen to 0.4 or 0.5 ounce, and that at present a picul cost 0.5 to 0.6 ounce.[18]

The Qing government's policy was to take extreme steps to maintain the exchange price between silver and coins, but in fact during the first century of Qing, the quantity of standard coins for which 1 ounce of silver exchanged ranged from 700 or 800 to 800 or 900. As a consequence, prices expressed in copper coins were very low during the kangxi and yongzheng periods.[19]

[18] *Qing History Draft*, 95, "Biography of Yang Xifu."

[19] Prices during the yongzheng period can be observed in the novel *The Scholars* (written near the end of yongzheng or the beginning of qianlong). Whether expressed in silver or in copper cash, prices were all rather low. Chapter 14 describes the trip of Mister Ma Two to West Lake as follows: "Mister Ma Two, carrying a few coins, walked along out the Qiantang Gate. He drank a few cups of tea in the tea pavillion . . . got up, and walked another *li* or two, looking at the wine shops lined up along the shore of the lake. . . . Mister Ma Two had no more coins to buy something to eat. . . . He only had to walk into a noodle shop, and for 16 cash he ate a bowl of noodles. His belly not yet full, he went into a teahouse next door, had a cup of tea, and bought a couple of *chupian* to gnaw on until he felt he had gotten the flavor. . . . All he could do was run into the hideout. The woman did not look at him, and he did not look at the woman. He ran from front to back once, and then came out to sit in that tea pavillion . . . and have a cup of tea. On the counter were arranged a number of small plates of orange cakes, sesame sweets, wraplings, baked cakes, *chupian*, black dates and boiled chestnuts. Mr. Ma Two bought several cash worth, and kept eating things good and bad until he was full. . . . He saw a seller of *shuaiyi* cakes, and had him hand over a dozen cash worth of cakes, which he ate. . . . Mister Ma Two was greatly pleased, and bought several dozen cash worth of cakes and beef."

The silver-copper exchange price exhibited changes by the time of the qianlong period. The price of copper rose a bit. In Yunnan's Jinchai Factory, low quality copper cost 9 ounces of silver per hundred catties, and high quality copper ran to 11 ounces. Foreign copper could originally be bought in Jiangsu for 14.5 ounces, but the market price rose to 19.8 ounces, and so there was no choice but to raise the official price to beyond 14.5 ounces, adding a transport charge of 3 ounces.[20] Because, however, of the reduction in weight of the copper cash, prices expressed in copper cash rose accordingly.[21] For example, during kangxi times, noodles were 10 cash per bowl.[22] By the end of yongzheng or the beginning of qianlong, noodles had risen to 16 cash per bowl.[23] One might even say that the degree of the rise was a little more severe than for prices expressed in silver. This was the case for the price of rice.

QING DYNASTY RICE PRICE TABLE(1)[24]

Period	Number of Standard Coins Per Hectoliter
1651-1660	843
1661-1670	600
1671-1680	456
1681-1690	604
1691-1700	626
1701-1710	821
1711-1720	787
1721-1730	719
1731-1740	853
[825]	
1741-1750	915
1751-1760	1,381
1761-1770	1,515
1771-1780	1,347
1781-1790	1,465
1791-1800	2,750

The Pu'er [*pul*] coins circulating in Xinjiang underwent a severe depreciation. In qianlong 24 [1759] they were still worth 50 cash to the ounce of silver. The coins then were very thick and heavy, but I suspect that this price was a nominal one for tax collecting purposes, and does not correspond to the natural silver-copper exchange price then. In fact it could not be maintained. The official price was changed to 70 cash per ounce of silver in Kashgar during qianlong 25, and the following year this was

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The prices specified in *The Scholars* may be set forth as follows:

snacks	2 cash	school food, 0.02 oz daily	
chupian	2 cash	noodles 16 cash or 0.08 oz per bowl	
mantou buns	3 cash each	chop suey	0.12 oz per purchase
baked cakes	2 cash each	house rent	10 oz per house
village school, tuition	12 oz silver per year	a feast	4 oz silver

[20] *General Investigation of the Standard Coin.*

[21] Qian Yong, *Sandal Garden Collected Words*, 1, "The Price of Rice": "In kangxi 46, there was a drought in the four prefectures of Su, Song, Chang and Zhen. A *sheng* of rice cost 7 cash then, and in the end it rose to 24 cash. The next year there were floods, and there were floods again in kangxi 48. Still, the price of rice was low compared to its earlier level, a *sheng* still only costing 16 or 17 cash. During yongzheng and at the beginning of qianlong, rice was a bit more than 10 cash per *sheng*. In qianlong 20, there was a plague of insects in all four prefectures, and the price rose to 35 or 36 cash. Countless numbers died of starvation. Over the subsequent years of good harvests, the price gradually returned to its old level, and a price of only 14 or 15 cash per *sheng* became the norm. In

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qianlong 50 there was a drought, and a *sheng* reached 56 or 57 cash. From then on, whether the harvest was bad or good, the price normally ranged from 27 or 28 to 34 or 35 cash."

[22] *Dessicated Words of the Old Man of the Wilderness.*

[23] *The Scholars*. Cf. note 19. There was probably not a large rise at the beginning of qianlong. By qianlong 21, Zheng Xie (Banqiao) had put together the 19 Man Club in Yangzhou, each of whom put up 100 cash for a whole day's joys. Its members included the painter Huang Shen (Yingpiao) and the calligrapher Wang Wenzhi (Menglou). ("On Orchids, Bamboo and Stone Tune On a Cut Plum," *Zheng Banqiao's Collected Works*, p. 174.) These were all talented men, capable of eating and drinking well. Evidently such pleasures were still cheap. They probably did not begin to become expensive until late in the qianlong period.

[24] During Qing, the official rice price was mainly set in terms of silver. The figures in the table are commuted from the silver prices.

increased to 100 cash. In qianlong 36, Wushi's [Uch-Turfan?] Pu'er [*pul*] coin had its weight reduced to 0.15 ounce in weight. Before long, the exchange price rose to 150 or 160 cash, and in Kulja to 120 or 130. Later a 10-cash coin was minted, which was lighter than the previous 1-cash coin, and as a consequence it took 400 cash to be able to match an ounce of silver.[25]

The standard of living of the people of a particular period is not solely determined by the value of money or by the prices of goods. One must also examine changes in the level of people's incomes. In other words, the people's standard of living depends on their real incomes.

The income of laboring people during Qing was very low. In kangxi 9 [1660], labor service workers on the two rivers were given food money of 0.04 ounce of silver per day, which was equal to 4 *sheng* of rice. Those engaged in labor service at a distance got 0.06 ounce per day.[26] This would be 6 *sheng* of rice, and could be commuted to between 32 and 48 cash. During qianlong 15 [1750], the wage for river labor in Yongding was 1 *sheng* of rice per day, which had a commutation price of 10 standard coins. To this was added 5 cash in salt and vegetable money.[27] In qianlong 18, hired laborers engaged in carrying wood, digging coal and burning it, and chopping firewood also got a daily wage of 15 cash.[28] Hence the real wage was 1.5 *sheng* per day, which was quite a bit short of the kangxi period rate.

If these two items are representative of the trend for early Qing laborers' incomes, then the real income of the people was falling even more rapidly than the purchasing power of money. When the Kangxi Emperor neared the end of his reign, he merely said that all within the Four Seas were at peace, but admitted that not everyone had enough materially. The Yongzheng Emperor conceded that life was hard for the Chinese. "The families with an abundance," who ate meat every day were very few in number. The poor "work with diligence for their food, but can only bring gruel to their mouths."[29] Some peasants had to sell their fields to get by. The early part of the Qing, which people generally consider to have been an age of great peace and abundance, was, therefore, only superficially thriving. **[826]**

In England during kangxi 24 [1685], an infantry soldier's provisions only came to 4 shillings 8 pence per week, or 21 shillings per month. If these coins had not undergone clipping, then they were equivalent to 3.3 or 3.4 treasury ounces of silver. An ordinary peasant's wage was equal to 2.7 ounces per month. A skilled worker got around 4 ounces. All of these exceeded the wage for Chinese river labor. At that time, however, very few English coins were intact. Most had suffered clipping, leaving them only a little more than half their original weight. Hence English prices were higher than Chinese prices.

It has been estimated that there were around 880,000 commoner households in England at that time. Only half of these could eat meat twice a week. The remaining half might either eat meat once a week at most, or would not eat meat at all. Wheat flour bread was very rarely encountered. Most people ate buckwheat[?], barley and oats[30] almost exclusively. In other words, they consumed nothing but grain of one sort or another.

[25] *Great Qing Collected Statutes Elucidated*, 163, "Xinjiang Land and Excise Taxes."

[26] *Qing Emperor Shengzu Veritable Record*, 34.

[27] *Qing Emperor Gaozong Veritable Record*, 378.

[28] Petition by the Governor of Jiangxi in qianlong 18. Cf. Ni Mo, *Outline of Ancient and Modern Coins*, first section.

[29] *Imperial Dynasty Investigation of Literary Remains*, "Investigation of State Needs": "Now, when the Chinese seek to earn a living, they still know how to be frugal. There are terribly few rich families, who eat meat every day. The poorer people work with diligence for their food, but can only bring gruel to their mouths."

[30] T. B. Macaulay, *History of England*, chapter III, gives a detailed analysis of the situation in England as of 1685.

2. *The Qing Government's Monetary Depreciation During the Taiping Revolution*

Beginning with the last years of the qianlong period, the Qing dynasty's bureaucracy went bad. All ranks of officialdom became covetous and extortionate. That which the people had obtained through their labor became concentrated into the hands of a minority of men. At the beginning of jiaqing [1796], the government's annual income was 70 million ounces, but the total illegally accumulated by Heshen was, I suspect, no less than this figure.[1] Nor was corruption limited to Heshen alone.[2]

[1] *East China Continued Record* does not contain a complete record of the family property of Heshen. *Yongtan Notes* contains an "Investigation Certificate of the House and Flower Garden of Heshen Complete List," which enumerates 109 items. Of these 83 have not yet been priced. Only 26 have had their prices estimated. Altogether these were calculated as being worth 223,895,161 ounces of silver. If we assume the remainder were of proportionate value, the total must be no less than 800 million ounces. Of course so mechanical a calculation method is not sat-

Hence, though on the surface taxes during early Qing were not heavy, the actual burden on the people was very great, and this evoked opposition. This was directly reflected in the establishment of various religious groups, like the White Lotus and Eight Trigrams. In response, the authorities added a surtax to the land tax, and increased the severity of their exactions, which in turn caused social contradictions to deepen.

During the jiaqing and daoguang periods, there was one incident after the other, all testifying to the inability of the Qing court to exert its power. In jiaqing 15 (1810) there was a violent incident involving the followers of the Heavenly Reason Religion. At the beginning of daoguang [1821], the Muslims of Xinjiang also rose in rebellion. By the end of the Opium War [1842], uprisings by the Heaven and Earth Society occurred one after the other in various places, and before long had given rise to the Taiping Heavenly Kingdom revolutionary movement.

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The jiaqing period was a turning point in the relationship between silver and copper cash. Prior to that time, coins had been expensive, and silver had been cheap. From then on, silver became expensive and coins cheap. Coins became cheap because of private minting of small coins and the influx of light foreign coins. By the end of the qianlong period, small coins poured out like a mountain torrent, as dealers loaded their pack animals with them.[3] Nor were there any fewer during the daoguang period.[4]

I suspect that the quantity of coins minted also increased during the jiaqing period. According to the "Board of Revenue Coinage Regulations" composed in jiaqing 7, The Treasure Spring Office and the provincial mints of Zhili, Jiangxi, Hubei, Yunnan, Shanxi, Fujian, Hunan, Guangdong, Guizhou, Jiangnan, Shaanxi and Guangxi could mint a total of 6,074,028 strings of cash. The Treasure Origins Office and the two provinces of Sichuan and Zhejiang minted an undetermined additional amount, and Ili produced 1,520 strings.[5] If actual production

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isfactory. Nor is this list altogether reliable, since at the time some believed that Heshen had squirrelled away additional wealth outside of the capital. It was only because the Jiaqing Emperor did not desire to get to the bottom of the affair that the situation was not clarified.

It is hard to determine how much of Heshen's property was obtained through corruption, and how much through usury. Not only are we unable to determine the total extent of his wealth, there are no reliable figures for the amount of his capital invested in the silver houses and pawn shops he established. In any event, however, corrupt practices must have provided him with most of his income.

[2]There were few provincial governors and circuit inspectors at the time of Heshen who were not corrupt. Men like Guofeng, Wang Tanwang, Chen Huizu, Fu Song, Wulana and Pulin, were all involved in prosecutions for stealing funds. The amounts they stole often amounted to several millions. Cf. Qiu Luanzhang, *Qing Mirror*, 4, qianlong 44, 5th month. The enumeration of the 20 great crimes of Heshen issued in jiaqing 4 had as its last item: "His household servants followed him into thievery, and had more than 200,000 in property."

[3]Yue Zhenchuan, *Xing'anjun Gazetteer*, "On Food and Money": "Of the coins of the five reigns of Sagely Qing, those of shunzhi and kangxi are mostly green copper. Those of yongzheng are evenly divided between green copper and red copper. The coins of the sixty years of the qianlong period and the coins of the jiaqing period up to the present are mostly of red copper. . . . It is only that after qianlong 50, since peace had lasted so long, wicked thieves flourished in concealment. In the two commanderies south of the mountains, small coins were as abundant as water tumbling out from a mountain spring. In the west, Tong, Qian and Feng commanderies did not suffer from this. The commanderies of Xing and Han alone suffered deeply. As far south as the mountains of Shu, and east to the marshes of Chu, there existed the hideouts of evil people, and the nests and caves of illicit coiners. The dealers in small coins would either heavily load their beasts of burden, or conceal them in ships. They were concealed in a hundred places. No time limit could be established to defeat them. . . . Goods which normally sold for 10 Thousands could not be obtained for 20 Thousands." Cf. *Imperial Dynasty Texts Through the Generations*, 53, "Financial Administration," 28, "Coins," latter part.

[4]*Qing History Draft*, "Treatise on Food and Money, 5": "By the daoguang period, there were being circulated in Min and Guang such barbarian coins as the Guangzhong, Jingzhong, Jingxing and Jialong. Evil people profited from them, and arbitrarily imitated them." *East China Continued Record*, daoguang 18, 8 proclamation: "The Censor Zhang Zeng memorialized that it is rumored that among the coins in circulation in Guangdong the most numerous are a Guangzhong Circulating Treasure and a Jingsheng Circulating Treasure. Also present are Jingxing Circulating Treasure, Jingxing Great Treasure, Jingxing Large Treasure and Jialong Circulating Treasure. These are said to be barbarian coins. They are intermixed among the coins in circulation in the proportion of 6 or 7 of every 10 coins. They are especially numerous in Chaozhou, and there are several places which exclusively use barbarian coins. Evil people of the interior take advantage of their bad metal and thinness to counterfeit them."

[5]Ni Mo, *Outline of Ancient and Modern Coins*, first section. The "Board of Revenue Coinage Regulations" only records the number of *mao*, or the the number of furnaces. We may reckon that the Treasure Spring Office could turn out 75 *mao*, the Treasure *zhi*

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reached full capacity, that would have far exceeded the production figures for Northern Song's yuanfeng period.

The reason why silver was expensive was that the metal was flowing abroad. This in turn was related to the trade in opium. The reduction in the weight of the copper cash, and the reduction in the supply of silver both contributed to a rise in the price of silver. During early Qing, an ounce of silver exchanged for 700 to 800 standard coins. During the jiaqing period, an ounce of silver could exchange for over 1,000 cash. During the daoguang and xianfeng periods, the price sometimes reached 2,000 cash, and still more for capital cash.[6] As a consequence people demanded silver heavily and coins lightly.[7][8][9]

QING DYNASTY STANDARD COIN
MARKET PRICE TABLE(2)

Year	Number of Standard Coins Per Ounce Silver
jiaqing 4 (1799)	1,450 (Jiangsu)
7	1,450-1,650 (Shandong)
23	1,300 plus (Min, Zhe)
daoguang 2 (1822)	2,000 plus (Zhili capital coins)
	3,000 plus (Zhili capital coins)
8	2,600 (Shandong capital coins)
	1,300 (Soo, Song)
	2,550 (capital coins)
9	1,400 (Henan)
10	2,700 (Shandong capital coins)
12	1,250 (Huzhou)
18	1,650
22	1,650 (Zhejiang)
26	1,500 (Jiangnan)
	1,500 (Hedong)
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daoguang 27	2,000 (Hu-Guang)
xianfeng 1 (1851)	2,000
2	1,500 (capital region)
3	1,600
	1,850
4	2,000
5	1,600
7	1,190 (Shanghai)[10]
11	1,650
tongzhi 1 (1862)	1,550-1,650
6	1,500-1,600 (various provinces)

Naturally changes in the silver-cash coin exchange price influenced prices in general, but the nature of that influence depended on what money

48 *mao*, the Treasure *chang* 24, the Treasure *wu* 21, the Treasure *yun* 38, the Treasure *jin* 12, the Treasure *fu* 36, the Treasure *nan* 36, the Treasure *guang* 36, the Treasure *qian* 72, the Treasure *su* 28, the Treasure *shaan* 24, the Treasure *gui* 36, the Treasure *yi* 1,520 strings, the Treasure *chuan* 40 furnaces, and the Treasure *zhe* 10 furnaces. One *mao* was 12,498 strings, but we cannot tell how many *mao* a single furnace actually produced. We also lack the figure for the Treasure Origins Office.

[6] *High Grade Treasure Inspection*, chapter 3: "That seller of jade objects . . . said . . . 'I don't want whole ones, I want broken ones. The fact is, under current market conditions, whole ones are 6 ounces of silver. Broken ones are 6 strings of large coins, or 12 strings of capital coins."

[7] *Qing History Draft*, 208, "Biography of Zhu Zun[?]," petition of daoguang 26: "At present, those in charge of salt are guilty of abuses. Because silver is expensive and coins cheap, they all use this as an excuse to sell salt for coins and not for silver." *Ibid.*, "Now the value of coins becomes cheaper by the day, and prices daily rise. The mints have to spend 2 cash to mint 1 cash. Official soldiers take 1 cash as equal to only half a cash." *High Grade Treasure Inspection*, chapter 8: "Those places of amusement all befuddle people into squandering their souls. Actually there is a limit to the expenses. It is just 7 or 8 strings of capital cash. If you pay with silver, it is just a bit over 3 ounces. They set up a platform on the south side, and they can't spend enough on wine." *Ibid.*, chapter 34: "There is nothing to this shortfall. As soon as you take office, you'll have something of the order of 20,000 in silver. This 3,000 strings [gift of thanks] of cash doesn't amount to anything. Converted to silver, it would only come to 1,200 ounces."

[8] For the most part the figures in the following table are based on the *Qing Veritable Records*. The figures for jiaqing 23 and tongzhi 6 are based on *Imperial Administrative Law Compiled By Category*. The figure for xianfeng 1 is drawn from a memorial by Zeng Guofan. Cf. *Complete Works of Duke Zeng Wenzheng*.

[9] Except where indication is given that capital coins are involved, all figures in column two of the following table are in large standard coins. During late Qing, capital coins were only a kind of pricing unit. At the time of payment, ordinary standard coins would be used at the rate of 1 standard coin for each 2 capital coins.

[10] Englishmen in Shanghai in xianfeng 7 were buying standard coins, and hence the price of these coins was high. (Cf. *Qing Emperor Wenzong Veritable Record*, 235.)

was used to express a price or what money was used to pay for something. If payment was made in silver, there was a tendency for prices to fall, or at least not to rise. For payments made in copper cash, there was a tendency for prices to rise. Some prices were set in silver, but payment was made in copper cash. Such prices would certainly have risen.

In fact, during jiaqing 3 (1798) it was said that prices were several times higher than the level of a century previous.[11] This can be verified from the figures for the cost of rice. At the end of the eighteenth century, the cost of rice in copper cash was four or five times what it had been at the end of the seventeenth century. During the daoguang period [1821-1851], the price calculated in silver was lower,[12] but because of private coining and the inflow of foreign coins, the weight of copper coins was down. While eleven provinces halted minting during the daoguang period,[13] during the 55 years from jiaqing 1 to the end of daoguang, the population increased by half, and yet prices calculated in copper cash during the first half of the nineteenth century were double the level of the last half of the eighteenth century. The increase was, however, gradual.

The change in the silver-copper cash exchange price was a blow to the peasantry, because their income from sale of grain was both calculated and paid to them in copper cash, while they paid their taxes in silver. If the price of silver increased 50 percent against copper cash, that would increase the tax burden of the peasantry by half as well. From the end of jiaqing [1821] to the beginning of xianfeng [1851], a picul of rice sold for around 3,000 cash in the rice producing regions of the southeast, but silver rose to 2,000 cash per ounce, and so a peasant's sale price for a picul of rice

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in copper cash could only be used to pay a tax of 1.5 ounces of silver.[14] This forced down the peasantry's standard of living, and there must have been a number of people lacking the strength to pay their taxes, thus affecting the government's fiscal policy. Hence from jiaqing on, government extortion and official corruption grew stronger, while the people's lives grew more bitter, forcing them into resistance. Popular societies like the White Lotus and Eight Trigrams sects rose up at this time. Eventually, these contributed to the Taiping revolutionary movement.

The most wrenching change in the value of Qing Dynasty money occurred as the Taipings grew in strength There was a famine in Guangxi during daoguang 27 [1847], and the Three Harmonies Society rose in rebellion under the banner of overthowing the Qing and restoring the Ming. In xianfeng 1 (1851), a Taiping army under the leadership of Hong Xiuquan occupied Yong'anzhou, and in less than two years the Taipings had occupied Nanjing and eight or nine provinces in both east and west.

During the ensuing fifteen years, the situation was very much like that at the time of Li Zicheng and Zhang Xianzhong at the end of Ming, except that the political ideas of the Taipings were more progressive. The Qing Dynasty should have fallen then. Unfortunately, the Taipings suffered from internal splits, and the Qing court came under the control of men who wanted to preserve the old order. Eventually they obtained aid from the English and American imperialists, and therely extended the life of the corrupt Qing government.

By xianfeng 3 [1853], army supply was requiring 20 million, but the Taiping army was advancing as though it were smashing through bamboo, and this greatly diminished tax receipts. The opium trade was legalized then, and so far from being able to increase the supply of silver, it was not even possible to ban its outflow. Yunnan copper could not be transported because the lines of communication had been cut by the Taiping armies. The only way to respond to this situation was to mint large coins, and to issue paper money.

The first large coin to be minted was a 10-cash large coin. That was issued in xianfeng 3, 3rd month. Each coin weighed 0.6 ounce. Ever since the yongzheng period, the standard coin's fixed weight

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[11] *Qing History Draft*, 111, "Biography of Guan Hanzhen," quoting a statement of jiaqing 3 by Jiang Zhaogui: "Banner capitation transport expense was an item obtained from the very beginning. Its level was fixed less than a century ago. Now, prices have increased several fold, and expenditures for this purpose are inadequate."

[12] *Contending Spring Garden* (published in daoguang 29), chapter 13: "'Even to let the two of us, elder and younger brother, eat three meals per day, drink some wine in the evening, and have rent money, I'll give you an ounce of silver per day.' Upon hearing that it would be an ounce of silver per day, little second brother was greatly pleased."

[13] *East China Continued Record*, daoguang period, 44, daoguang 21, 8th month, bingshen, proclamation by the Board of Revenue: "According to what has been revealed by this Board's investigation, as many as eleven provinces have halted minting, and have done so for many years. We fear that the coinage will gradually reach the point of extinction, and there will not be enough coins to meet the people's requirements. Noted. . . . Each governor is responsible for annually minting a set number of *mao*, and should hasten resumption of minting."

[14] Xianfeng 1, 12th month, 18th day, Zeng Guofan, "Petition on Alleviating Causes of Suffering Among the People."

had been 0.12 ounce. This was reduced to 0.1 ounce in xianfeng 2, but this was still something of an experiment. Therefore, the minting of a 10-cash large coin amounted to a weight reduction of 50 percent.

During the 7th month, Wang Yide had requested that additional furnaces be set up in Fujian to produce 10-cash, 20-cash, 50-cash and 100-cash large coins.[15] These coins were not much reduced in weight, since the 100-cash coin weighed 5 treasury ounces. During the 8th month, the Treasure Spring Office minted 50-cash large coins, each of which weighed 1.8 ounces, amounting to a weight reduction of 70 percent. In the 11th month, minting of 100-cash, 500-cash and 1,000-cash large coins was discussed. The 100-cash coin would weigh 1.4 ounces, a reduction in weight to one-ninth of the original level. The 500-cash coin would weigh 1.6 ounces, a reduction to 1/37th of the former level. The 1,000-cash coin would weigh 2 ounces, a reduction to 1/60th. These large

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coins were all presented as models to begin minting from in xianfeng 4, 1st month.[16] The weight of the 50-cash large coin was reduced to 1.2 ounces, and that of the 10-cash coin to 0.44 ounce, but their metal fineness remained unchanged.

In addition, they also minted iron coins. The standard coin weighed 0.12 ounce, the 5-cash coin 0.24 ounce, and the 10-cash coin's weight is not specified. The coins themselves weigh around 0.45 ounce. There were also lead standard coins, each weighing 0.12 ounce.

As soon as coins like the 1,000-cash large coin appeared, private coiners sprang up like wind-blown clouds. Four ounces of copper could be used to mint two large coins which could be equated with an ounce of silver. If used to buy old coins, 60 ounces of copper might be obtained. Under such circumstances, standard coins would in the end have disappeared without a trace.

Production of large coins by the government then was limited by the supply of copper, and it probably minted few of them.[17] The number of privately minted coins[18] could have exceeded the number of official coins. Hence large coins fell in price. The 1,000-cash and 500-cash large coins were only worth 400 to 500 cash per thousand in xianfeng 4, 7th month.[19] The 100-cash and 50-cash coins fell from 500-600 cash per thousand to something over 300 cash. By the 10th month, they no longer even circulated in the market.[20]

Nevertheless, they could not solely depend on large coins to meet war expenditures, and so also issued paper money. Silver Certificates were issued first, in xianfeng 3 [1853]. Not many were issued then, and they did not circulate widely, and so evoked no large effect. At the end of the year (i.e. at

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[15] *Qing Emperor Wenzong Veritable Record*, 101.

[16] Different works disagree on the date of minting of the Xianfeng large coins. For example, most books say that the 1,000-cash and 500-cash coins were first minted in xianfeng 3, 11th month, but according to the *Qing Veritable Records* and the *Great Qing Collected Statutes Elucidated*, minting did not get under way until xianfeng 4.

[17] *Great Qing Collected Statutes Elucidated*, 214, "Coinage," records the quantity of coins minted during xianfeng 4 as follows (using standard coins as the unit of enumeration):

1,000-cash:	29,114,000	500-cash	27,794,000
100-cash	1,410,500	50-cash	1,554,000
lead std cns	24,990,000	100- & 50-c	43,161,200
100- & 50-c	43,488,100	also	62,423,600
also	31,245,000		

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Ibid., 215, "Board of Revenue Coinage," mentions 200-cash, 300-cash and 400-cash large coins, but they were probably not issued. Huang Junzai, *The Concealed Jar of Gold*, 2, "Large Coins": "In the Autumn of xianfeng 5, I went across the Qing River, and heard the rumble of carts coming. I saw that the carts held coins. I asked what they were doing. They replied they were using coins to mint coins. I asked, how can you use coins to mint coins? They replied that treasury metal was insufficient, and the official bureau expenses could not be met. They were now melting down standard coins to make 10-cash large coins. Deducting the cost of labor, there could be a 40 or 50 percent profit, so why should they not engage in minting? During the Winter of this year, I again crossed the Qing River, and heard the rumble of carts coming. I saw that this time the carts held large coins. I asked what they were doing. The reply was they were minting coins. I asked how they could use large coins to mint coins? The reply was that large coins were not circulating. Those who would make up for the loss bought them at 20 or 30 percent of par. Now they were melting down large coins to make standard coins of still smaller size. They were also alloying them with lead. Deducting the cost of labor, one could be turned into three or four, so why should they not have engaged in minting?"

[18] *Qing Emperor Wenzong Veritable Record*, 185, xianfeng 5, 12th month, guisi, proclamation: "We hear that in places under Tongzhou, and to the left of Changxingdian and near West Mountain, all have private furnaces illicitly minting 10-cash large coins. An ounce of silver exchanges for 10 Thousands plus of private coins. Hence coins become ever cheaper, and silver ever more expensive."

[19] *Guangxu Period Shuntianfu Gazetteer*.

[20] Xianfeng 4, 10th month, 15th day, Xianbao, "Memorial on Official and Private Coin Shop and Wicked Merchant Schemes to Profit From Ruining the Coinage."

the beginning of 1854), Cash Bills came out. Within three or four months they had issued well over a million strings worth.[21] Later, a still larger quantity was issued so as to redeem the 1,000-cash and 500-cash coins. Those who found themselves with paper money exchanged it for ready cash with difficulty because the general office charged with this task only operated on alternate days, and there were just several dozen branches, each limited to only a hundred notes. Hence noteholders might wait all day and still be unable to exchange their paper money for coins.[22]

The Cash Bills of private money shops had better credibility, and so people preferred private bills to official certificates, causing the latter to fall in price. At first 1,000 cash worth of Treasure Certificates were worth 400 to 500 cash, the same figure as the 1,000-cash large coin in xianfeng 4, 7th month. By xianfeng 6, 12th month, an ounce's worth of Silver Bills was only worth 800 or 900 cash in Beijing, and still less elsewhere.[23]

At that point all of the Qing government's expenditures were being made in paper money. Things even reached a point where the government would only issue the paper money, but was unwilling to accept it. If people tried to use paper money to buy things, merchants would either deliberately raise their prices or hide away their goods. When people took paper money to the official branches to redeem it for ready cash, even if they succeeded in doing so, they would just get large coins.[24] When we add to this the abuses committed by the officials, the flood of paper money[25] caused its price to suffer a great decline. Silver Bills were only worth 500 or 600 capital cash per ounce in Beijing during xianfeng 9, 11th month. This was equal to 200 or 300 standard coins. An ounce of real silver was worth more than 12 Thousands of capital cash. That is to say, it took 12 ounces of official bills to match an ounce of actual silver.[26]

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Given the large coin depreciation and the paper money inflation, it was natural that prices were affected. There was a good harvest in the Beijing region during xianfeng 4. The price of grain in the countryside was very low, but there was a food shortage in Beijing because large coins and paper money were mainly circulating inside the walls of Beijing, and the peasants were unwilling to transport grain into the city for sale. Therefore, a catty of wheat was only 16 or 17 standard coins in the countryside, but was 37 or 38 cash inside the walls. Crossing the city wall made for a doubling of the price.[27] This shows that the 100-cash and 50-cash coins had by then already declined in purchasing power by half.

After mid-Autumn, the situation further deteriorated. Pawn shops stopped taking in pledges, and food stores everywhere closed their doors, forcing prices a step higher.[28] During the Spring of xianfeng 7, a picul of grain cost a dozen or so Thousands of capital cash, and in xianfeng 8, 1st and 2nd months, the price rose to more than 20 Thousands.[29] Peng Yunzhang said that "since the change to use of large coins, rice has been expensive inside the city."[30] Hence in the 4th month of that year, the auth-

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[21]Wang Maoyin, "Memorial Again Discussing Certificates" (*Memorials of Expectant Executive Wang*).

[22]Yang Zhongya, "Petition on Aid to be Provided for the Circulation of Certificates."

[23]Memorial by Zhang Xiuyu. However, *Qing Dynasty Investigation of Literary Remains Continued* says that in xianfeng 5, an ounce in Silver Bills was only worth 400 to 500 standard coins.

[24]*Qing History Draft*, "Food and Money, 5, Coinage."

[25]*Qing History Draft*, 174, "The Imperial Clan: Sushun": "In xianfeng 8 . . . the Board of Revenue circulated Certificates to meet the financial requirements of military activity. Treasure Certificate Centers were established, and large coins circulated. They established an Official Coin General Office to divide the work. They also set up official silver houses, and merchants were invited to aid in their disbursal and collection. There were four branches with the character *qian*, and five with the character *yu*. Large paper money certificates lacked credibility. They were circulated by legal fiat. Links between officials and people involved much corruption. Sushun investigated the deficiencies of funds in the five Treasure Certificate character *yu* branches. Their books did not correspond with those of the Official Coin General Office, and he memorialized to request investigation of their administration. He obtained a closed indictment covering the officers of the branches and the merchants, and several dozen officials had their property confiscated."

[26]Gao Yanyou, "Memorial on the Stoppage of Silver Certificates."

[27]Tang Renseng, "Memorial Requesting a Broadened Circulation of the Large Coins So as To Assure a Sufficiency of Food and Convenience the People."

[28]Xian Baoguan, "Memorial On the Wicked Merchants of Private Coin Shops Scheming For Profit and Ruining the Coinage."

[29]Chen Henian, "Memorial . . . On the Blockage of Large Coins and Daily Rise In Prices."

[30]*Qing History Draft*, 172, "Biography of Peng Yunzhang." *Ibid.*, 209, "Biography of Yuan Xizu," xianfeng 9 petition: "At the beginning of xianfeng, because roads were obstructed and copper scarce, there was a change to minting of large coins. Before long, neither the 100-cash nor the 50-cash coins would circulate. Only the 10-cash coin circulated. At first it was worth 3

orities had no choice but to increase the soldier supply allowance per 1 ounce by 1,000 cash.[31] During xianfeng 11, 6th month, the cost of a picul of rice rose to 60 or 70 Thousands in paper money, and a Thousand was only worth 62 standard copper coins.[32] At that time a worker's daily wage was only a few hundred cash, which could only purchase one or two *sheng* of rice.[33]

During the period of inflation, the majority of prices were calculated in standard coins. Large coins and paper money were mostly commuted into standard coins according to their market prices. When making purchases, the price would be increased in proportion to the number of large coins employed.[34] Hence prices varied according to the type of coins people offered in exchange. In the Spring of xianfeng 7, if a purchase was made with standard copper coins, prices were virtually the same as prewar. If the purchase was made with lead or iron standard coins, then prices were 20 or 30 percent higher. If the purchase was made in 10-cash copper coins, the price was doubled. Paper money behaved like 10-cash copper coins. If 10-cash iron coins were employed, prices were several times higher.[35]

Iron coin offices were established during xianfeng 4 and 5 [1851, 1852]. They minted small standard coins and 10-cash coins. At first there were four factories, one each in the east, west, south and north. In xianfeng 8 another was set up in the center. Altogether they had 225 furnaces, each producing 5 *mao*. In a month 265,625 strings of cash were minted. By xianfeng 9, they had turned out well over 9 million strings. At first these coins were used to pay 20 percent of the monthly soldier ration.

Because they were carefully made, the people did not discriminate against them. People even gave them a better reception than the 10-cash copper coins. During the Spring of xianfeng 8 [1858], 1,000 iron standard coins were worth 2,000 cash in 10-cash copper coins. Later, however, they began to fall in price, and by the Spring of xianfeng 9, they were circulating at par with the 10-cash copper coins.[36] During the 7th month, 200 cash in 10-cash coins could exchange for 1,000 iron standard coins.[37] This was because there were not just iron standard coins, but also large coins, up to 1,000-cash size. More 10-cash coins were minted than of any other denominations. As a consequence there were also more problems involving the 10-cash coin.

In fact, this 10-cash iron coin received the least
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welcome. In xianfeng 7, 1st month, 10th day, the Beijing merchants began to refuse to accept it. The next day all the rice shops and most of the small food stores closed their doors in what amounted to a market strike.[38] The minority of shops which remained open employed a variety of methods to avoid taking in large iron coins. For example, if one used a 10-cash copper coin to buy white flour, though the price would be much higher than if one used standard coins, one could still get to buy real flour. If you used 10-cash iron coins, then not only would the price be five times higher, the merchant would adulterate the flour with other things to the extent that you would not be able to eat the stuff.[39]

Though this monetary inflation lasted several years, its center was in the north. The 1,000-cash and 500-cash coins, for example, were only minted in several northern provinces. They seem not to

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or 5 standard coins. Recently it has only been worth 1 coin. Silver has become increasingly expensive. Prices of goods in general have leaped. The people are in heavy difficulties. The Banner Provisions payment of 3 ounces per month, when commuted to 15 Thousands in coin is no longer enough to maintain one's self. Heretofore a standard coin has weighed 0.12 ounce, and large coins 0.48 ounce for the 10-cash, with a seignorage of 0.54 ounce. Now with a 10-cash worth 1, 0.48 ounce of copper has a value of 0.12 ounce in use. Private melting down and reminting has given rise to numerous ill effects."

[31]Board of Revenue placard.

[32]Li Ciming, *Yueman Hall Diary*, Collection H, first part, xianfeng 11, 6th month, 12th day.

[33]Fukuan, "Memorial On Changing the Price Of Coins In Circulation So As to Save the People's Livelihood."

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[34]*Capital Region Gazetteer*, quoting *Respectful Record of Imperial Audiences*, which records that in xianfeng 7, 2nd month, the Shandong Frontier Offices's Wu Yandong memorialized in audience: "The Ruler asked whether or not Zhili could circulate large coins? The reply was 'The markets of Zhili once circulated large coins at 20 percent of par. This Spring their circulation was broadened, and they circulated at 30 percent. The little people only honor them in that proportion. When purchases and sales are actually made in the market, if 20 percent of the payment for a 100 cash purchase is made in large coins, 120 cash is actually paid. Now, when large coins are circulated at 30 percent, then that much of a premium is paid by quietly discounting these 30 percent large coins."

[35]Pu'an, "Memorial . . . On Evil Merchants' Wicked Customs Dominating the Market."

[36]Enying, "Memorial . . . On the Current Blockage of Iron Standard Coins in the Capital City."

[37]Liu Youming, "Memorial On Wicked Merchants Seeking Profit From the Unusual."

[38]Zhang Xiuyou, "Memorial On the Blockage and Non-Circulation of the Iron Large Coin Hindering the People's Food."

[39]Pu'an's memorial. Cf. note 35.

have been minted at all in the south. This was because the southern provinces had long since been occupied by the Taiping armies, and in a number of provinces, not even the 100-cash coin got to be minted. The place in the north where the inflation was most severe was Beijing. The various large coins did not circulate much in the provinces. Use of paper money was also probably concentrated in a few cities like Beijing. As for the provinces occupied by the Taiping armies, naturally they were not influenced by the Qing court's monetary policies. They had their own monetary system.

Xinjiang's money system originally constituted a separate entity [before it became a province in 1884]. Its Red Cash did not circulate much in other provinces. Nor could the Green Cash of the other provinces circulate in Xinjiang. Even in Xinjiang the former were limited to the eight cities of the southern circuit, and were not used by Turfan in the north or Hami in the east. It is, therefore, reasonable that Xinjiang should not have been influenced by the monetary depreciation going on in the other provinces.

Nevertheless, the Qing court did carry out a depreciation in Xinjiang. The Treasure *di* Office of Dihua (Urumqi) minted 8-cash, 10-cash and 80-cash coins. The Treasure *yi* Office of Ili minted 4-cash, 10-cash, 50-cash, 100-cash, 500-cash and 1,000-cash large coins. None of these were genuine Red Cash. The Uighur frontier's four cities, Aqsu, Yarkand, Kulja and Kashgar, also minted coins with face values from 5-cash to 100-cash. In addition to the already existing mints in Aqsu and Kulja, Yarkand once again took up minting, and the Kashgar mint was altogether newly established.

The extent of the weight reduction carried out by these mints was much more severe than what had occurred in the other provinces. We can tell this by comparing the 100-cash coins minted by different provinces. The 100-cash coins of various provinces differed in weight. Of those xianfeng period 100-cash coins which I have weighed myself, the lightest are more than 1 treasury ounce. Only those minted in Xinjiang's Yarkand and Aqsu weigh less than an ounce.

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Under Qing rule, prices were mostly expressed in terms of standard cash, and not only was it not possible to increase the supply of standard cash, but rather it was the case that melting down of coins reduced their supply. As a consequence, the phenomenon of a coin famine appeared in the midst of a monetary inflation.[40] Therefore, prices expressed in standard coins did not rise. This can be seen from rice prices.

COMPARISON OF WEIGHTS OF 100-CASH COINS FROM VARIOUS PROVINCIAL MINTS

Provincial Mint Name	Weight (grams)	Notes
Fujian Tr. fu Office	186.5	Officially set at 5 tr oz
Zhili Tr. zhi Office	76.5	
Shaanxi Tr. shaan Office	67.3	Heavier ones over 90 grams
Rehe Tr. de Office	56.0	
Shandong Tr. ji Office	54.4	
Zhili Tr. ji Office	54.4	
Gansu Tr. gong Office	50.9	
Hubei Tr. wu Office	49.8	Heavier ones over 56 grams
Henan Tr. he Office	48.5	
Jiangsu Tr. su Office	41.8	Heavier ones over 100 grams
Beijing Tr. Origins Off.	41.0	
Xinjiang Tr. yi Office	41.0	Heavier ones over 54 grams
Beijing Tr. Spring Off.	40.0	Heavier ones over 48 grams
Sichuan Tr. chuan Office	40.0	Heavier ones over 51 grams
Xinjiang Ke'erqiang Off.	32.0	
Xinjiang Aqsu Office	13.8	Even heavier ones only 19gm

QING DYNASTY TABLE OF RICE PRICES (2)

Period	Number of Standard Cash Per Hectoliter
1751-1800	1,626
1801-1810	3,262
1811-1820	3,330
1821-1830	2,524[41]

[40] *Flower Moon Traces*, chapter 31: "Chizhu . . . said . . . 'I'm not just saying this. There is also a great deal going on now which cause sighs in the midst of happiness . . . The fourth is the copper coin famine. The fifth is the abuse of paper money . . .'"

[41] For 1821-1830, the rice in terms of capital cash was 4,630 cash per picul. An ounce of silver was equal to 2,157 capital cash. The figure in the table is derived by commuting capital

1831-1840	3,548
1841-1850	3,871
1851-1860	2,914

Rectification of the monetary system required a number of years. The 1,000-cash and 500-cash large coins were only used for several months. The government stopped minting them in xianfeng 4, 7th month. By then the total of these two types of coins issued was

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over 294,000 strings. The authorities estimated that it would require one-third that number of standard coins to redeem them all.[42] Actually, they probably used paper money to redeem them.

In general, from then on the large coin problem was one involving 100-cash and 50-cash coins. The authorities did not know how to dispose of those two coins. They were probably already no longer circulating by xianfeng 4, 10th month. Only the 10-cash coin continued to be made and used. The government did not stop minting it until the end of the guangxu period. However, at the beginning of tongzhi [1862], its weigh was reduced from 0.44 to 0.32 ounce, and in guangxu 9 [1883] it was further reduced to 0.26 ounce.[43] Naturally, private coins were even lighter. Its circulation was limited to within the walls of Beijing, and its price fell uninterruptedly. In xianfeng 9, 4th month, it fell to parity with the standard cash, at which point people began to melt these coins down, since one of them could be used to mint 3 or 4 standard coins.[44] If thin and light standard coins were made, then 5 or 6 cash could be obtained.[45] After the weight reductions of the tongzhi and guangxu periods, the 10-cash coin was generally used as the equivalent of two standard cash.

Within the sphere of the Taiping Heavenly Kingdom, the coinage was relatively stable. We cannot make a comparison between the Taiping and xianfeng period 100-cash coins. If we did, the Taiping coin would be lighter than the xianfeng coin, since if we suppose that the highest denomination Taiping coin was the 100-cash, which only weighs around 31 grams, that would only be comparable in weight to the Aqsu xianfeng period 100-cash coin, but would be lighter than the xianfeng period 100-cash coins of the other provinces.

Such a comparison would not, however, be appropriate. The xianfeng period 100-cash coin was only in use during xianfeng 3 and 4. Thereafter, the Qing court mainly promoted the circulation of paper money. In other words, at a time when under Qing rule paper money and lead and iron coins were being used, copper coins continued to be used within the sphere of operations of the Taiping Heavenly Kingdom. It is only in terms of such a comparison that one can tell whose money enjoyed more stable purchasing power, and only such a comparison would be a complete one.

Of course the phenomenon of monetary depreciation also appeared within the Taiping realm. For example the weight of the Heavenly Kingdom Sagely Treasure of the Nanjing region was reduced, but the Taipings never used iron coins, lead coins or paper money. This allowed the people to be able to maintain a relatively peaceful economic life.

By xienfeng 11, the paper money had all but become waste paper. Only a portion of taxes or of the funds for redeeming pawned articles could be paid with it. A 1,000 cash in paper money was only worth a little more than 100 cash in 10-cash coins,[46] or 23 standard coins. That is to say, it had lost 97 percent of its purchasing power. At the beginning of tongzhi, the government ordered Zhili, Shandong, Henan and Sichuan provinces to stop accepting paper money for payment of taxes, and to change over to collecting them in silver. Nor were their expenditures to be made in paper notes.[47] In fact, however,

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cash into standard coins at the rate of 2 capital cash to 1 standard coin.

[42]Board of Revenue, "Memorial Honoring the Imperial Edict To Again Circulate a Secure Coinage: Appendix" (xianfeng 4, 7th month, 26th day).

[43]*Qing History Draft*.

[44]*Qing Emperor Wenzong Veritable Record*, 293, xianfeng 9, 9th month, proclamation: "The Censor Xu Qiwen's memorial 'Request for a Strict Ban on Private Melting Down and Private Minting So As To Circulate the Coinage' stated that the copper 10-cash coins presently circulating in the capital city were most abundant, but in recent days they have suddenly become deficient in curculation. In surmising the reason for this he noted that a copper 10-cash coin was only equated with 2 copper standard coins in the capital. If reminted into standard coins, 3 or 4 of them could be obtained. It must be that there are wicked people seeking profit by the corrupt practice of illicitly melting down and reminting these coins."

[45]*Ibid.*, 318, xianfeng 10, 5th month, proclamation: "The Censor Zhu Hu memorialized . . . 'All say the large coins have become scarce. There are wicked people who take 10-cash large coins and melt them down to obtain the material for private coining. One 10-cash large coin can be used to make 5 or 6 light and thin standard coins.'"

[46]Liu Yunan, "Official Bills Stoppage . . . Memorial."

[47]Shen Baozhen, "Memorial Considering the Proposal to Manage the Situation Caused By Obstruction of Official Bills By Halting their Use" (*Political Documents of Duke Shen Wensu*, 2).

Zhili province continued to use them. Land tax payments could be made 90 percent in silver and 10 percent in bills.

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Cash payments were made half in silver and half in bills. Right down to tongzhi 7 and later, the same arrangements were followed in Jiangxi.[48] From a national perspective, however, the circulation of paper money had already become a thing of the past.

Only after the defeat of the Taipings did the value of money stabilize. Prices were still low in the rural areas,[49] but generally speaking, the war had raised prices. We can tell that this was the case from the fact that few standard coins were minted during the tongzhi period. Most of the coins in circulation then were old coins minted before the war. These included a number of foreign coins, such as coins from Vietnam and Japan.

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3. *Changes in the Value of Money During Late Qing*

From xianfeng times to the beginning of tongzhi [the 1850s and '60s], there were irregular movements in the silver price of copper. Beginning in tongzhi 10 [1871], there appeared another change in the relationship between silver and copper cash: Just as happened at the beginning of Qing, coins became expensive and silver cheap. At that point, the nations of Europe were adopting the gold standard one after the other, and demand for silver greatly diminished. At the same time the production of silver increased, silver's price fell, and copper's price rose. The quantity of standard coins for which an ounce of silver could be exchanged steadily declined. During the xianfeng period, an ounce had exchanged for as much as 2,000 standard coins. In tongzhi 10 it could still fetch more than 1,800 cash, but by guangxu 31 [1905], an ounce could only exchange for a bit over 1,000 cash.[1,2]

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[48] Liu Shenyi, "Memorial Weighing the Proposal To Solely Use Standard Cash."

[49] *Xinzheng Interpolated Collection* (written in tongzhi 7), first part, "Straw Shoe Old Man": "Outside the west well was a man named Zhou Shunxing, who was over sixty years old. He ran a small tavern with a couple of tables. Those who came in for a drink paid a couple of cash a glass, and got a plate of sprouted beans for another cash. For 5 or 6 cash you could drink yourself into a stupor. . . . There was a seller of straw shoes who came in every few days for a drink. . . . The straw shoes he sold went for 7 cash a pair."

Xinzheng Annual Collection (written in tongzhi 9), latter part, "Retribution": "There was a fellow named Zhao Shengmou who went to the Eternal Virtue Temple to see a show. In the afternoon he went into a small tavern next to the bridge. Stillbeer was 3 cash per glass. Five-flavor cooked beans were 2 cash per per small plate. Without using much money, he got half drunk."

Xinzheng Alternate Collection (written in tongzhi 6), latter part, "Field Employment": "And he came to this temple to tend cattle. He worked energetically for a year, and took care of the plowing. In his spare time he would sweep up, carry water and firewood, bake clay, and take it off to a distance. There was nothing he did not do, and with great energy. I asked what his wages were, and he replied that when he first came, for several years he got nothing, but for the last two or three years he had been getting 300 cash per month, and that was sufficient to meet his food and clothing requirements."

[1] *Compiled Record of Important Events in China and Abroad* (guangxu 24), "The Coin Trade in the Capital": "The names of the coins used in the capital are numerous. There are Bill Coins, large

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coins, Two Road Coins, Original String Coins, reverse inscription equals-tens, all of which are 1-cash coins used as 2-cash. The large coin is thick and heavy, and is used in the markets within the city and in the region near the walls outside the city. The Original String Coin is extremely thin, and resembles the sand coins used in the provinces as 1-cash pieces. Most numerous is the equals-ten, a 1-cash piece used at 2-cash, and used in the region outside the city. Since receiving the Imperial Edict prohibiting the coin shops from picking and choosing among coins for fineness, people coming into the markets inside the city walls have all been avoiding the large coins, and have shifted to the Original String Coins. The Original String are 80 percent of the value of large coins. If exchanged for a foreign dollar, it takes 800 large coins and 1,000 Original String Coins. Because of the Imperial Edict banning picking and choosing among coins, the merchants have not dared to debate the matter, but the large coins hitherto used have been sold off out of the capital by the merchants, and have been reminted into Two Road and Original String Coins. One large coin can be minted into 2 Two Road Coins or 3 Original String Coins. This is really a good business, one yielding a profit of three fold." (10th month, "Report of State Information.")

[2] The figures in the table are based on Maritime Customs statistics. Cf. Liang Qichao, "Short History of the Excessive Production of Copper Dollars in Various Provinces," *Drink Ice Room Collected Works*, 21. However, the original figures were in terms of the Maritime Customs ounce. To standardize the figures and make comparisons more convenient, I have commuted

QING DYNASTY STANDARD COIN MARKET PRICE TABLE (3)

Year	Std Coins Per Oz Silver	Year	Std Coins Per Oz Silver
tongzhi 9	1,856	guangxu 15	1,569
10	1,856	16	1,473
11	1,856	17	1,481
12	1,782	18	1,536
13	1,787	19	1,536
guangxu 1 (1875)	1,760	20	1,493
2	1,705	21	1,648
3	1,660	22	1,364
4	1,582	23	1,364
5	1,604	24	1,292
6	1,636	25	1,312
7	1,673	26	1,315
8	1,668	27	1,336
9	1,668	28	1,331
10	1,664	29	1,265
11	1,633	30	1,213
12	1,631	31	1,089
13	1,530	32	1,386
14	1,564	33	1,485-1,683

The price of copper rose because of the fall in silver's price. As a consequence, during the 30 years from tongzhi through the first half of guangxu, prices calculated in terms of copper cash had a tendency to fall.

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QING DYNASTY RICE PRICE TABLE (3)

Period	Number of Std Coins Per Hectoliter
1801-1850	3,267
1851-1860	2,914
1861-1870	4,480
1871-1880	2,991
1881-1890	2,311
1891-1900	3,449
1901-1910	5,250

the Maritime Customs ounce into the treasury weight ounce, on the basis of 1 treasury ounce being equal to 0.99 Customs ounce.

If, however, we take into account the whole of the Qing period, prices calculated in copper cash still rose. They rose still more during the dynasty's last decade. If we examine the whole of the two and more centuries of the Qing Dynasty by fifty-year intervals, we can see that the cost of rice rose five fold during that time.

QING DYNASTY RICE PRICE TABLE (4)

Period	Std Coins Per Hectoliter	% of Base
last half 17thc	614	100.00
first half 18thc	816	132.90
last half 18thc	1,626	264.82
first half 19thc	3,267	532.08
last half 19thc	3,152	513.35

The rise in prices calculated in copper cash did not occur because of a decline in the production of rice, or an increase in the size of the population, but because of a reduction in the value of copper cash. This decline in the price of copper cash was not due to a fall in the price of copper, but to reduction in the weight of copper coins.[3]

The reduction in weight of the copper coins did not mainly come about by way of the standard coins, since their weight remained virtually unchanged over the long term. The shunzhi 1 standard coin weighed 0.1 ounce. The guangxu period Guangdong machine-made standard coin also weighed 0.1 ounce. The first three reigns of Qing even witnessed an increase in the standard coins' weight.

Since the qianlong period, however, private coining had run wild, and during xianfeng and tongzhi times this problem had grown even more severe. The proportion of private coins in the money supply was very large, and they generally were not up to standard weight. Some guangxu private coins were as light as 0.03 ounce. By the end of the dynasty, even some machine-made standard coins were as light as 0.04 ounce.

[3]According to the Shanghai British Consulate reports, the weights of 100 standard coins from qianlong times on were as follows (Cf. Liang Qichao, "Short History of the Excessive Production of Copper Dollars in Various Provinces"):

Qianlong cash	12.19 Engl. oz.	Jiaqing	10.73 oz
Daoguang cash	10.80	Xianfeng cash	9.00
Guangxu old csh	9.80	Guangxu new csh	6.80

Since the rise in prices was not due to a fall in the price of copper, but rather to a reduction in the weight of the copper cash, there would be

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a negative correlation between prices and the weight of the copper cash or its copper content. If we examine that most important food item for the Chinese, particularly northerners, the *mantou* [steamed bread], we find that they cost 1 cash apiece during the kangxi period.[4] During the yongzheng period, they cost 2 cash apiece.[5] During the guangxu period, they fetched 4 or 5 cash apiece.[6] This was three or four times higher than the early Qing level. If the Qing government had been able to maintain the weight of 0.1 ounce per cash from beginning to end, then prices calculated in standard coins would certainly have been much more stable.

They began to mint the Copper Dollar in guangxu 26 [1895]. This represented a great turning point in Chinese monetary history. This was not only a reform of the monetary system. It simultaneously also influenced the people's standard of living, since the adoption of the Copper Dollar tripped off a price revolution. What I call the price revolution was something different from an ordinary monetary depreciation or inflation.

China had gone through a number of monetary depreciations and monetary inflations in the course of its history, but in the aftermath of an inflation, prices generally reverted to their previous levels. Hence the price changes evoked by previous monetary depreciations and inflations were merely temporary oscillations. It was like when a man suffers an illness. After he has recovered his health, often no trace of the illness remains.

Ever since Han times, even when the ruling class used gold, silver or paper money, the masses generally employed copper cash, even when they had to risk violating a ban against its use. In actual fact, no matter how the government might try to enforce such a prohibition, it finally had to allow copper cash to circulate. Though the weight and fineness of copper cash might differ from age to age, with weight reductions occurring frequently, no matter how many such reductions might occur, the ultimate result was always to restore the 0.1 ounce standard weight for the coin, or something close to that level.

The reason why this had always happened in the past was that over the course of two millennia most people had taken the copper cash as a monetary unit. Though governments might frequently issue large denomination coins, the people always strenuously opposed this, and in doing so they were always in the end victorious. The first such coins were Wang Mang's large coins. The last were the large coins of the xianfeng period. None of these won the faith of the people. As a consequence, the authorities always had to restore the small coin.

With the minting of the Copper Dollar, circumstances changed greatly. Strictly speaking, there was no particular difference between using the Copper Dollar and the 10-cash large coin.[7] At first the 10-cash coin of the xianfeng period weighed 0.6 ounce. Later, after going through several weight reductions, it weighed 0.26 ounce. The 10-cash Copper Dollar, however, only weighed 0.2 ounce from the beginning. The 10-cash large coin fell in price not long after it was first issued. Later, it came to be valued at only 2 standard coins.

Although the Copper Dollar fell in price against both silver and the silver dollar, it only fell in price against the standard coin for a short period in particular places. Generally speaking, from beginning to end, it retained its status as a 10-cash coin. This is one point of difference between the Copper Dollar and the large traditional coin, and this is also the crux of the price revolution.

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It was not until after two thousand years that the Chinese people finally discovered and accepted a new monetary unit to replace the old style copper cash. Prices calculated in copper cash must have risen several fold. This price revolution only began

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[4] *Dessicated Words of the Old Man of the Wilderness*, chapter 16, says that *mantou* went for 4 cash per sale. One sale probably involved four *mantou*, or at least two of them.

[5] *The Scholars*, chapter 17: "He then walked into a steamed bread shop. . . . Those steamed breads were 3 cash each. Third Lord's Son only gave him 2 cash, and started a ruckus in that shop." This could have occurred during the period of transition from the 2 cash to the 3 cash price per bread.

[6] *Notes on the Current Shape of Official Life* (a work written in guangxu 29), 2: "Later, he went on to say that he had bought steamed breads on the road today for 4 cash apiece. He insisted on 5 half-cash apiece. A dozen steamed breads cost 18 cash. He was really a scoundrel."

[7] Guangxu 23, Censor Chen Qizhang, "Memorial on the Request to Order the Board of Revenue to Add the Minting of Copper Dollars": "The advisers may say that the Copper Dollar is not different from the 10-cash large coin. Would it not be better to regularize the large coin than to change over to the Copper Dollar? That way we could remain within our practices and our laws. They do not realize that even though these large coins are 10-cash, their weights are not uniform, their sizes are not regular, and they cannot gain credence in all the provinces." Cf. Zuo Zongtang, *Memorials of Advice Collected For Inspection Since Guangxu Year Yiwei*, 6.

at the end of Qing. It was not completed until after the republic got under way.

The people accepted the Copper Dollar for the same reason they had accepted the Silver Dollar: Its design was finely executed, and it was of uniform size. It was also because the Copper Dollar had been reduced in weight the fewest number of times. One may also say that this was a victory of machinery over handicraft industry, or of capitalism over feudalism. Hence when they first came out, the Copper Dollars' market price exceeded their face value, which had originally been fixed at 100 Copper Dollars to the Silver Dollar. In actuality, during guangxu 28 [1902], a Silver Dollar could only fetch 80 to 90 Copper Dollars.[8] Cost of production of the Copper Dollar was only around 0.44 ounce of silver per hundred coins.[9] The seignorage was practically 100 percent.

Provincial officials realized that this was a short cut to wealth, they promptly made large purchases of machinery, and set about minting coins. By guangxu 31 [1905], 12 provinces had set up a total of 15 mints, with 846 coin-making machines. According to estimates made then by the Shanghai Foreign Merchants Association, if this machinery had been working at full capacity, it would have turned out 16,413,700,000 Copper Dollars per year. With a total population of 400,000,000, that would have come to 40 coins per capita per annum. Fortunately, this machinery was only worked at 60 percent of capacity, and some of it had not yet been delivered. Eventually, at the urging of some people, minting was halted for a short time, but by the end of Qing, the total quantity of Copper Dollars produced must have been some 20 billion.[10] As a consequence their price fell. The number fetched by a Silver Dollar increased from 80 to over 130.

LATE QING SHANGHAI COPPER DOLLAR MARKET PRICE TABLE[11]

Year (As of the 12th month)	Number of 10-Cash Copper Dollars Equal To One Silver Dollar
guangxu 28	80
29	84
30	90

[8] According to Maritime Customs reports, in guangxu 28, 1 Silver Dollar was worth 88 Copper Dollars in Suzhou, and 90 in Hangzhou. In Jiaozhou it was 80, and in Anqing 95. During guangxu 31, it ran from 92 to 95 in Shanghai, and was 95 in Ningbo. Geng Aide, *On Chinese Money*, p. 390.

[9] Liang Qichao, "Short History of the Excessive Production of Copper Dollars in Various Provinces": "In the various offices minting copper dollars, their raw materials involve adding 50 catties of inferior lead to each thousand catties of copper. The market price of copper is around 35 ounces per *dan* of 50 kilograms. A *dan* of lead is around 1 ounce. Therefore, the cost of the raw materials for a *dan* of Copper Dollars is actually less than 35 ounces, from which 8,000 coins can be minted. Therefore a single Dragon Foreign should fetch 169 of them. A treasury ounce of silver should fetch 228. If we equate them with standard coins, the pure copper content of 1,000 of the presently circulating standard coins is 2 catties 8 ounces. If we calculate the price ratio just in terms of copper, then 100 Copper Dollars are equal to 694 standard coins. However, the present market price of standard coins is 1,500 per ounce of silver. Therefore, 213 Copper Dollars should exchange for 1 ounce of silver, and 100 of them should be worth 0.448 ounce of silver." (*Drink Ice Room Collected Works*, 21.)

[10] Liang Qichao records the annual quantity of Copper Dollars as follows:

Year	Raw Material In Dan of Copper	Quantity of Copper Dollars (in thousands)
guangxu 30	255,771	1,741,167
31	749,000	4,696,920
32	213,673	1,709,384
33	356,400	2,851,200
34	178,500	1,428,000
	1,753,344	12,426,671

Those produced during guangxu 28-29 and during the xuantong period are not included. In addition, there were also those privately coined among the Chinese people and those privately coined by foreigners. Liang Qichao estimated that in late Qing times there were 14 billion Copper Dollar coins. Cf. *Drink Ice Room Collected Works*, 21, "Short History of the Excessive Production of Copper Dollars in Various Provinces." This figure would appear to be too low. According to an investigation by the Ministry of Finance Coin Office during Republic 2, 12th month, the figure for production and circulation of large and small Copper Dollars had already reached over 29 billion coins. Therefore, there must have been some 20 billion Copper Dollars produced during late Qing.

[11] According to Zhang Jiaxiang, *History of Chinese Monetary Systems*, Volume 5, p. 35.

31	107
32	110
33	116
34	123
xuantong 1	127
2	131
3	134

Previously, when large coins fell in price, the people simply used standard coins, and prices returned to their former levels. This time, when the Copper Dollars fell in price,

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the living expenses of people in the cities rose in proportion.

For example, the price of labor for carving book printing blocks had hardly changed since late Ming times, but there was a very large change at the end of Qing. At the beginning of guangxu, to carve printing blocks for books in Hunan cost 50 or 60 cash per hundred characters. By mid-guangxu, this had increased to 80 or 90 cash, and by the beginning of xuantong it had gone up to 130 cash.[12]

Why, after not changing for several centuries, did it change so drastically within a few decades? It was the price revolution. There was no one now calling for the abolition of the Copper Dollar in favor of the standard coin.[13] This too was a characteristic of the price revolution. Nor was the fall in price of Copper Dollars the consequence of a rise in the price of silver. In fact, during this period silver was itself in the midst of a price decline. This was itself a fundamental aspect of the price revolution.

Although China had a long history of contact with foreign nations, its prices and standard of living had remained isolated, and up to that point had not suffered much foreign influence. This was because China was largely self-sufficient in production of articles necessary for everyday life. From the time of the defeat of the Taipings, the Western nations deepened their aggression against China, and foreign trade figures steadily increased. Hence there was a tendency for Chinese and foreign prices to converge. Connected with this was the fact that the Europeans and Americans had adopted the gold standard, causing the price of silver to fall substantially. Payments in China were calculated in silver, and so it would have been hard to avoid having prices being pulled up by this fall in silver's value.

The fall in the price of silver constituted a severe threat to the people's livelihood. People who depended on wages for their livings suffered a clear lowering of their standard of living. In the last years of Western Han, a substitute labor serviceman received a monthly income of 300, and a hired watchman's wage was 2,000 per month. At the beginning of Song, a soldier could get between 300 and 500 cash per month. By the end of Qing, urban labor's wages were sometimes reckoned in silver, but in the countryside, where coins were mostly employed for this purpose, the level of wages did not increase. For example, during the tongzhi period, hired field labor was still 300 cash per month.[14]

During Western Han, 300 cash could buy half a hectoliter of rice, but during tongzhi times I suspect it could not even purchase one *dou*. During late Qing, urban laborers' wages were relatively high: In Tianjin, a leather worker, a weaver of oriental carpets, a dyer or a knife grinder could get 300 cash per day,[15] but even if such a laborer found work every day, he would only get 9,000 cash per month, and that would only buy something over 1 hectoliter of rice. This would not come up to the wage of a Western Han hired watchman. A wheelbarrow pusher in Shanghai only got from 130 or 140 to 350 cash per day for his labor. Averaging 25 days of labor per month,[16] he would get a total of 6,000 cash for the month, and this could not purchase even 1 hectoliter of rice. Hence wages during late Qing were by no means higher than those of earlier times.

[12] Ye Dehui, *Pure Words from the Book Grove*, 7, "The Modest Price of Book Carving Labor During Ming Times."

[13] In guangxu 34, the Reviewing Policy Adviser Gao Runsheng said in his "Memorial On Regulating the Dollar One Ought to Control the Abuse of Profit, and Fix a Return to a Unified Coinage System as the Foundation": "As the Copper Dollar is not what the people treasure, it ought resolutely to be abolished, and we should return to the old standard coin unit. We should also make it a matter of urgency to fix on a silver coin system, so that the standard coin and the Silver Dollar directly support each other, and we can remove the several denominations of large and small Copper Dollars." Such a point of view was different from that of the masses, but at the time there were not many to echo it.

[14] *Xinzheng Alternate Collection*, latter part, "Field Labor."

[15] *Complete Book of the Chinese Economy*, "Late Qing Workmen's and Artisan's Hire Silver and Payment Regulations."

[16] *Ibid.*

4. Silver's Purchasing Power

During the Qing Dynasty silver continued the [downward] trend in its purchasing power established during the Ming Dynasty. Though silver's purchasing power was somewhat more stable than that of copper cash, it still tended to gradually decline. A soldier's daily rations cost 0.05 ounce of silver during early Qing. In the aftermath of the defeat of the Taipings [in the 1860s] it was 0.2 ounce per man day. As for river control work, each time the Yellow River flooded during early Qing, the government expended 1 million ounces. A flood during daoguang or xianfeng times evoked an expenditure of 10 million ounces. If we take the price of rice as our standard, then during the five centuries from the fifteenth to the nineteenth century, silver's purchasing power fell to 17 percent of its original value. On the average, the cost of rice increased 55 percent per century, and over the course of these five centuries it rose five or six fold.
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TABLE OF CHANGES IN SILVER'S PURCHASING POWER

Period	Number of Hectoliters Rice 1 Kilogram of Silver Buys (Hectoliters)	Price Per Hectoliter (gms silver)
15thc.	75.11 (100.00)	13.31 (100.00)
16thc.	46.44 (61.83)	21.53 (161.73)
17thc.	31.40 (41.80)	31.84 (239.19)
18thc.	20.87 (27.78)	47.91 (359.84)
19thc.	13.05 (17.37)	76.63 (575.56)

If we use such long-term averages, the rise in the price of rice or the fall in silver's purchasing power seems to be somehow mechanical or deterministic, when that was actually not at all the case. The rise over the course of a century was not evenly spread within that time. There were very large oscillations. This was true not only for the Ming Dynasty, but for the Qing as well. If we shift to every-ten-year averages, the price of a hectoliter goes from 24 grams to 145 grams of silver, a range of seven fold.[1]

QING DYNASTY RICE PRICE TABLE (5)

Period	Price/Hectoliter (in grams silver)	Period	Price/ Hectoliter (gs silver)
1641-1650	47.11	1781-1790	60.01
1651-1660	44.81	1791-1800	73.28
1661-1670	31.94	1801-1810	81.13
1671-1680	24.31	1811-1820	80.19
1681-1690	32.22	1821-1830	72.44
1691-1700	27.50	1831-1840	90.19
1701-1710	36.01	1841-1850	84.13
1711-1720	34.53	1851-1860	63.72

[1] For the following table I have collected a total of around 900 Qing Dynasty rice prices, an average of three per year. The largest number for any one year was 28, for qianlong 16. I have 23 prices for qianlong 3. I have not included any incapable of being used. The sources for the figures are mainly the Qing Dynasty's
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various *Veritable Records*. I also consulted *East China Record* and *Qing History Draft*. There are fewer rice price records for early Qing, as is also the case for late Ming. Hence I have taken several figures from novels, but have limited these to ones whose dates can be verified. From the xianfeng period on, the *Veritable Records* lack details. I have taken some of the figures from contemporary memorials, such as *Complete Works of Duke Zeng Wenzheng*, *Draft Memorials of Marquis Zuo Kejing*, *Political Documents of Duke Shen Wensu*, *Li Suyi's Memorials of Advice*, *Draft Memorials of Duke Cen Xiangjin* and *Tao Yunding's Memorials of Advice*.

From the guangxu period on, there are Shanghai rice price records. I have used the same methods for calculating averages as I used for the Ming Dynasty. I first strike an average for each year, and then calculate ten-year or 25-year averages. Fifty-year averages are calculated by averaging the five ten-year averages it comprises. Hundred-year averages are the average of two fifty-year averages. I obtain the annual averages by adding up and then averaging the available rice prices for a year, including the prices involved in actual exchanges as well as commutation prices. Unusual prices are all included in the calculations, except for a small number which deviate excessively from the average. Under normal circumstances, I do not distinguish between localities when striking averages, but sometimes a province had suffered some natural disaster, rice prices were very high, and reports of prices are numerous. Under such circumstances, I first extract an average price for that province, and then average that in with the average prices for other provinces. For the last years I put heavy emphasis on Shanghai prices, but these would have been twice the level of prices in the interior. The figures used by some foreigners, such as Jamieson, are expressed in terms of units of 50 picul *dan* and 100 catties. I here convert them into the Qing picul before proceeding further with the calculations. For prices calculated in terms of Silver Dollars, I convert them using the ratio of 1 dollar to 0.72 ounce of silver. I assume the Qing picul's size as being 1.0355 hectoliters.

1721-1730	32.84	1861-1870	97.84
1731-1740	37.37	1871-1880	64.88
1741-1750	42.69	1881-1890	53.72
1751-1760	61.06	1891-1900	89.72
1761-1770	64.22	1901-1910	145.28
1771-1780	56.75		

We can tell from these rice price figures that prices were still high at the beginning of Qing. By the beginning of the kangxi period, they were slowly falling, and thereafter they remained stable for fifty years. From the middle years of the eighteenth century, they began to rise, and this rise only halted during the middle years of the nineteenth century. For a time there was even a retrenchment, but during the late nineteenth and early twentieth centuries they again

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rose. The figures for this rise are skewed in the high direction because of the Shanghai market, whose rice prices were generally twice the level of prices in rice producing regions.

When the new Emperor returned to Beijing to ascend the throne, the price of rice was at times higher than 4 or 5 ounces per picul. Even the average price was rather high, at the same level as at the end of Ming. During the reign of Ming Emperor Chongzhen, the average price of rice was 1.1 to 1.2 ounces of silver per hectoliter. The average price during the reign of the Qing Shunzhi Emperor was also 1.1 to 1.2 ounces per hectoliter. This would be considered too high in the context of the modern history of Chinese prices. By too high I mean to say that a portion of the price was not the result of monetary factors, but was the result of the failure to restore the social order and consequent shortage of goods.

We can tell this as soon as we compare rice prices of the shunzhi period with those of the kangxi and yongzheng periods. The average rice price during kangxi times [1662-1723] was 0.59 ounce per hectoliter, less than half the shunzhi [1644-1662] price, and virtually the same as the price during the jiajing period [1522-1567] of Ming. The price was a bit higher during the yongzheng period [1723-1736], at 0.87 ounce per hectoliter, but even this was lower than the shunzhi period price. It is probably for this reason that the historians label the first three reigns of the Qing "high" or "flourishing" Qing.

The situation was much different from qianlong times [1736-1796] on. If we consider the first three reigns as constituting early Qing, then the period from qianlong to daoguang [1821-1851] times could be called mid-Qing. Prices during this period underwent a sudden rise. During the qianlong period, the price of rice averaged 1.4 or 1.5 ounces per hectoliter, which exceeded the level during the shunzhi period. Under the Jiaqing Emperor, a hectoliter averaged 2.1 ounces, which was more than 40 percent higher than under the Qianlong Emperor. During the daoguang period, a hectoliter was 2.16, somewhat higher than during jiaqing times. There was a slight increase in silver's purchasing power during xianfeng times, with a hectoliter of rice worth 1.99 ounces, but tongzhi period prices rose once more, and by the end of guangxu and during xuantong [1908-1912] times, the rise was still more severe.

QING DYNASTY RICE PRICE TABLE (6)

Reign	Avg Price Per Hectoliter (in treasury ounces)	Value In Gms of Silver of 1 Hecltr of Rice
Shunzhi	1.15	43.00
Kangxi	0.59	21.91
Yongzheng	0.87	32.34
Qianlong	1.48	55.19
Jiaqing	2.10	78.31
Daoguang	2.16	80.75
Xianfeng	1.99	74.34
Tongzhi	2.27	84.84
Guangxu	2.17	80.84
Xuantong	4.04	150.91

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The rise in the cost of rice during the qianlong period evoked profound attention from contemporaries. The rise began right from the time the Qianlong Emperor assumed the throne. Yang Xifu sent up a petition in qianlong 10 [1745] which referred to the rise in grain prices, and gave reasons for it. The first reason he offered was that population was increasing. The second reason was wasteful practices. The third was that land was being engrossed by rich families, so that when the peasants wanted to buy grain, it became expensive.[2] In qianlong 13 (1748), the

[2] *Qing History Draft*, "Biography of Yang Xifu," qianlong 10, petition: ". . . if population is large, then demand for grain will be large, and its price will gradually increase. At the beginning of the state, when the people had just escaped from disorder, customs were still simple and pure. Several decades later, people had gradually become wasteful, the raising of loans had become common, and people did not exert effort in the fields. As Winter turned into Spring, the peasants were buying

authorities ordered the provinces to investigate the reasons for the rise in the cost of rice.

The provinces' replies[3] say virtually the same thing in different words: That population was increasing. Some also mention that customs were becoming wasteful, or that there was drunkenness, or might refer to other technical problems, but not a single one of them says that the phenomenon was caused by the fall in the price of silver, or by the increase in the quantity of silver. Aliai, the Governor of Shandong, clearly saw that all types of cloth were rising in price, and even that copper cash were rising in price, but turned a blind eye to the fall in the price of silver, and joined the chorus blaming the situation on the steady increase in births.

Of course the increase in population was a fact, but that did not begin with the qianlong period. There are annual census reports for the Qing Dynasty. We do not know if the governors-general of that time had seen these. If they had seen them, perhaps they were fooled by them, since their figures were not reliable. According to the *Qing Veritable Records*, the figure for shunzhi 18 is 80 percent larger than that for shunzhi 8. This might be explained as the result of exaggeration by those who made the household registers. During the decade between yongzheng 9 [1731] and qianlong 6 [1741], there was a 4.5 fold increase, something which could not have actually occurred.

Among the reasons for such figures is the fact that beginning in the kangxi period, a number of people did not report the size of their households so as to escape taxes and labor service. The authorities gradually became aware of this phenomenon, and so in kangxi 51 [1712] they proclaimed that the amount of the tax currently on the books would neither be increased nor decreased thereafter. The amount would remain fixed permanently. This was what was called the permanently fixed land tax registered population.

Even so, the increases in the reported population were not large. The kangxi period was the golden age of the Qing Dynasty. The administration was simple, and expenses were light. The rate of popula-

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grain in the market, and grain would become even scarcer. As the days of peace lengthened into years, land prices steadily rose. Poor people who had earlier sold their fields lacked the power to buy them back. As much as 50 or 60 percent of the land was concentrated in the hands of the rich. Rich households do not market their grain lightly. Buyers are many, and sellers are scarce. No wonder its price has increased."

[3] *Qing Emperor Gaozong Veritable Record*, 311, qianlong 13. The provincial replies were as follows:

Anhui: "The population is proliferating, and those seeking to buy are excessively numerous."

Jiangxi: "Births increase daily. Local officials' salaries are not good."

Hubei: "Population is gradually increasing. . . . The price of grain is high. This is inevitable. The proliferation of births causes competition to set up production. Agricultural land gradually becomes expensive. Peasant families seek profit with the fundamental activity. . ."

Hunan: "The high price of grain is owing to the numerousness of those who buy it for consumption. That those who buy it for consumption are numerous is because people are impoverished. There are four things which are gradually accumulating: One is the increase in population. Another is the profligacy of the customs. Yet another is the reversion of agricultural land to the rich. The fourth is the purchase of grain from the granaries."

Liang-Guang: "One lies in the prohibition of pawn broking. When the time comes for poor peasants to do the plowing, there is none of their family property which is not in the pawn shops. They wait until Autumn, when the harvest is complete, to redeem it. Things to ward off the Winter cold are still more necessary. They each exchange food for cold weather clothing. When Spring comes, they exchange the cold weather clothing for grain. . . . Hitherto, the coming and going in the pawn shops has only yielded a profit of a fraction of an ounce of silver per picul. Now, when buying rice it is necessary to use actual silver. The purchase price is as much as 0.6 or 0.7 ounce more than the selling price, and as little as 0.3 or 0.4 ounce more."

Yun-Gui: "The reasons why rice is expensive are 1) the steady increase in births, 2) hoarding and loss of ability to adjust. . . . In yongzheng 8 or 9 a picul was still only 0.4 or 0.5 ounce. Now it has gone beyond 1 ounce, and at its cheapest is 0.8 or 0.9 ounce. . . . During the century or so since the state reduced the southwest to order, the increase in population has been no less than several tens of millions. . ."

Guizhou: "The province of Qian has high mountains and steep valleys, and is not penetrable by boats or carts. The soil is sterile, and the people impoverished. Barbarians are numerous and ethnic Chinese few. . . . We first arrived in Qian province in yongzheng 4. . . . Throughout the province people were thinly distributed among the localities, and there were few shops. The gentry and the masses interacted with each other. In general, all

lived simply in remote villages, since there were no taverns. . . . Now the provincial capital and the local towns are all crowded with shops, goods are piled up, and merchants daily come together. The gentry and the masses all compete with each other in conspicuous display when conducting capping, marriage and funeral ceremonies. Customs grow more wasteful by the day, and . . . drunkenness daily grows more common."

Shandong: "Rice is expensive because births daily increase in number. As people become more numerous, hemp, cotton and silk cloth all rise in price. The rise in the price of coins corresponds to the rise in the price of rice."

tion increase must have been very large, and yet the price of rice remained very stable. Evidently the influence of the population increase on silver's purchasing power was not large. At the very least, the fall in the price of silver during the qianlong period was not primarily the result of an increase in the size of the population.

A superficial reason for the increase in prices during the qianlong period was the increase in governmental expenditures caused by the large number of military campaigns along the frontiers. During qianlong 22 [1757] alone, the "pacification" of Xinjiang cost over 20 million ounces. In qianlong 41, the battles on the Little and Big Gold Rivers used up over 70 million ounces.

Nevertheless, the fundamental reason for the rise in prices during the qianlong era was the flow of cheap silver from the American continent into China. Given the fact that Columbus reached the American continent during the middle years of the Ming Dynasty, and that the coming of the Europeans to China to carry on trade also occurred during Ming times, why was it not until the Qing Dynasty that American silver finally began to

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influence Chinese prices? This problem can only be clarified by examining the situation then in Europe, and the evolution of Euro-Asian commerce.

The influence of gold and silver from the American continent on European prices was not uniform over time either. The response in Spain was the most rapid, since the gold and silver were first transported to Spain. As a consequence, the general level of prices in Spain began to climb during the middle years of the sixteenth century. By the beginning of the seventeenth century, prices had risen four fold.[4] The rise began in England and France a half century later than in Spain, and only reached its peak during the middle of the seventeenth century.[5] This lag is easily explained. It was only after the passage of a certain amount of time that American gold and silver could have flowed from Spain into England and France.

The rise of prices in China began a century later than in England and France, and it was not as severe as in those two countries, just as the rise in England and France had not been as severe as in Spain. The separation in time and space had diluted the increase. The reason why China's silver began to fall in value a century later than in England and France was that silver came in via the overseas Chinese of the Philippines and the British East India Company. It took fifty years to go from Spain to England, and so for the inflation to have taken a century to move from Mexico and England to China should not be considered a long time.

During the several centuries after the Spanish colonialists occupied the Philippines, they often shipped Chinese commodities to Mexico, and brought Silver Dollars and uncoined silver back from Mexico to serve as money, and to aid in meeting the expenses of the administration of the Philippines. A letter from the Archbishop of Manila to Philip II in 1598 says that New Spain (Mexico and Peru) were annually sending a million pesos to the Philippines, but that afterward all of this was flowing into China.[6] On June 6, 1665 (kangxi 4), a royal edict fixed the amount at 2.5 million pesos, of which 2 million pesos was to be in coin.[7] Restrictions were placed on the trade of the Manila mer-

[4]The quantities of American gold and silver which flowed into Spain, and the changes in the price index which ensued as as follows (quoted from G. F. Warren and F. A. Pearson's *Gold and Prices*. Each *peso* was the equivalent of 42.29 grams of pure silver):

Period	Quantity of Gold & Silver Imported (in Peso)	Price Index (1573-1581 = 100)
1503-1510	1,187,293	40.1
1511-1520	2,188,751	40.7
1521-1530	1,172,609	50.9
1531-1540	5,588,124	54.4
1541-1550	10,462,718	63.0
1551-1560	17,864,531	74.3
1561-1570	25,348,752	90.6
1571-1580	29,158,552	99.5
1581-1590	53,180,243	109.4
1591-1600	68,643,364	121.7
1601-1610	55,808,536	136.8
1611-1620	54,640,581	129.3
1621-1630	51,965,206	129.8
1631-1640	33,425,457	131.3
1641-1650	25,534,351	
1651-1660	10,654,883	132.1

[5]Willard L. Thorp and George R. Taylor, "Price History," *Encyclopedia of the Social Sciences*. For prices in England and France, cf. subsection 8.2.5 below, "Gold's Purchasing Power," which contains a "Table of Sino-Foreign Comparative Food Prices Over the Last 500 Years."

[6]E. H. Blair & J. A. Robertson, *The Philippine Islands*, Vol. X, p. 145.

[7]J. Foreman, *The Philippine Islands*, pp. 243-244.

chants with China in kangxi 59 [1720]. This ban was rescinded in yongzheng 5 (1727), but we cannot tell how much silver flowed into China during the interval.

It has been estimated that between 1571 (longqing 5), when the port of Manila opened, and 1821 (daoguang 1), when Mexico established its independence, a total of more than 400 million pesos had been transported from Mexico to Manila, of which at least one-fourth, or 100 million, flowed into China.[8]

Silver was also coming into China from Japan during this period. A portion of this inflow was
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carried back by Chinese who had gone to the Japanese city of Nagasaki to carry on trade. Another portion was brought from Japan to Macao by the Dutch, and from there indirectly into China. It is said that during the sixty years from shunzhi 5 [1648] to kangxi 47 [1708], $100 million in Silver Dollars was imported into China.[9]

This occurred because since Ming times silver's purchasing powerhad been lower in Japan than in China. During wanli 43 [1615], a hectoliter of rice cost 33 grams of pure silver in Japan, whereas in China the same amount of rice only cost 23 grams of silver. In kangxi 34 [1695], the Chinese price was only 29 grams, while the Japanese price was 100 grams. During kangxi 50, the Japanese price was 78 grams, and the Chinese price only 41 grams.[10]

The most material and the most credible material is available for the quantity of silver the British East India Company imported.

Though the Portuguese had reached China by the middle years of Ming, their trade was not large, their ships were very few, and could not carry much silver. The British East India Company sent the ship *Catherine* to China in chongzhen 10 [1637], but soon thereafter civil war broke out in England, and they did not continue to come. Right down to the kangxi period, only one of their ships came east from each convoy, and such visits only occurred every few years. Nor did these ships carry many Silver Dollars. For example, in kangxi 20 [1681], the *Barnardiston* carried just $60,000, most of which was used to buy Japanese goods.

In kangxi 59 (1720), the Canton merchants [with a monopoly license from the state. EHK] had organized the Co-Hong, but it was not until the following year that the number of ships began to increase, initially to four per annum. In yongzheng 10 [1732], in addition to the ships of the British East India Company, there were also other merchant ships, and ships from Holland, Sweden and Spain. Thereafter the number of ships steadily increased. In qianlong 6 (1741), there were French, Swedish, Dutch and Danish ships totalling 14 vessels which arrived in Canton.

The cargo of foreign vessels coming to China then was 90 percent silver, because the Chinese demanded no other European goods, while two-thirds of the silk and tea bought by the foreign merchants from China had to be paid for with silver. At most, one-third could be paid for with their own country's goods. Sometimes, as much as three-fourths of what they bought had to be paid for with silver.

According to the records of the British East India Company, during the 153 years between kangxi 20 and daoguang 13 [1833], the actual amount of, or estimated figure for, the quantity of silver imported into China by European ships came to a total of more than 70 million ounces. From the early years of the daoguang period, however, silver began to flow out of China, and so during the 140 years before daoguang, the amount of silver European ships transported into China was more than 80 million ounces. If we add the silver from the Philippines and Japan, I suspect the total would come to more than several hundred million ounces.
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QING DYNASTY SILVER IMPORT TABLE (1)

Period	Quantity Imported (in ounces)[11]
1681-1690	196,627[12]

[8] J. B. Eames, *English in China*, p. 63, De Comyn's computation.

[9] P. M. Martin, *China*, Vol. I, p. 176. Cf. also Otake Bunfu, *Studies in Modern Chinese Economic History*, pp. 56-59.

[10] The Japanese rice price is drawn from the *Great Japan Monetary History*, but I have made the calculation on the basis of the actual silver content of the ingot silver in circulation then.

[11] The commutation rate I have used is drawn from Morse's book. One English Pound made 3 ounces of silver. One Silver Dollar contained 0.72 ounce, or 120.8
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English ounces made 120 Chinese ounces. This was in terms of the Canton standard ounce. I have here commuted the figures to the treasury ounce. The Canton ounce was 37.57 grams, and the treasury ounce was 37.3 grams.

[12] *Chronicles of the East India Company* contains a table at the back of Volume I, "Table of English Ships Which Traded to China for the East India Companies." This gives a total import figure for silver during each of the three years 1681, 1682 and 1687 of 135,000 ounces. Of this total, the amount for 1687 is

1691-1700	140,840
1701-1710	775,206[13]
1711-1720	6,358,250
1721-1730	2,304,147
1731-1740	2,546,542
1741-1750	646,622
1751-1760	415,772
1761-1770	3,436,015
1771-1780	7,618,783[14]
1781-1790	16,549,464
1791-1800	5,196,690
1801-1810	26,850,828
1811-1820	10,003,955
1821-1830	(-)2,298.468[15]
1831-1833	(-)9,994,185
Net Imports	70,741,088 ounces or 2,638,643 kilograms

The figures recorded by the East India Company cannot, naturally, be considered complete. There is no reliable material for some years, and no way to make entries for them. Because the files of the East India Company for the two decades from 1754 to 1774 have been lost, the figures in the table represent only a small proportion of the total for those years. Even the figures for the other years are not absolutely correct, since though the records of the East India Company include the vessels of other countries, these are sometimes only estimates or contain omissions. Therefore the quantity of silver which may have entered China by this route could have been more than 100 million ounces.[16] However, the bulk of the trade then was in the hands of the East India Company, and so these figures are broadly representative.

Furthermore, when we set these figures next to contemporary Chinese rice prices, we can immediately discern the relationship between the two. There are, however, two points which must be emphasized.

First, silver is not used up when it is consumed, and in this respect differs from grain. As a consequence, though silver imports for the 25 years from 1726 to 1750 were not as great as during the preceding 25

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years, the cost of rice continued to climb. The only correct procedure is to cumulate the total increases in the supply of silver.

Second, the silver figures for the third quarter of the eighteenth century are only a portion of the actual totals. As a consequence they do not seem to jibe with the degree of rise in the cost of rice. I am not saying that there is some mechanical link between the rise in prices and the increase in the supply of silver. The world price of silver was already falling, but China's ability to produce silver had not yet reached the level of the other regions of the world, and so silver retained more of its original purchasing power in China. It was surely not until the Chinese were able to fully employ low priced silver that silver's purchasing power in China could have corresponded to its price.

COMPARISON OF SILVER IMPORTS WITH RICE PRICES

Period	Silver Imports (oz)	Price Index for Rice
last half 17thc	331,467	100.0
first half 18thc	12,630,767	117.1
last half 18thc	33,216,724	198.9
first half 19thc	24,562,130[17]	246.0

only 165,000 ounces [*sic*]. However, according to the text of that volume (p. 62), in addition to the 11 chests of Silver Dollars brought on the *London*, two other ships were despatched to Macao carrying a total worth £14,000 or £15,000, of which most were Silver Dollars.

[13] The figures for 1701 to 1732 are all drawn from the tables in the *Chronicles of the East India Company*, but I have supplemented them with figures from the present work because the silver carried in non-English vessels is not included in the tables. Ninety percent of each ship's cargo was silver.

[14] Imports of silver from 1771 to 1804 were mostly reckoned in chests, with each chest holding $4,000.

[15] The minus sign (-) indicates an excess of imports over imports. Imports of opium were leading to an outflow of silver.

[16] Morse, in his lecture to Clark University, "China and the Far East," said that during the 130 years prior to 1830, the quantity of silver imported into China by the nations of Europe, particularly England, was no less than $500 million. R. M. Martin, however, believes it was only $50 million.

[17] Only up to 1833.

The Taiping Revolution led to a depreciation via both coins and paper money during the xianfeng period, but silver's purchasing power ran counter to this trend, and displayed a tendency to increase. In other words, there was a tendency for the silver price of rice to fall during the last half of the nineteenth century. This tendency was evoked by the scarcity of silver, and that in turn was the consequence of opium imports.

Although opium was known in China from a very early time, it had previously been used only as a medicine, and so the amount used was extremely small. Its importance only became evident in modern times, when British East India ship officers privately imported opium into China.

According to British East India Company Records, opium was first brought to China in kangxi 43 (1704). The *Stretham* carried a minuscule quantity from Madras in India. A ban on its import was issued in yongzheng 7 (1729). At that point only several hundred chests of opium were being imported annually. The East India Company assumed a monopoly over the sale of Indian opium in qianlong 22 (1757), and thereafter the trade in opium developed steadily. By qianlong 38 annual imports increased to 1,000 chests. From jiaqing times on, import figures exploded: Annual imports during jiaqing

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were 4,000 chests. At the beginning of daoguang [1821], the annual figure was over 8,000 chests, and by the end of daoguang [1851] it had increased to over 30,000 chests. The annual figure during xianfeng [1851-1862] was as much as 60,000 chests.

Most New World silver imported into China came by way of English merchants, but because of the opium trade the quantity of silver imported declined substantially after the end of the eighteenth century. At the beginning of the nineteenth century, English merchant vessels began to export silver. In jiaqing 7 (1807), the East India Company exported over 2.4 million ounces of silver from China.

Thereafter, there were silver exports almost every year, ranging from as little as several hundred thousand ounces to over a million ounces, and on up to 5 or 6 million ounces. According to a statement during the daoguang period by the Chief of the Honglu Temple, Huang Jueci, prior to daoguang 3, several million ounces of silver were exported annually. From daoguang 3 to 11, the annual figure was 17 or 18 million ounces. In addition, another several tens of millions of ounces were exported through the ports of Fujian, Zhejiang and Shandong, and from Tianjin.[18] Lin Zexu also said that the drain of Chinese silver abroad down through the years was no less than several hundred million.[19]

All these figures were probably extrapolated from the statistics for opium imports. The actual quantity of silver being exported was not that large. For example, during the first decade of the nineteenth century, the British East India Company was exporting silver every year, but imports of silver into China still exceeded that amount because American merchants were bringing Silver Dollars into China on a large scale to buy tea.[20] During the

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[18] *East China Continued Record*, daoguang section, 37. In daoguang 18 Huang Jueci sent up a "Petition Advising the Prohibition of Smoking."

[19] *Xinji Record*, "Draft Proclamation to Foreign Merchants Ordering the Barbarians to Offer Up the Smoke Mud."

[20] The first United States ship to come to China was the *Empress of China*, which arrived in qianlong 49 (1784). The silver that English and Portuguese merchants later on carried away to pay for opium was mostly silver melted down from coins American merchants had imported. For example, during the period 1807-1820, the situation involving the import and export of silver was as follows (*Chronicles of the East India Company*):

Year	Imports	Exports
1807	U.S. $6,128,000	Eng. $3,377,070
	Port. 500,000	
1808		Eng. 4,102,660
1809	U.S. 2,896,500	Eng. 1,564,518
	Spain 150,000	
1810	U.S. 2,679,126	Eng. 1,402,461
1811	U.S. 1,433,500	Eng. 1,158,685
	Eng. 75,000	
	(private merchants)	
1812	U.S. 321,000	(Because of
		Napoleonic Wars
	Eng. 120,000	unable to export
		to England.)
1815	U.S. 1,214,220	
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1815	Dutch 92,000	
	Sweden 107,700	
	Eng. 1,520,400	
1816	Eng. 3,557,088	
1817		Eng. 2,000,000
1818	U.S. 7,330,000	Eng. 3,088,679
		Port. 3,000,000
1819	U.S. 6,297,000	Eng. 861,410
		Other 1,600,000
1820	U.S. 2,023,000	Eng. 495,000
	Eng. 2,754,084	Other 900,000

half century before 1833, it has been estimated that U.S. merchants brought some 60 to 70 million ounces of silver into China.[21] The U.S. merchants later shifted to payment with bills of exchange on London, and no longer employed silver. Only then did silver exports exceed imports. The price of rice fell in parallel with this change.

The attitude toward the opium trade of people at the Chinese court then was mostly based on the bullionist position. What worried them was not that opium was harming the health of the people, but that the trade was causing China to lose silver. In daoguang 16 [1836], the Shaoqing of the Taichang Temple, Xu Naiji, sent up a communication arguing that it would be unsuitable to ban the opium trade. He said that it was only necessary to reduce the trade to the level of barter, so that payment for the drug need not be made in specie.[22]

Imports of opium increased further after the Opium War, but there are no statistics on import and export of silver. Some say that during this period China imported very little silver.[23] Others, however, adduce import figures for particular years, like 1856, when a total of $20.4 million worth of Silver Dollars was imported, and 1857, when $17.5 million came in.[24] This was probably for Shanghai alone, and we cannot tell what the situation was for the entire country. Nevertheless, given the broad circulation of the Mexican Eagle Foreign, we can surmise that year after year a certain number must have been imported. Such must have been the case up until guangxu
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14 [1889]. The year after that, silver imports were 6 million ounces, but for the next three years exports exceeded imports. It was not until guangxu 19 (1893) that imports again exceeded exports, and this continued to be the case right down to the close of the nineteenth century.

QING DYNASTY TABLE OF SILVER IMPORTS (2)[25]

Period	Quantity Imported (In Treasury Ounces)
1871-1880	32,880,000
1888-1890	588,802
1891-1900	96,648,231
1901-1910	(-)87,823,974
Net Imports	42,293,059 ounces (1,577,521 kilograms)

Two seemingly contradictory phenomena appeared during late Qing: First, China's international trade suffered from a long-term surplus of imports, and yet during the last three decades of the nineteenth century there were net imports of silver. Second, during the first decade of the twentieth century, net silver exports came to more than 80 million ounces, and yet the price of rice swiftly rose. When we place these two sets of events within the context of contemporary international and domestic financial circumstances, they will no longer be felt as contradictory.

[21] T. Pitkin, *Statistical View of the Commerce of the U.S.A.*, makes the total to have been more than $90 million. Cf. Otake Bunfu, *Studies in Modern Chinese Economic History*, pp. 67-70, quoting K. S. Latourette, *The History of Early Relations Between the United States and China, 1784-1844*, pp. 27-28. Martin's estimate is $100 million.

[22] Xu Naiji stated: "To block the import of opium to the point of halting commerce would be entirely improper. The more severe the laws are made, the more bribes there will be, and the greater the extortions of officialdom will be. . . . Secret imports will not be blocked, and there will be those who will be unable to memorialize on the efficacy of such a ban because they will hold out hope for an enormous income for themselves. Those who smoke opium are merely society's thieves. We need pay no attention to them. We need only seek to save the nation from an outflow of specie. How can we not hold discussions to make such arrangements?" Quoted in *Qing Dynasty Complete History*.

[23] The British Consul in Shanghai, G. Jamieson, in his *The Silver Position in China*, says that during the several decades before 1893, China imported very little silver.

[24] Morse says that on November 26, 1853, the Great English Company imported $1,544,000; that on three occasions in 1854 it imported a total of $2,120,700; on two occasions in 1856 it brought in a total of $2.8 million; and that on three occasions in 1857 it imported a total of $5,535,500. These figures all refer to Shanghai alone, and are the amounts brought in by the paddle-wheelers of just one firm, the Great English Company. He also states that for the entire year 1856 imports of silver amounted to $20.4 million, and that the figure for 1857 was $17.5 million. Cf. H. B. Morse, *The International Relations of the Chinese Empire*, chapter XVIII, p. 467.

[25] The statistics issued by the Maritime Customs do not fully correspond to those in Table 20 of Yang Duanliu and Hou Houpei, *Chinese International Trade Statistics Over the Past Sixty-five Years*. The unit originally used was the Maritime Customs ounce, which I have here converted into the treasury ounce. The Maritime Customs ounce was 37.66 grams, and the treasury ounce 37.3 grams.

Ever since the middle of the seventeenth century, the price of gold in Europe had been around fifteen times that of silver, with only very few large changes. [These changes were, however, enough to destabilize American attempts at bimetallism as early as the 1790s. EHK] That stable an exchange price had been maintained for two centuries. As a result, a country could use either gold or silver, or a bimetallic gold-silver standard with no great inconvenience. Beginning with the '70s of the nineteenth century, however, the price of silver began to fall. There were two reasons for this fall: First, silver production capacity had increased. Second, demand for silver was falling.

Annual production of silver had been around 10 million ounces since the seventeenth century. During the first four decades of the nineteenth century, annual production had averaged 20 million ounces. Thereafter production figures steadily increased. By the end of the nineteenth century, annual production averaged over 100 million ounces.

LATE QING WORLD SILVER PRODUCTION[26]

Period	Production (In Treasury Ounces)
1851-1860	240,068,027
1861-1870	325,072,872
1871-1880	592,384,114
1881-1890	837,616,200
1891-1900	1,347,731,956
1901-1910	1,522,714,428

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While production of silver was increasing so greatly, the nations of the world were one after the other going over to the gold standard, which greatly diminished the outlets for use of silver. Nations that went onto the gold standard during the last half of the nineteenth century included Portugal, Germany, the United States, Denmark, Sweden, Norway, Finland, Haiti, Argentina, Egypt, Japan and Russia. Nations adopting a gold exchange standard included India. There were still other nations which, though they did not go onto the gold standard, halted free coinage of silver, and turned their silver standard into a crippled one. This was the case with France and the other members of the Latin Monetary Union. All of this threw a large quantity of silver onto the international silver market. Though gold production was also simultaneously undergoing a very large increase, its price rose to a very high level anyway, doubling over the course of three or four decades.

LATE QING WORLD GOLD-SILVER EXCHANGE PRICE TABLE[27]

Period	Number of Ounces of Silver Per Ounce Gold
1851-1860	15.36
1861-1870	15.48
1871-1880	16.92
1881-1890	19.88
1891-1900	30.28
1901-1910	35.99

Of course the Chinese masses and even Chinese merchants were not acquainted with the facts about gold and silver production then, though they must have been aware of the rise in the price of gold on the market. What they normally used were silver and copper cash. Since prices expressed in silver did not rise, a number of people sold off their inherited gold jewelry.

Gold exports came to a value of over 80 million Maritime Customs ounces over the course of some two decades.[28] Most of this amount was exported

[26]Commuted from the figures quoted by Edward Kann in *The Currencies of China*, on the basis of 1 English ounce as 31.1 grams, and 1 treasury ounce being 37.3 grams.

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[27]J. L. Laughlin, *Money, Credit and Prices* (University of Chicago Press, 1931), Vol. I, p. 56.

[28]The data on export of gold from 1888 to 1910 is as follows:

Years	Exports
1888-1890	5,036,000 Maritime Customs Ounces
1891-1900	68,656,007
1901-1910	13,565,469
TOTAL	87,255,476 Maritime Customs Ounces

Of these figures, those for the years before 1890 are based on G.

during the nineteenth century. During the thirteen years from 1888 to 1900, gold valued at 73,692,000 Maritime Customs ounces was exported. This allows us to understand why simultaneously silver imports reached a total of over 70,620,000 Maritime Customs ounces. It was for this reason that prices in general began to rise.

Why then was there large scale export of silver during the last decade of Qing (i.e. the first decade of the twentieth century)? This was in part caused by the long-term excess of imports over exports, but was mainly because of the large

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remittances of indemnities. According to the Treaty of Shimonoseki, an indemnity of over 200 million ounces was owed to Japan, and there was also the Boxer Indemnity of 450 million ounces. Both began to be paid out at this time.

If silver was being exported, why was there so large an increase in domestic prices?[29] It was because Chinese paper money underwent a great increase in issue, and the paper notes had a faster velocity of turnover than silver. Though in principle paper money could be redeemed for cash, in actuality the issuers of a number of private bills suspended payment in specie from time to time. Even the large banks' notes were not fully backed by specie, and the quantity issued was not based on demand. Naturally prices rose.

Though there was a tendency for silver's purchasing power to decline in China, the rate of decline was more moderate than in Europe, especially during the nineteenth century. We need only compare Chinese rice prices with European wheat prices to establish this point.

The price of wheat in Europe rose nine fold from the fifteenth to the nineteenth century, but during the same period, the price of rice in China rose less than six fold. In the sixteenth century, silver had virtually the same purchasing power in terms of Chinese rice as in terms of European wheat. During the first half of the seventeenth century, silver had a higher purchasing power in Europe than in China. The price of Chinese rice was somewhat higher than that of wheat in Europe. In China itself, wheat was cheaper than rice,[30] especially in the north. Judging from the written sources for Ming and Qing, rice was 20 percent more expensive than wheat. The discrepancy was greatest during Song. Hence it was during the fifteenth and the first half of the sixteenth century that orient and occident were closest in the purchasing power of silver. At other times, silver had higher purchasing power in China than in Europe.

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Over the course of 500 years, silver's purchasing power fell to one-fifth of its original level in China, which means that prices expressed in silver increased five fold. This rise in prices was entirely the

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Jamieson's *The Silver Position in China*. Those from 1891 on are based on Yang Duanliu and Hou Houpei, *Chinese International Trade Statistics Over the Past Sixty-five Years*. Both sources say they employed the Maritime Customs ounce as their unit, and naturally they reckoned in terms of prices paid. Therefore we cannot tell the actual amount of gold exported.

[29]The Nankai Economic Research Institute constructed a "Silver Purchasing Power Index" based on prices of imports and exports. Cf. Andron B. Lewis and Chang Lu-luan, *Silver and the Chinese Price Level*. China is a self-sufficient and very large agricultural nation. The prices of goods involved in foreign trade may not necessarily represent the general price level, but in fact there is not much discrepancy between these prices and movements in the price of rice in China. I have here changed the base period to 1871-1880, and have used decade-long units of time to make the following comparisons:

SILVER PURCHASING POWER INDEX TABLE
(1871-1880 = 100)

Period	In Rice (Compiled By This Book's Author)	In Prices of Exports and Imports (By Nankai Economic Research Institute)
1871-1880	100.0	100.0
1881-1890	120.8	101.4
1891-1900	72.3	71.0
1901-1910	44.6	47.6

[30]For the pre-Qing rice-wheat price ratios, cf. chapter 7. The situation during Qing was about the same. In qianlong 26, upper grade rice was 2.5 ounces per picul. Second grade rice was 1.8 ounces. Wheat was only 1 ounce. In qianlong 48, rice was 1.7 ounces per picul, and wheat was 1.4 to 1.5 ounces. In qianlong 56, the price of rice was 2 ounces, and of wheat 1.48 ounces. In daoguang 12, glutinous rice was 1,700 cash, and wheat 1,500. The Chinese rice-wheat exchange price ratio was 1:1.8 during Song, 1:1.26 during Ming, and 1:1.25 during Qing. The average over a thousand years was 1:1.4. During Ming and Qing, wheat generally cost about 80 percent of what

result of the monetary factor, and it was entirely due to use of silver. If China had not used silver, and instead had used gold or copper, prices could not have climbed in this manner. I analyze gold below. I will here confine myself to a brief discussion of copper.

TABLE OF COMPARATIVE PURCHASING POWER OF CHINESE AND FOREIGN SILVER OVER THE PAST FIVE HUNDRED YEARS

Period	Amt of Rice 1 Kg of Chinese Silver Could Buy (Hectoliters)	Amt of Wheat 1 Kg of European[31] Silver Could Buy (Hectoliters)
15thc	75.11 (100.00)	57.36 (100.00)
16thc	46.44 (61.83)	45.67 (79.62)
lst ½ 17thc	31.07 (41.37)	36.53 (63.68)
last half	31.78 (42.31)	28.13 (49.04)
1st ½ 18thc	27.38 (36.45)	22.65 (39.49)
last half	15.92 (21.19)	13.70 (23.88)
1st ½ 19thc	12.30 (16.38)	6.76 (11.78)
last half[32]	13.87 (18.46)	6.15 (10.72)

The price of copper rose seven fold over five centuries. In hongwu 1 [1368], 100 catties of copper were worth 5 ounces of silver. In guangxu 34 [1908], they were worth 35 ounces. Hence over the course of five centuries, rice and copper both climbed in price to almost the same extent. If we use copper as our measure of value, then there were only temporary or local oscillations in the cost of rice. Viewed over the long term, the copper price of rice remained virtually unchanged, and even fell to a certain degree.

The growing importance of foreign relations caused the price of Chinese money vis-à-vis foreign prices to gradually assume more importance. When foreign countries were still using silver, the exchange rate of Chinese money for foreign would have been stable, with oscillations not exceeding the cost of transportation of silver between China and other countries. After foreign countries had changed over to a gold standard, the exchange rate of Chinese money with foreign moneys would have changed as changes occurred in the gold-silver exchange price ratio. Though the exchange rate of Chinese money was influenced by the international balance of bayments, this influence was relatively small. It was mostly influenced by changes in the gold-silver exchange price.

During the two centuries before tongzhi 10 [1871], the gold-silver exchange price was at its most stable, averaging 1:15.41. During the decade before tongzhi 10, the average silver price of gold was 15 for 483. One Chinese Customs ounce of silver was equal to 6 shillings 7 pence of English gold. If we take this as our base figure, then we can discern the decline of Chinese money against foreign currencies during late Qing times, and the relationship of this decline to domestic prices. This relationship was not a very close one. Although the long run tendency was for the two to converge, they did not suffer corresponding rises and falls year by year. We can tell from this that changes in Chinese domestic prices were not influenced by the exchange rate, but rather that the exchange rate and goods prices were influenced by the same factor, that is, by the fall in the price of silver.[33]

The fall in silver's price during the Qing Dynasty had a degree of influence on the corruption of the lower levels of administration. Qing Dynasty functionaries were paid in silver. Their real incomes were slightly higher than those of their counterparts during Ming at the time of the Great Ming Treasure Certificate inflation, but were far inferior to salaries at the beginning of Ming. They were much closer to the late Ming level. Income was calculated on an an-

rice did.

[31]The European wheat prices are based on commutation of Landrin and Roswag's figures. For the original figures, cf. Michael G.

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Mulhall's *The Dictionary of Statistics*. The original figures are expressed in terms of how many English pounds of wheat 1 English ounce of silver can buy. The source of this material is not clear. It probably deals with the entirety of Europe. I use the figure of 176 pounds of wheat to the hectoliter in converting these figures.

[33]The exchange price for the decade prior to tongzhi 10 (1851-1860) in the following table is calculated from the average exchange price, based on equating 1 English ounce of gold with £3 17 shillings and 10 pence. I take the average gold-silver exchange price for that decade as 1:15.41, and 1 Maritime Customs ounce (37.66 grams) to derive the value of English money. The exchange prices for guangxu 17 (1891) to xuantong 3 (1911) are based on H. F. Bell's average figures. Cf. Miyashita Tadao, *Concerning Chinese Currency*, p. 745-746. These figures differ from the Maritime Customs figures quoted by other works (e.g. Chen Zhongmin, *Gazetteer of Contemporary Chinese Trade*), but the figures in this table are mainly for use as a reflection of trends in silver's purchasing power abroad.

nual basis. Generally speaking, a first rank official's annual salary was 180 ounces of silver and salary rice of 180 *hu* or 90 piculs. A ninth ranker got some 33 ounces of silver and a bit over 16 piculs of rice. The high ranking official's annual salary was less than what a Song official received in a month.

LATE QING SILVER OUNCE PRICE VIS-A-VIS DOMESTIC AND FOREIGN PRICES

Period	Exchange Rate of Silver Against English Money (as percent of base)	Purchasing Power In Rice Of 1 Ounce of Silver (as percent of base)
1851-1860	100	100
1891(gx17)	68	98
1892	56	114
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1893	47	71
1894	40	87
1895	41	74
1896	44	55
1897	45	59
1898	39	50
1899	40	55
1900	42	72
1901	42	71
1902	35	37
1903	36	44
1904	38	45
1905	41	64
1906	45	57
1907	42	33
1908	36	35
1909	35	46
1910	36	34
1911	36	31

Beginning in qianlong 2 [1737], official salaries were doubled, but as the purchasing power of silver fell during the qianlong era, the real income of officials decreased still more. Silver's purchasing power had fallen to less than one-third the level of the kangxi era [c. 1700] by jiaqing times [c. 1800], while the way of life of the officials had become still more profligate. One reason for this fall in purchasing power was the increased importation of foreign coins. Another reason was that personal avarice could promote the spread of wasteful expenditures. As the Chinese proverb put it, "wrongs come, and they go." As a consequence, later on officials' "nourishing of virtue allowances"

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came to be larger than their formal salaries. And yet, in the view of some functionaries, this nourishing of virtue allowance was not a just price for their virtue, and so after selling their virtue to the Qing government, they were not averse to selling it again on the black market for whatever price the free market would bear. They thereby formed themselves into a band of villains.

The lives of people in general were also influenced by the fall in the price of silver, because their silver-denominated incomes did not change. Painters, for example, were so influenced. When Zheng Banqiao sold a painting at the beginning of the qianlong period, a middle-sized one went for 4 ounces.[34] During the daoguang period, Dai Chunshi also sold paintings for 4 ounces apiece.[35]

The purchasing power of 4 ounces of silver was not, however, as great during the daoguang period as it had been in the early years of qianlong. If we consider the wages for carving book printing blocks, at the end of Ming, to carve 100 characters cost 0.03 ounce of silver.[36] At the beginning of the guangxu period of Qing, it only cost 50 or 60 cash to both write out and carve 100 characters.[37] This also amounted to only a little more than 0.03 ounce of silver. At the end of Ming, 0.03 ounce of silver could buy 0.02 hectoliters of rice. At the beginning of the guangxu period, the same sum could only buy 0.014 hectoliters of rice.

The livelihoods of other laboring people were also similarly affected by the fall in price of silver. Late Qing wages were mostly expressed in terms of foreign silver coins. The fall in the price of silver caused workers' real incomes to be reduced. For example, in Shanghai a male textile worker's wage was 25 cents per day, and a female worker's wage was 22 cents. A plasterer and a carpenter got 40

[34]Zheng Banqiao, "Remuneration for Selling a Painting" (qianlong 24): "Large ones are 6 ounces; middling ones are 4 ounces; small ones are 2 ounces. A pair of joined scrolls is 1 ounce. A fan with handle is 0.5 ounce." (*Zheng Banqiao's Collected Works*, Zhonghua shuju edition, p. 193.)

[35]Dai Xi, *Collected Words on Ancient Coins*, 2, "Jingkang Circulating Treasure": "This morning a customer brought this coin and used it as the equivalent of 96 grains of white metal to pay me for a painting. I subsequently exchanged it."

[36]Xu Kang, *Reflection of a Dream of the Past*.

[37]Ye Dehui, *Pure Words from the Book Grove*, 7, "The Cheapness of Wages for Carving Books During Ming."

cents a day. A shipwright was considered a person of high technical skill, but only got betweeen 60 and 85 cents per day.[38] Shanghai had the highest wages in China. Wages were lower in Tianjin and Hankou.

All wages calculated by the day were probably short-term, and their holders could not expect to work thirty days per month. If we examine the wages paid by the Xiechang Match Company, we find that a male worker got between $4 and $6 per month, and received his meals from the company. A female worker was paid by the day, at the rate of 0.05 ounce per day, with meals provided by the worker herself. This would only come to $1.50 per month, which could only buy 0.2 or 0.3 hectoliters of rice. This was not enough to sustain life for a single person. Even $6 per month could only purchase 1 hectoliter of rice during the xuantong period.

Such a wage was not only not up to the level of an economically developed nation, it was not even as good as those earned in ancient China. If copper cash were used as the instrument for paying a wage, then the harm was still greater, because the lightening of the copper cash coins had caused their purchasing power to be still more severely affected. Officials could gain extra income through corruption. Laboring people no longer even had any way to preserve their own lives.

[38] *Complete Book of the Chinese Economy*, "Hiring Price of Late Qing Artisans and Methods For Their Payment."

5. *Gold's Purchasing Power*

I have two aims in investigating the price of gold in China. The first is to look at the relationship between gold prices in China and Europe, and to see how these two originally isolated markets gradually came together, and how the prices in these two places finally converged. The second is to look at the relationship between changes in the price of gold and changes in the price of silver, as well as changes in prices of goods, and to see if adoption by China of a gold standard would have caused prices to be more stable than they were under a silver standard.

Gold had never been formally monetized in China, but it had not been an ordinary commodity either. At various times it had performed different monetary functions, and it had retained its role as a store of value and as an instrument for international payments in all ages.

The fact that gold had not been minted into coins in China gives still more significance to ancient records on gold's purchasing power. The gold-silver exchange price ratio in China was practically always a market price, i. e. the ratio between 1 ounce of pure gold

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and 1 ounce of pure silver. Exchange price ratios in foreign countries were, however, to a great extent legally fixed ones, and such ratios lose their significance because of changes in the fineness of the coins made from the two metals. There were times when, in the course of a single year, gold and silver coins of a variety of finenesses would be minted, and these would produce a number of different legally fixed gold-silver exchange price ratios.

The price of gold in China was consistently low, and by low I mean lower than in foreign countries. Except for ancient Egypt, which is said to have priced silver higher than gold,[1] and Babylon, which in 2,000 B.C. had a ratio of 1:6,[2] ever since the fifth century B.C. (corresponding to China's Warring States epoch), an ounce of gold had exchanged

[1] A. R. Burns, *Money and Monetary Policy in Early Times*, p. 474. An ancient tomb dated to 3,000 B.C. was discovered in the neighborhood of the village of Dendra, Greece in 1926. It contained a silver plated gold bowl. Agatharcides said in the second century B.C. that 3,000 years earlier an ounce of silver could exchange for 10 ounces of gold. Edward Kann, quoting a Chamber of Commerce report by Samuel Montagu. Cf. Miyashita Tadao, *Concerning Chinese Currency*, p. 379. It is said that this translation is based on the third revised edition of Kann's book, but the translation appeared before publication of the original.

[2] A. R. Burns, *Money and Monetary Policy in Early Times*.

for 13 ounces of silver among the Western nations. At times the ratio fell to 1:11 or 1:12. The low point was reached during Roman times, when it fell to 1:9. Thereafter it rose again. In China, however, it had been 1:5 or 1:6 ever since Han times.

Actually, the real price of Chinese silver in ancient times must have been even higher than the prices recorded in the histories because the ancients had not developed good techniques for analyzing metal, and the fineness of silver was generally very low. For example, surviving Han Dynasty silver ingots are usually corroded. Evidently they must contain quite a lot of copper. As a consequence, the very pure Vermilion-silver had an especially high price. At the time of Wang Mang, the price of gold against this Vermilion-silver was only 3:16. The term Vermilion-silver [Chinese *Zhutiyin*] refers to silver produced at Mount Zhuti in Jianweixian, Sichuan, which probably was of better than average fineness.[3] As a consequence, for the Han Dynasty we ought at least to use this Vermilion-silver as our standard for establishing the gold-silver exchange price ratio. It is possible that even Vermilion-silver was not pure silver, whereas ancient gold was of very good fineness.

At about the time of Song's move to the south, unusual circumstances pushed the ratio up to 1:13 or 1:14, but before long it fell back again. At the beginning of Yuan, it was 1:7.5, and later rose to 1:10. In frontier areas like Yunnan, it might go as low as 1:5 or 1:6. Because use of silver as money during Ming increased demand for the metal, and because a great deal of silver had been exported during Yuan times, silver enjoyed a very high price in terms of gold, the ratio frequently being 1:4 or 1:5. It was not until jiajing and wanli times that the price of gold again became high.[4] If we use the weighted average method for calculating the Ming Dynasty average gold-silver exchange price, we find that it was always within the limits of a 1:10 ratio, whereas in Europe since the establishment of the Roman Empire, the ratio had only rarely fallen below 1:10.[5]

MING DYNASTY GOLD-SILVER EXCHANGE PRICE RATIOS (2)[6]

Period	Number of Ounces Silver Per Ounce Gold
last half 14thc	5
first half 15thc	5
last half 15thc	6
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first half 16thc	7
last half 16thc	7.5
first half 17thc	10
last half 17thc	10

China and Europe had enjoyed either direct or indirect commercial intercourse with each other ever since ancient times. Though Ming had a closed door policy, foreign relations were not entirely broken off. Both the land and sea routes remained open. Given the fact that the gold-silver ratios of both sides had converged during Song and Yuan times, why did the gap between them grow larger again thereafter? Why did their prices of gold not average out?

First, the scale of trade was not large. Second, during ancient times, trade in luxury items like incense and silks was more profitable than exchange involving gold and silver. The discrepancy between the Chinese and foreign gold prices was only 100 percent, and the profit margin for incense and silks was at least that. Third, in ancient times, trade between China and Europe was not direct, but rather was in the hands of the Arabs and the people of India. The ratio in Arabia and India was not drawn to the European level, and so of course China's ratio could not have been influenced by Europe's. Fourth, for one country's ratio to be aable to influence another country's, it is necessary for the quantities involved to be large, and for there to be unlimited free movement of specie between the two. In ancient times, however, neither Europe nor China employed much gold or silver.

[3]The Ming writer Cao Xuequan's *Shu Broad Record*, 67, p. 4, quotes *Eight Department Record in the South*: "Mount Zhuti is in Jianwei, in the old state of Shu. Of old it had several places where silver was mined. Zhuge Liang wrote, 'Even if you adopt the silver of Zhuti, it will not be enough to let you feed yourself,' and there is Han Yu's ode, 'I have a double drinking vessel; Its silver is from Zhuti.' These allude to Mount Zhuti's silver. The *Han Record* says that 8 ounces of Zhuti silver make one *liu*, worth 1,580 cash. A *liu* of other silver was worth 1,000."

[4]For the Ming Dynasty gold-silver exchange price ratio, cf. subsection 7.2.4 above.

[5]The European prices are drawn from J. L. Laughlin, *Money, Credit and Prices*, p. 95.

[6]The calculation of average gold prices in the table is based on computing gold price averages over 50 years. For any year lacking records of gold prices, I have used the previous year's or the nearest year's gold price. Cf. the Ming Dynasty gold-silver exchange price ratios given in subsection 7.2.4 above.

The ratio in Europe during the fifteenth century was 1:11,[7] India's ranged from 1:6 to 1:8, and China's was around 1:6. With the greater development of sea transportation in modern times, the situation changed. In particular, once the Europeans had gotten hold of the enormous quantities of gold and silver produced in the New World, the nations of the Orient gradually lost the ability to maintain the separate status of their gold-silver exchange price ratios.

During the last half of the seventeenth century, an ounce of gold cost 15 ounces of silver in Europe, but still only 10 in China. Once the European merchants who had come to China had taken care of acquiring the goods they had come for, they would use the remainder of their money for Chinese gold jewelry, which made an excellent investment. The ship sent by the British East India Company to China in chongzhen 10 [1637], for example, carried two kinds of gold in its return cargo. The first was 4,330 silver dollars worth of broken pieces of gold, and the other consisted of 14 lengths of gold chain.

During the first century or so of Qing, there were few European merchant vessels which came to China without buying gold there, particularly with the private funds of the ships' officers. The East India Company regulated the goods that ships officers might carry. They could only carry out from England silver, coral and amber.

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They were only permitted to bring gold and musk back from China because the space occupied by these articles was not great.

Chinese gold then was mostly formed into a horse-hoof shape. There were also gold strips weighing around 10 ounces, and with fineness ranging from 75 to 100 percent. The weight and purity of the gold and silver involved were measured for each transaction, which was rather troublesome, but where there is profit, people are happy to put up with such inconvenience. In kangxi 43 (1704), the boss of the Sitelie saimu House spent 18,800 ounces of silver to buy 2,000 ounces of pure gold. The silver originally only cost £6,250. The gold he bought with it, if brought back to London, would have been worth £9,350, a profit of 50 percent.

There was additional profit to be made, because oriental gold was mostly alloyed with silver, and when purchased in the East, only the value of the pure gold it contained was counted. The silver content was entirely neglected. Therefore, the lower the purity of the gold, the cheaper it was for the purchaser.

Though we cannot tell just how much gold was exported in this fashion, I surmise it could not have been more than 10 percent of the total.[8] This is because from begininng to end the surplus funds exchanged for gold by each ship after the goods had all been purchased had not all been brought to China to buy gold. One reason for this was that general trade was more profitable than buying gold. A second reason was that Japanese gold was then even cheaper than Chinese gold. If they wanted to buy gold, they could go to Japan to do so.[9]

The price of gold began to rise in Canton during yongzheng 10 (1732). That first year it rose 5 or 6 percent. The second year it climbed to an exchange price ratio of 1:11.4 or 1:11.5 By qianlong 3 (1738), it had risen to 1:11.7. Two years after that it was 1:12.5. By qianlong 33 [1768], the ratio in Canton was approaching the European level of around 1:15. In qianlong 40 [1775], the Chinese price broke the 1:16 barrier. Now European merchants would lose money buying gold in Canton, and so they began to import gold instead. For a time in Canton 1 ounce of gold could buy 18 ounces of silver, and this at a time when the price in Europe was still 15 ounces or less.

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[7]According to a table on p. 40 of W. A. Shaw, *The History of Currency 1252-1894*, the average ratio in Italy, France, England and Germany during the fifteenth century was 1:10.93. This does not include the figure for Spain, because its ratio was influenced by the Arab one. In addition, G. F. Warren and F. A. Pearson's *Gold and Prices*, p. 260, quotes Laughlin, who gives a general figure for the ratio between the years 527 and 1453 of 1:15.

[8]There are records of the amount of gold purchased by ships' officers of the East India Company in Canton during the first three decades of the eighteenth century. The total only comes to 21,759.94 ounces. Cf. *Chronicles of East India Company*.

[9]It was said then that gold and silver were virtually the same price in Japan. The Portuguese seafarer Mendez Pinto was driven by the wind to Japan in 1545, and he probably reported this news to the Portuguese merchants in Ningbo. A year or two later, they sent nine vessels to Japan to brave the risk, but only one vessel returned. This ship's cargo had, however, been entirely exchanged for gold. This led the Europeans to push open the door to Japan. Within fifty years two-thirds of Japan's gold and silver supply had been carried away by the Portuguese. Cf. A. Del Mar, *Money and Civilization*, p. 379. By 1579, the Spanish and Portuguese in Macao and Manila had received 2,000 chests of gold and silver worth several tens of millions of pounds, the great majority of which had come from Japan. Cf. Henri Martin,

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Histoire de France (Paris, 1862). From 1601 to 1708, some 6,190,000 ounces of gold were exported from Japan. Cf. Honshō Eijirō and Kuroshō Inei, *Japanese Economic History*.

By qianlong 45 [1780], however, excess importation of gold caused a fall in its price. Two years later, the authorities in Zhejiang confiscated 4,748 ounces of gold, but sent to Beijing 73,594 ounces of silver, an exchange price ratio of 1:15.5.[10] This was also higher than the European ratio, which was then 1:14.42. However, as the links between China and Europe proliferated, the gold prices of the two gradually converged. As a consequence, after the qianlong period, Canton's foreign merchants no longer made large gold purchases.

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EIGHTEENTH CENTURY SINO-FOREIGN GOLD-SILVER EXCHANGE PRICE RATIOS

Period	Chinese Gold-Silver Ratio (Oz Silver/Oz Gold)[11]	European Gold-Silver Ratio (Oz Silver/Oz Gold)[12]
1701-1710	10.0	15.27
1711-1720	10.0	15.15
1721-1730	10.25	15.09
1731-1740	10.90	15.10
1741-1750	11.77	14.93
1751-1760	14.9	14.55
1761-1770	15.0	14.81
1771-1780	15.47	14.64
1781-1790	15.23	14.76
1791-1800	15.4	15.42

Our figures, with a few exceptions, are all based on Canton prices, but because of purchases there by foreign merchants, the Canton gold price was often higher than in other places in the interior. In qianlong 1 (1736), for example, the ratio in Canton was above 1:11, while the Beijing government was estimating it at between 1:9 and 1:10.[13] The gold being traded in Canton was not, however, all from local supplies. Some of it had been bought up in several places, like Suzhou and Nanjing. Some of it had even come from as far as Shaanxi.[14] Therefore, as the scale of the trade increased, or as communications became better developed, the discrepancies between gold prices in various localities could not remain very large, just as had happened to Chinese and European gold prices in general.

Naturally it was frequently the case that there were short-term local divergences in the price of gold between China and Europe. For example, at the time of the Taiping army's attack on Nanjing (1853), the ratio in Shanghai climbed to 1:18.5.[15] Naturally, this had nothing to do with the price of gold in Europe. Aside from such localized perturbations, China's gold price often remained lower than Europe's. In guangxu 2 (1876), for example, the ratio in Europe averaged 1:17.75, while China's was 1:16.6.[16] Since the foreign countries employed gold and China used silver, the demand patterns on the two sides were mirror images of each other, and such discrepancies were hard to avoid.

Generally speaking, during the nineteenth century and thereafter, the Chinese gold price was for the most part close to the European price. Especially after the Opium War, its movements tracked those on the London market. For example, during the last half of the nineteenth century, the European

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silver price fell substantially, and the gold price rose in a large way. Chinese gold immediately started to

[10] *East China Continued Record.*

[11] The Chinese gold prices are not true ten-year averages. At times I could only find prices for one or two years within a particular decade. The prices for the first two decades are approximate figures. For later decades, I have averaged actual prices for each year. When constructing the averages, if there was no price for a particular year, then I used the price for the preceding year.

[12] The European gold prices are the averages for each decade, based on J. L. Laughlin, *Money, Credit and Prices.*

[13] The work *Nine Ministers' Advice on Fixing Goods Prices* (compiled in qianlong 1), 1, states: "Top grade red gold per ounce was 9.15 ounces of silver. Now it is fixed at 10 ounces of silver. Second grade red gold per ounce was 8.85 ounces of silver. Now it is fixed at 9 ounces."

[14] Report of December 14, 1768 by the Canton Representative to the London General Office Manager, as recorded in *Chronicles of East India Company.*

[15] During the three years from 1850 to 1852, the price of gold in Shanghai was $21.68 per Canton ounce. In February 1853, the month before Nanjing fell, it rose to $25.70. By the end of 1853, it was $17.47, and by the end of 1855, it had fallen to $14.69. Cf. H. B. Morse, *The International Relations of the Chinese Empire*, chapter XVIII, p. 467. During 1853, the European ratio was 1:15.32.

[16] *Political Documents of Duke Shen Wensu* (i.e. Shen Baozhen), 6, guangxu 2, intercalated 5th month, 7th day, "Memorial on Receiving the Repeated Accusation Against Tang Dingtao": ". . . he brought back from Taiwan 12,000 ounces of red gold . . . valued at 200,000 ounces of silver."

flow abroad, and as a consequence the Chinese and foreign prices reconverged.

Our main object in studying gold prices is to see what was happening to gold's purchasing power, and to see how its price compared with prices of ordinary commodities. There are not many surviving records of goods prices in gold and silver which have survived from antiquity. Even silver's monetary role only began to increase from Five Dynasties times on.

Records of gold and silver prices of rice gradually become more numerous during Song times. Though copper cash and Exchange and Account Notes were the main instruments of circulation, they were already being commuted into gold and silver prices. Material on prices is especially scarce for late Song, and there are not many price records for Yuan and early Ming either. We can only assemble relatively reliable statistics for gold and silver's purchasing power beginning with the xuande period [1426-36].

During the five centuries of Ming and Qing, silver was actually used as money, and so prices in silver were a bit more stable than prices under the paper money system, or even than copper cash prices. Viewed over the long run, however, prices calculated in silver were really not at all stable. If we take the cost of rice as our standard, it rose more than 50 percent per century.

If, beginning with the Ming, China had used gold instead of silver, then prices would have been more stable, or at least the price of rice would have been more stable. The price rise per century would have been less than 20 percent. The average price during the nineteenth century would have been only twice the level of the fifteenth century.

If we take the last half of the tenth century as our base period, and stop with the first half of the twentieth century, moving in fifty-year steps, then silver's purchasing power over the course of this millennium fell to one-thirty-eighth of its original level. This is a loss of over 94 percent.

Gold, however, preserved some 40 percent of its original purchasing power. In terms of the difference between the highest and lowest prices, rice prices calculated in silver ranged from 10 grams to 257 grams per hectoliter, a difference of more than twenty-fold. However, the gold price of rice ranged from 1.68 grams to 6 grams per hectoliter, a difference of only four fold.[17]

PURCHASING POWER OF GOLD AND SILVER COMPARED OVER ONE MILLENIUM

Period	Amt Rice 1 Kg Gold Buys (in hctltrs) (% base in parens)	Amt Rice 1 KgSilverBuys (in hctltrs) (% bse parens)
last ½ 10thc	444.64(247)	71.11(1,828)
first ½ 11thc	319.16(178)	50.97(1,323)
last half	263.16(146)	32.89(845)
first ½ 12thc	149.78(83)	11.47(308)
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last ½ 12thc	262.20(146)	21.85(562)
first ½ 13thc	242.40(135)	20.20(514)
last half	242.42(135)	30.30(779)
first ½ 14thc	223.41(124)	22.34(574)
last half	388.58(212)	58.17(1,495)
first ½ 15thc	594.09(330)	92.25(2,371)
last half	354.73(197)	61.16(1,572)
first ½ 16thc	331.78(185)	49.52(1,273)
last half	318.71(177)	43.48(1,118)
first ½ 17thc	262.54(146)	31.07(796)
last half	317.87(177)	31.78(817)
first ½ 18thc	290.70(161)	27.38(704)
last half	246.91(137)	15.92(409)
first ½ 19thc[18]	192.31(107)	12.30(316)
last half	261.09(145)	13.87(356)
first ½ 20thc	179.71(100)	3.89(100)

Not only were Chinese prices calculated in gold more stable than those calculated in silver, they were also more stable than the European prices calculated in gold. We need only compare Chinese rice prices with English and French wheat prices to realize the truth of this statement.

[17]The figures in the following table for the period before the fifteenth century are only based on a small number of what appear to be normal rice prices. The gold-silver exchange price ratio for the first half of the thirteenth century is calculated at 1:12. Rice prices are more numerous from the fifteenth century on, but even for the twentieth century we are unable to achieve a representative statistical sample. Materials for this book were collected for the period ending May 24, Republic 38 [1949]. For other years the figures are incomplete because the authorities frequently banned the recording of market prices. Figures for the nineteenth century and earlier are nationwide in scope. That is, they comprise prices from various localities. The figures for the twentieth century, especially those for the Republican era, are all of Shanghai prices, and these must have been somewhat higher than prices in the nation at large. Please consult the text of this subsection for further discussion of this point.

[18]The nineteenth century gold-silver exchange price ratios are based on the averages for Europe. Cf. J. L. Laughlin, *Money, Credit and Prices*.

During the century and a half comprised by the fifteenth and first half of the sixteenth century, the gold price of rice in China was higher than the price of wheat in England and France. This was because gold was hard to obtain in Europe then, and so its price had increased. During the last half of the sixteenth century, there was a lot going on inside and outside China to hinder production and cause shortages of goods, thereby lowering gold's purchasing power, but in contemporary England and France, the stimulus of gold and silver from the New World greatly lowered gold's purchasing power, and so during the first half of the seventeenth century, prices were higher than in China.

COMPARISON OF CHINESE WITH FOREIGN GRAIN PRICES OVER THE LAST FIVE CENTURIES

Period	Chinese Rice Price (Grams Gold/Hctltr)	English Wheat Price[19] (GmsGold/	French Wht Prc (GmsGold/ Hctltr)
1st ½15thc	1.68(100.00)	0.87(100.00)	1.60(100.00)
last half	2.82(167.86)	0.76 (87.35)	0.80 (50.38)
1st ½16thc	3.01(179.17)	1.41(161.84)	1.56 (97.50)
last half	3.11(185.12)	2.68(308.50)	4.23(264.50)
1st ½17thc	3.80(226.19)	5.08(583.63)	4.51(282.15)
last half	3.14(186.90)	5.14(590.71)	5.47(342.10)
1st ½18thc	3.44(204.76)	4.32(496.55)	3.95(246.95)
last half	4.05(241.07)	5.98(687.71)	4.21(262.54)
1st ½19thc	5.20(309.52)	8.42(968.27)	5.92(370.15)
last half	3.83(227.97)	5.28(606.90)	
			6.19(387.22)[20]

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From the latter half of the seventeenth century to the first half of the nineteenth century, Chinese prices gradually rose, while in England and France during the first half of the eighteenth century prices fell back. During the ensuing half century, however, the Napoleonic Wars [actually, the Seven Years War, the War of the American Revolution and the wars of the pre-Napoleonic first decade of the French Revolution. EHK] again stimulated a rise in English prices. The rise was still more violent during the first half of the nineteenth century. Prices also rose in France during this time. During the last half of the nineteenth century prices were relatively stable in all three countries. England had the expected post-war fall in prices. The price fall in China was because of the rise in the price of gold, even though China used silver. The price of rice denominated in silver was also falling then, but the extent of the decline was less drastic.

During the 500 years from the fifteenth through the nineteenth century, at least in terms of wheat and rice, prices in China only rose by a little more than 100 percent. In England they rose more than six-fold, and they rose three- or four-fold in France. If we use fifty-year steps, then the ratio between the lowest and highest fifty-year average rice price in China was 100 to 309; in England that ratio for wheat was 100 to 1,100; in France it was 100 to 774.

If, for the last 500 odd years, China had circulated gold as money, then its money's purchasing power might have been even more stable than the above calculations indicate, since under such circumstances, the demand for gold would have been greater than the increase in its supply. Though this demand would have stimulated gold mining, China's gold mines seem not to have been rich ones, and so gold's purchasing power would had to have remained high.

There are two explanations for the unusual stability of gold's purchasing power in China. Naturally the most important explanation is that there was no sudden change in the ability to produce gold, and its total quantity was not greatly changed as a consequence. English and French gold mining techniques progressed, and these countries also obtained gold from the Americas. Later they elaborated mercantilist ideas, and strenuous efforts were made to absorb gold and silver from other nations. Naturally, prices shot up more severely.

Over the course of a thousand years, the supply of gold in China never underwent sudden increases or decreases. Though gold had been imported down through the centuries prior to Qing, the quantities involved could not have been very great. Nor could

[19]The English and French wheat prices are based on Sir Morton Eden and Marquis Garnier's figures in *The Dictionary of Statistics*, p. 468. One ounce of gold is equated with £3 17 shillings 10 pence. The English and French prices are only given up to 1889 in the original table. I have here supplemented them with the figures for 1890 to 1900 in the article on "Prices" in the fourteenth edition of the *Encyclopedia Britannica*. English wheat prices fell drastically during the last decade of the nineteenth century. The situation was probably the same in France. If we incorporate these figures for the last eleven years of the century into the average, then the figures for the last half of the nineteenth century were probably lower than for the first half of the century.

[20]Only for 1851-1889.

the gold exports of early Qing have amounted to much. Adjustments in the gold-silver exchange price ratio were, for the most part, accomplished by means of falls in the price of silver. Nor was the quantity of gold produced in China down through the centuries

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very large. In 1907 China only produced 6,000 or 7,000 kilograms of gold. This was only 1 percent of world gold production.[21] The next most important reason was that China has a very large land area, and so on the average price peturbations were of small extent. The surface areas of England and France were each equivalent to that of a Chinese province. Average prices were greatly influenced by local weather, and so naturally the peturbations of the price level were also large.

[21]The U.S. Mint estimated China's 1907 gold production at 6,771 kilograms of pure gold. In that year world

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gold production was 617,784 kilograms. Hence China's was 1.096 percent of world production. Cf. Prof. Dr. Karl Helferich, *Das Geld* (Leipzig, 1921, fifth printing), p.115.

6. The Quantity of Money During Late Qing

As prices rose during late Qing, the quantity of money also increased. An extraordinarily large number of kinds of money existed in late Qing China. These moneys may be roughly classified into the three categories of silver coins, copper coins and paper money. Each of these categories in turn embraced a number of different kinds of money.

Silver coins included silver dollars, silver dimes and silver ingots. Silver dollars included foreign and Chinese silver dollars. Copper coins comprised copper dollars and copper cash. Paper money not only included foreign and Chinese paper notes, but also bills denominated in silver ounces and silver dollars, copper dollar and copper cash bills. All of this made for extreme complexity.

There are no exact statistics establishing the sum total of all these forms of money. We can only make a general estimate based on fragmentary figures and estimates. In the course of doing so, we may be able to learn something about the circulation of money in China during the century after the Opium War. This was a semi-feudal, semi-colonial form of monetary circulation.

The most important silver coin was the silver dollar. There are differing estimates of the quantity of silver dollars, with wide discrepancies among them, the estimates ranging from $10 or $20 million[1] to $1.1 or $1.2 billion.[2] This gives us nothing to go on, and we can only attempt to make an estimate of our own.

The majority of silver dollars were foreign ones. This is accepted as a fact by everyone.[3] Hence I will first make an estimate of the number of foreign silver dollars. I will approach the problem of making this estimate from two directions. First, I will estimate the quantity exported and the quantity which were imported into China on the basis of the quantity minted of each type of coin. Second, I will make a composite estimate of the quantity of the different kinds of silver dollars which were imported on the basis of the routes by which foreign silver dollars flowed in.

There were no more than five major kinds of foreign silver dollars circulating in China during late Qing: These were the Spanish Silver Dollar, the Mexican Eagle, the Stick Foreign, Vietnamese coins (the French Trade Dollar) and the Japanese Dragon Foreign. There are no exact statistics on the number of Spanish Silver Dollars minted. The numbers for them were lumped in with those for smaller silver coins. From 1537 to 1821, a total of $2.082 billion worth were minted.[4]

If large silver dollars constituted 80 percent of the total, then they would have amounted to around $1.6 billion. The vast majority of these were used for export. The places which were the destinations for these exports included North and South America. If one-fourth of the total

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[1]Liang Qichao's estimate was only 10 or 20 *zhao*. No doubt he was using the word *zhao* to mean one million. Ten or 20 *zhao* would be 10 or 20 million. Cf. Liang Qichao, "After Reading Various Memorials of the Board of Revenue and Finance and the Monetary System Regulations" (xuantong 2).

[2]Zhang Gongquan, in his essay "On the English Dragon Foreign's Vicissitudes and the English Foreign's Natural Decrease," *Banking Weekly* (Shanghai, July, Republic 8 [1919]), says that in xuantong 2 [1909], the Board of Revenue and Finance investigated and found the quantity of foreign silver dollars to be $1.1 billion.

[3]Liang Qichao states: "The quantity of foreign coins must be more than several times the quantity of coins which the provinces used to mint." Cf. note 1 above.

[4]*Report on the Introduction of the Gold-Exchange Standard into China, the Philippine Islands, Panama, and other Silver-Using Countries* (Washington: Government Printing Office, 1904), p. 491.

flowed into China, that would have amounted to $400 million. This would be the number which came into China prior to the Opium War. The large quantity of opium being imported at about the time of that war had to be paid for by China with foreign silver dollars, and most of these were Spanish Silver Dollars. If we estimate the amount used for this purpose at $200 million, then by late Qing some $200 million would have remained. Most of these were in circulation along the middle reaches of the Yangtze, especially in Anhui, but a large proportion of such coins were placed into collections or melted down.

The number of Mexican Eagles of various face values which were minted between 1821 and 1903 totalled $1.466 billion, of which large silver dollar Eagles must have constituted more than 80 percent, since just during the three decades from 1874 to 1903, $674 million worth of large silver dollars were minted. The number of Eagles exported probably constituted more than 80 percent of the total number minted.[5] This would have been approximately $960 million. Not less than $300 of this amount would have flowed into China, since during the latter part of the nineteenth century, some countries which had been using foreign silver dollars began to mint such coins themselves, or even went over to the gold standard. Hence the quantity moving into China would have constituted a larger proportion of the whole. The Eagle's sphere of circulation was the lower Yangtze, including Jiangsu, Zhejiang, but also Hunan and Hubei, Fujian and Anhui, but was mainly in the first two provinces, with Shanghai as its main base.

Up until 1903, a total of $150 million worth of Stick Foreign were minted, and thereafter they continued to be produced. I estimate that at least $80 million worth were imported into China, and they circulated widely in the North China provinces of Zhili, Henan, Gansu, Shanxi, Shaanxi and Suiyuan.

More than $68 million worth of Vietnamese coins were minted up to 1903.[6] Up until 1897, $165 million worth of Japanese Dragon Foreign were minted.[7] A total of $20 to $30 million worth of the latter two coins came into China. Vietnamese coins circulated in Guangdong, Guangxi and Yunnan. Japanese Dragon Foreigns circulated in Fujian, Jiangxi and Guangdong.

There were also the silver dollars of the Portuguese, Dutch and other countries, which were imported prior to the Opium War. After the Opium War silver dollars came in from other South American nations. The vast majority of these coins tended to be used to mint silver ingots or were reminted into Dragon Foreigns during late Qing. Of course a certain number of Spanish Silver Dollars and Eagles were also reminted.

As a consequence, the quantity of foreign silver dollars which either were in circulation during late Qing or could enter circulation at some time or other was probably around $500 million.[8] This figure is an underestimate.

The inflow of foreign silver dollars can also be studied in terms of the different entrepots through which they came, since foreign silver dollars only came into China by way of a few routes.

The first route was the one by way of which the overseas Chinese of the Philippines brought them in. Some have estimated this source at $100 million.[9] These must all have been Spanish Silver Dollars.

The second route was the direct route from Europe taken by European commercial vessels.

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These coins were mainly brought by the ships of the British East India Company. There are various estimates for the number of coins brought in this fashion. These range from $50 million[10] to $500 million.[11] Probably the total was around $300 million. Spanish Silver Dollars also constituted most of this source, but it also included the silver dollars of a number of other nations.

The third route was the one followed by United States vessels. Some have estimated that $100 million worth were brought in by this route.[12] These included U.S. Silver Dollars, but the majority of the coins were probably Spanish Silver Dollars.

The fourth route involved coins brought in by the Portuguese via Macao and Japanese silver. Some have estimated that Japanese silver worth $100 million was imported into China.[13] The Japanese silver

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[5] Between 1877 and 1901, 77.74 percent of all the silver coins Mexico minted were exported, but the percentage of large silver dollars exported must have been a little larger. Cf. the work cited in note 4 above.

[6] Cf. work cited in note 4, above, p. 491.

[7] *Ibid.*

[8] According to the estimate of J. Edkins, *Chinese Currency* (Shanghai, 1901), p. 68. His figure includes treasure silver and small denomination silver coins, and is not limited to large silver dollars.

[9] R. M. Martin, *China*, Vol. I, p. 176.

[10] *Ibid.*

[11] H. B. Morse, *China and the Far East*. Clark University Lecture.

[12] R. M. Martin, *China*, Vol. I, p. 176.

[13] *Ibid.* The Japanese scholar Arai Hakuseki estimated the amount at $140 million. Cf. Otake Bunfu, *Studies in Modern Chinese Economic History* (Kōbuntō shokyoku, Shōwa 17 [1942]), p. 59.

was not necessarily in the form of silver dollars, but must have included some of them, including Spanish Silver Dollars, Dutch Horse Sword and Portuguese Cross coins.

The above sources all dated to before the Opium War. After the Opium War, there flowed in Eagles, silver dollars from the nations of South America, Japanese Dragon Foreign, Vietnamese coins and Stick Foreigns. According to Maritime Customs statistics, between 1871 and 1900, these totaled 118 million Customs ounces, or $160 million. Between 1901 and 1910, however, there were net exports of 80 million ounces. Possibly the imports were in silver dollars, and the exports in treasure silver. There are no figures from this source prior to 1871.

There were also imports which did not go through the Maritime Customs. For example, at the time of the invasion of China by the Eight Nation Coalition Army, the silver dollars carried by the foreign armies could not have been included in the totals.[14] It is said that over $3 million in Eagles were brought from the Philippines.[15]

Hence from the end of the Opium War to the end of Qing, the total of foreign silver dollars imported into China was probably more than $300 million. Most of them were Eagles, of about $300 million worth. Therefore by the end of Qing around $900 million silver dollars had been imported into China, exclusive of broken silver or small silver coins. Of this amount, $100 million was soon cast into silver ingots, $200 million was reexported to pay for opium, and another $100 million was melted down and reminted during late Qing. The remaining $500 million was either in circulation or could enter circulation as required.

There are no precise statistics for Chinese silver dollars either. In xuantong 2 [1909], the Board of Revenue and Finance used reports made by the provincial mints from guangxu 16 to 34 [1890-1908] to estimate the total minted at over 40 *zhao*, i.e. 40 million. Some have believed this estimate to have been too high.[16] Actually, if anything, it is too low. At the time of the Beiyang Warlords, the Ministry of Finance made several estimates of the number of Dragon Foreigns that had been minted. These ranged from $200 million to over $280 million.[17] This last figure probably includes coins minted during the republican era. The late Qing figure would be $200 million. These were mainly Dragon Foreign from Guangdong, Hubei and Jiangnan circulating in their province of issue. In the large urban markets of nationwide scope, however, different silver

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dollars could all circulate at par. Hence the total number of foreign and Chinese silver dollars during late Qing was some $700 million.[18] These silver dollars seem to have been just like commodities. Each had its own price, which varied in different localities. On the average a dollar was worth 1 string 340 cash.[19] Thus, $700 million was equal to 938 million strings of cash.

Silver dimes came in 5-dime, 2-dime, 1-dime and 5-cent denominations. There are no late Qing figures on them. A Republic 2 [1913] survey by the Coin Office of the Ministry of Finance estimated their quantity at over $286 million worth. The quantity during late Qing must have been somewhat less. A majority were 2-dime pieces. Next came 5-dime and 1-dime coins. Yunnan had minted a large number of 5-dime silver coins. The total face value amount for the entire country must have been as much as $250 million.[20] Therefore the total number

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[14] J. Edkins, *Chinese Currency* (Shanghai, 1901), Preface.

[15] Cf. work cited in note 4, above, p. 477.

[16] Liang Qichao, "After Reading Various Memorials of the Board of Revenue and Finance and the Monetary System Regulations."

[17] An investigation by the Coin Office of the Ministry of Finance of December 17, Republic 2 [1913], made the total $206,028,152. The same year's "Coinage Estimate" stated that the amount was $235,398,050. Liang Qichao quotes an April, Republic 3 [1914] investigation which made it $212,168,590. Cf. Liang's "My Coinage and Financial Policies," *Modern Chinese Coinage Question Compendium*, Volume I (January, Republic 4), p. 560. The Republic 8 investigation

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yielded a figure of $286,351,413. Kann made his estimate on the basis of this figure, but he said that $2 billion in silver dollars were in circulation in 1933.

[18] In Republic 2, a member of the Coinage Commission, Liu Mianzhi, said that at that time China had $1.7 billion in silver dollars. Cf. "A Capability Standard," *Modern Chinese Coinage Question Compendium*, Vol. II, p. 1440. Liu does not give his source for this statement.

[19] In xuantong 3, a silver dollar was equated with 134 single Copper Dollars in Shanghai. Cf. Zhang Jiaxiang, *History of Chinese Monetary Systems*, Vol. V, p. 35. A single Copper Dollar was equal to 10 standard coins.

[20] For an estimate of the silver dimes, I have consulted the figures in the Japanese edition of E. Kann's *Modern Chinese Monetary History*, [English title *The Currencies of China*] pp. 119-124. His estimate is the figure for 1939, but most of the figures from which he derives this estimate have dates connected with them. For example they take the form of stating the number of a given province's 5-dime silver coins from such-and-such year to such-and-such year. Some figures are his own estimates. Summing up his figures, we get a total for late Qing silver dimes having a total value of $180 million.

of silver coins of all sorts during late Qing would have approached $950 million, or 684 million ounces of silver.

Treasure silver was still in use during late Qing. In addition to the various sizes of Original Treasure and *kezi* small old style silver ingots, this included the thick silver cakes issued by the silver houses of Hunan, and the large and small Original Treasure issued by the Sino-Russian Daosheng Bank. Some have estimated the late Ming nationwide supply of silver at 250 million ounces. This estimate is too low, but I suspect that the amount which could actually take part in circulation and be used for making payments was only 100 to 200 million ounces. Later on, silver imports from the New World greatly increased this quantity, since most foreign silver dollars imported into China during the early period were made into silver ingots. However, a portion of these silver ingots were reexported by foreigners, and a portion were used during late Qing to mint new style silver coins.

Though there is no way to count up the remaining silver ingots, they must have amounted to a somewhat larger sum than the Chinese-made silver dollars. Not only did people from more remote regions use such silver as a store of value, even in large cities like Shanghai a large quantity of treasure silver exhibited the functions of money. In xuantong 3, the supply of silver readily available for the use of the Shanghai silver trade was, in addition to $12.07 million in silver dollars, some 23.67 million ounces of treasure silver, and 1,632 large strips of silver equal to more than 1.6 million ounces, for a total of some 25 million ounces.[21]

The amount of treasure silver was twice the quantity of silver dollars. The nationwide total of treasure silver must have been 250 million ounces. With 0.72 ounce to the dollar, that would have been equal to $347 million.[22]

Let us next examine the copper coins of late Qing. These included new style Copper Dollars and old style copper cash. Late Qing was a period of transition from old style copper cash toward use of new style Copper Dollars. The proportion of the supply made up by each of these two types of coins varied year by year, and is very hard to keep track of.

According to the figures obtained from a survey of the provinces by the head of the Postal Ministry, Chen Bi, the quantity of new style Copper Dollars (converting various denominations to 10-cash Copper Dollars) was 10,512,500,115 10-cash Copper Dollar coins as of guangxu 31-32 [1905-1906].[23]
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According to another set of figures, provided by Liang Qichao, during the five years from guangxu 30 to 34 [1904-1908], the provinces minted a total of more than 12.4 billion Copper Dollars. If we add in the number minted during guangxu 28-29 and during the xuantong period, as well as those privately coined by Chinese and foreigners, we can estimate that during late Qing there was a total of 14

However, his figures are by no means complete. For example, they do not include Zhejiang. Nor are privately made coins included in the total. Therefore, the total should be some $200 million.

Liang Qichao (in a September, Republic 3 written recommendation on coinage presented to the President) states: "The amount of silver dimes and copper dollars minted for circulation by the various official bureaus over the years may be calculated at over 32 million 5-dime small silver dollars, 122 million 2-dime silver coins, 23 million 1-dime small silver coins, and 5 million 5-cent small silver coins." *Modern Chinese Coinage Question Compendium*, Vol. I, p. 544. These had a total face value of $285.5 million.

Li Fangzhuan quotes a survey by the Coin Office of the Ministry of Finance in the Winter of Republic 2 which gives a total of $286,473,806.45, including 2-dime and 5-cent coins.

[21]Zhang Jiaxiang, *History of Chinese Monetary Systems*, Vol. V, p. 47.

[22]Silver ingots were more pure than silver dollars. In fact during late Qing some foreign silver dollars could only circulate in some localities at a value of something over 0.6 ounce of pure silver, but in other places some would circulate at 0.8 or 0.9 ounce of silver. So I here continue to use the figure of 0.72 ounce per dollar.

[23]Chen Bi, *Precipice Facing Hall Memorial Drafts*, 6, "Report of Survey of Various Factories." He memorializes on the quantity minted in each of the provinces as follows (the unit being the single Copper Dollar coin):

Henan (as of guangxu 32/11/29)	230,545.850.0
Hubei (as of guangxu 32/12/15)	3,548,327,055.0
Jiangning (guangxu 32/12/end)	1,603,984,850.0
Guangdong (guangxu 32, yr end)	958,606,000.0
Fujian (guangxu 31, yr end)	347,244,868.5
Zhili (guangxu 33/3/end)	182,180,520.5
Sichuan (guangxu 32, yr end)	275,512,944.0
Jiangsu:Qingjiangpu (gx 32/7/end)	7,885,585.0
Suzhou (guangxu 32/5/12)	529,430,867.0
Anhui (guangxu 32/4/16)	519,361,334.0
Shandong (guangxu 32/12/14)	296,274,556.0
Jiangxi (guangxu 32/10/end)	379,722,376.0
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Zhejiang (guangxu 32/12/end)	821,107,384.0
Hunan old office (gx 32/8/end)	179,959,100.0
Hunan new office (gx 32/12/8)	632,356,825.0
	10,512,500,115.0

billion Copper Dollars.[24]

Chen Bi's figure was only for thirteen provinces, and did not include Jilin, Fengtian or Guangxi. Nor did it include the coins minted at the end of guangxu and during xuantong. Liang Qichao does not specify what provinces are included in his figure, and I suspect we must reject his figure as too low as well, since the survey made by the Coin Office of the Ministry of Finance in December of Republic 2 covered seventeen provincial mints (not including Guangxi). It commuted different sized coins into 10-cash Copper Dollars, and offered a figure of over 29 billion coins. In September of Republic 3, Liang Qichao stated that the number of Copper Dollars minted by the provincial mints over time came to 30 billion coins.[25]

We can estimate the total at 20 billion coins. During late Qing it took 134 Copper Dollars to make 1 silver dollar, and so 20 billion were equal to over $149 million in silver dollars. During late Qing, circulation of Copper Dollars was limited to the cities. Virtually all rural areas used copper cash. The smaller market towns used both copper cash and Copper Dollars, and even in the large cities, copper cash were still in circulation.

It is hardest to estimate the quantity of copper cash. In guangxu 21 [1895], 12th month, when the Investigative Censor, Wang Pengyun, discussed the purchase by the Japanese of Chinese copper cash to extract gold and silver from them, he expressed the opinion that it would only take 100 million ounces of silver to buy up all of China's standard coins.[26] The silver price of copper cash then was 1,648 cash to the ounce of silver, so 100 million ounces would have been equal to 164.8 billion cash. I suspect that this figure is too low.

The Qing Dynasty's supply of copper cash may be said to have been higher than the norm, and the raw materials for its manufacture were relatively common. Except for the Shunzhi character-*li* coin and the Xianfeng large coins, the Qing court rarely recalled standard coins for reminting. Though many of the standard coins of the shunzhi, kangxi and yongzheng periods were melted down privately, this was done for the purpose of reminting them, and so could only have increased the number of coins. It was not until late Qing that a portion of the copper cash were reminted into new style Copper Dollars. Nor were very many Qing cash buried in the earth. That is to say, the greater number of the standard coins minted during the Qing period remained in circulation, or could be thrown into circulation as needed.

The question is, how many copper cash did the Qing Dynasty mint over the course of its more than two centuries? The primary sources which might answer this question are not complete. The *Qing Veritable Records* records a total of around 43.4 billion cash as having been minted during the shunzhi, kangxi and yongzheng periods, an average of 430 million cash per annum. I suspect this is just the figure for the Beijing Treasure Spring Office, and not the quantity for the entire country. According to the *Great Qing Veritable Records*, the Treasure Spring Office must have received 4,016,880 catties of Yunnan copper per year, 2,940,000 catties of Guizhou white lead,

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325,476 catties of black lead, and 55,555 catties of Hunan black lead. All of this would have enabled the Treasure Spring Office to mint 900 million cash per year. The province of Yunnan alone had several hundred million cash per annum.[27]

It has been estimated that the Qing used over 10 million catties of copper per annum for minting coins. This was enough to mint 3 billion cash. In jiaqing 5 [1800], the Board of Revenue set a quota for the provinces of 2 billion cash.[28] According to

[24]Liang Qichao's list of the production of Copper Dollars by year is as follows:

Year	Amt. of Copper (dan)	Copper Dollars Minted (in thousands)
guangxu 30	255,771	1,741,167
31	749,000	4,696,920
32	213,673	1,709,384
33	356,400	2,851,200
34	178,500	1,428,000
TOTAL	1,753,344	12,426,671

[25]"Plan for Minting Coins Presented to the President."

[26]"Memorial Requesting Imperial Orders to Open Mines So As To Encourage Minting Silver Dollars."

[27]Yan Zhongping, *Investigation of the Qing Dynasty Yunnan Copper Administration*, pp. 24, 89-94.

[28]Zhang Jiaxiang, *History of Chinese Monetary Systems*, Vol. II, p. 96. The following gives in tabular form the quantity of cash the Board of Revenue determined that each province should mint in jiaqing 5 (unit: strings of cash):

the "Coinage Regulations" compiled in jiaqing 7 [1802], the entire country was to mint 6 billion coins per annum. Even during the tongzhi period, when fewer coins were minted, it is said that annual production was still 2.4 or 2.5 billion cash.[29] This could, however, have merely been the hoped for production figure, and not that many were actually minted. Most of those minted were 10-cash coins, each of which was used as the equivalent of a 2-cash, and so we should divide the total by five.

If we assume 3 billion cash per year, then over the several centuries of the Qing Dynasty, they must have turned out 800 billion cash. If we deduct half this amount to cover reminting, years when fewer were minted, and buried coins, there would still remain 400 billion cash.

However, by no means all of the copper cash in circulation during late Qing were Qing cash. There were also some old coins from earlier dynasties and foreign coins. The proportion of the total such coins constituted varied by locality. In my home town of Yantian, Xixiang, Anfuxian, Jiangxi, I can say that during the early years of the Republic, only Qing coins were used. There was no small number of Shunzhi and Kangxi large coins, and to collect a full set (twenty kinds) of Kangxi coins was not at all difficult. Qianlong, Jiaqing and Daoguang coins were also very numerous. In some places in Nanxiang, one might come upon Five-grainers and Inaugurals, as well as Japanese Kan'ei coins. However, pre-Qing coins had never been numerous among the coins circulating in Jiangxi. As early as qianlong 36-37, they only constituted one or two out of a thousand.[30]

There were other places where the percentage of old and of foreign coins was much larger.[31]

Province	Amount Minted	Province	Amount Minted
Beijing	899,856	Shaanxi	87,360
Zhili	60,666	Shaanxi suppl.	43,204
Jiangsu	111,804	Sichuan	179,259
Jiangxi	41,928	Sichuan suppl.	14,868
Zhejiang	129,600	Guangxi	24,000
Hubei	84,000	Yunnan	94,860
Yunnan	84,924 suppl.	Guizhou	94,860
Shanxi	17,472	Hunan	47,880
Ili	1,122	Guangdong	34,560
TOTAL			2,052,223

[29] In tongzhi 4 (1865), the quantity of standard coins produced was as follows (E. Kann, in his *The Currencies of China*, 3rd Japanese edition, p. 54, quoting the figures of S. W. Bushell):

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Province	Locality	Factory Name	Annual Production (Cash)
Zhili	Beijing	Treasure Spring	899,856,000
Zhili	Beijing	Treasure Origins	449,928,000
Zhili	Baoding	Treasure zhi	60,756,840
Shanxi	Taiyuan	Treasure jin	17,472,000
Jiangsu	Suzhou	Treasure su	111,992,052
Jiangxi	Nanchang	Treasure chang	42,037,992
Fujian	Fuzhou	Treasure fu	43,200,000
Zhejiang	Hangzhou	Treasure zhe	129,600,000
Hubei	Wuchang	Treasure e[wu]	84,420,000
Hunan	Changsha	Treasure nan	48,054,000
Shaanxi	Xi'an	Treasure shaan	94,589,040
Sichuan	Chengdu	Treasure chuan	157,733,333
Gungdng	Guangzhou	Treasure guang	34,560,000
Guangxi	Guilin	Treasure gui	24,000,000
Yunnan	Yunnan	Treasure yun	125,682,480
Yunnan	Tengchong	Treasure teng	44,886,600
Guizhou	Guiyang	Treasure qian	67,329,900
Guizhou	Dading	Treasure qian	22,443,300
Ili	Kulja	Treasure yi	1,122,000
TOTAL			2,459,663,537

There are some errors in the text of the table in the Japanese translation. For example the character *yuan* in the factory name Treasure Origins is written with the homonym meaning "first." The character *pu* (meaning ordinary) is substituted for the character *jin* (which looks very similar) in the name of the factory located in Taiyuan. The factory in Wuchang, Hubei was not called Treasure *e*, but Treasure *wu*. However, the biggest problem is over the authenticity of the figures. Bushell's figures were, naturally, quoted from Chinese sources, but someone knowledgeable about Qing cash cannot avoid being suspicious of this. Tongzhi coins are the rarest of Qing cash. There are a number of provincial mints cited in the table as turning out coins which no one has ever seen. It is possible that the figures in the table are ones proposed by the officials, but that owing to the high cost of production, a number of mints did not actually produce any coins. Those in circulation among the people were mainly old coins.

[30] *Spring and Spade Unified Record* (daoguang 5), prefatory chapter, "Enumerated Memorials," quotes the *Capital Gazette*, "Buying of Old Coins in Jiangxi Managed As in Su Province."

[31] According to what a friend from Guangdong says, of the

Generally speaking, the proportion of Vietnamese coins was very large in the Fujian-Guangdong region. In Amoy during the middle years of the guangxu period, Vietnamese coins constituted 40 percent of all copper coins in circulation. Qing coins were only a little more than half the total. The rest were Japanese Kan'ei coins, and old coins from Song and Ming times.[32] The situation was virtually the same in Fuzhou.

In Taiwan, Qing coins were 76.6 percent of the total, Vietnamese coins were 13.6 percent, Japanese coins were 5.5 percent, Song coins were 3.1 percent, Ming coins were 1.1 percent, and Tang coins were one in a thousand. It is said that in Jinan, Shandong the situation was almost the same.[33]

In the Jiang-Zhe region, however, Vietnamese coins were unable to circulate, and there were only a small number of Kan'ei and old coins.

During late Qing, Beijing only used 10-cash coins. Small 1-cash coins were not employed. One might find Vietnamese Guangzhong and Jingxing coins in neighboring towns and villages.[34]

From qianlong times on small coins constituted the majority of coins in Chongqing, Sichuan. Shunzhi and Kangxi large coins were relatively few. Intermixed with these were Kan'ei, Guangzhong and Jingxing foreign

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coins, as well as Five-grainers, Monetary-springs and Inaugural old coins.

Generally speaking, of the copper coins in circulation all over the country, probably 5 percent were foreign and old coins. There were also a number of private coins. Such private coins constituted a large proportion of the total during late Qing. If we assume they constituted 20 percent of the 400 billion cash total, then they would have amounted to 80 billion coins. Calculated in this fashion, then there must have been 500 billion copper cash in existence during late Qing, the equivalent of $373 million worth.

Finally, let us take a look at paper money. This is an extraordinarily troublesome problem, which causes quantity estimates to be very difficult to make. It would seem reasonable that there should be accounts for paper notes issued which we could investigate, but the entities issuing them during late Qing were truly like some multiheaded monster. Even if they had kept accounts, most of these have been lost. The complexity of the paper money problem is caused first of all by the multiplicity of issuing institutions. Both Chinese and foreign entities issued them. On the Chinese side, new-style banks, provincial official silver and cash houses, private money shops, silver houses, pawn shops, railroads offices and all sorts of commercial emporia issued paper money.

The second cause for such complexity was the large number of monetary units. There were copper cash bills, copper dollar bills, silver ounce bills and silver dollar bills. The copper cash bill category comprised a variety of ways to calculate the cash equivalent of a bill. There were full cash bills, 98 cash bills, 95 cash bills, capital cash bills and 10-cash cash bills. Copper dollar bills included 10-cash copper dollar bills and 20-cash copper dollar bills.

Silver ounce bills were denominated in various different local standards for the weight of the ounce. Shanghai used the standard dollar silver ounce, Beijing used the capital weight silver ounce, Hunan the provincial weight (or Hu weight) silver ounce, Tianjin the *huabao* silver ounce, Shaanxi the *yiping* silver ounce, and Jiangxi the 938 weight market silver ounce.

Silver dollar bills came in large and small foreign dollar denominations. In some places the former were redeemed in Eagles, in other places in Dragon Foreigns. I suspect one could never clear so tangled a set of accounts.

Late Qing was a transitional period in the circulation of money, during which a shift from copper cash to copper dollars was occurring, and so from copper cash bills to copper dollar bills. During guangxu 28 [1902] in Jiangxi, for example, the official coin office issued full standard coin bills, but 95 standard coins were the coins circulating on the market. As a consequence, the following year they issued 95 standard coin bills. In guangxu 33, the official silver and cash house issued cash bills, silver ounce bills and silver dollar bills.

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coins in his home town (in the southwestern part of Guangdong), the proportion of Song coins was very large. This was the case right into the republican era. Nor did they make much use of copper dollars. It is, however, possible that these Song coins were minted in Annam.

[32]W. J. Clennell, "Copper Cash Current in Amoy," *China Review*, XX, no. 5 (1892-1893). The article does not mention the exact percentages of the various types of coins. It only says that Qing coins barely exceeded half the total.

[33]Eizan-ro Shujin, "Gathering of Private Views on the Rectification of Taiwan Coins," *Kahei* magazine, no. 188, p. 17. This was the situation in Meiji 30 [1898]. The author believed this was representative of the general situation during late Qing. After this he made a survey in Jinan, where he found the situation essentially the same.

[34]Some foreigners say that a number of Ryukyuan coins were present in Beijing during late Qing. These statements are unreliable. Perhaps they mistook Guangzhong and Jingxing coins for Ryukyuan coins.

The third reason for such complexity lay in the differences in prices of different moneys. That money should itself have a price is a surprising thing, but during late Qing it was common for there to be changes in the exchange rates between various currencies. One might call these exchange rates, but everybody then looked upon these currencies as commodities, and talked about the price of silver, the price of foreign silver coins, the price of cash and the price of paper money.

For example, at the beginning of xuantong, the Guangxin [Broad Credit] Company of Heilongjiang issued over 30 million strings worth of cash bills, with 3 strings 840 cash worth of them equal to 1 small foreign dollar. Harbin's Jiangsheng Guangxin Company issued 60 million strings worth. In the Autumn of Republic 3, the amount of its issue was over 140 million strings, and 8 strings worth of bills were only worth 1 small foreign dollar.

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Figures have been published on the size of the paper money issues by the large national banks and the provincial official silver and cash houses, but the years covered by these statistics differ, and they are not entirely reliable.[35] I can only make some emen dations to the foundation provided by these figures so as to make my own new estimate. Copper cash bills, for example, were mainly issued by the provincial official silver and cash offices and by private money shops and commercial emporia, but even figures for the official issues are not complete. The Heilongjiang Official Silver House and the Guangxin Company alone issued 100 million strings worth.[36] The Jilin Yongheng Official Silver and

[35]Zhang Jiaxiang's *History of Chinese Monetary Systems* contains some statistics on Chinese paper money, but not only are these not complete, a number of the figures are not

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reliable. There are also errors in the monetary units employed. Nor are the names of the issuing institutions always correct. I have here done all I could to correct these figures and the names of the issuing institutions to construct the following table, but can only offer it for further correction by readers. It cannot serve as a formal statistical table.

ISSUES BY LATE QING BANKS AND PROVINCIAL BODIES

Issuer's Name/Year	SilverOzBls	Silver$Bls	CprCshBls (in strings)
Great Qing Bank/xt 3	5,438,911	12,459,908	?
BnkofCommunications/R 1	1,102,164		
ChCommercialBank/gx 31	1,500,000		
Zhejiang Xingye Bank/xt 2	728,100		
Siming Commercial Bank/R 3	190,000		
Zhili ProvinBnk/xt 2	384,500		64,794
ManchuriaOff.Silver Hs/R 3	8,700,000		
Jilin Yongheng Off. Silver & Cash House /xt 3			78,958,364
Heilongjiang Off.Silv.Hs/xt 2	1,190,000		
Guangxin Company/xt 1			100,000,000
ShandongOff.Silv.Hs/gx 3	881,330		
Henan Yuquan Off.Silv.& Cash Office/xt 3	1,800,000	160,000	300,000
ShanxiOffCash Off./xt 3		60,000	
Bank of Jiangsu/R 1		500,000	
Anhui Guwan Off.Cash Off./after gx 32		400,000	300,000
Jiangxi Off.Cash Office/gx 29			400,000
Fujian Off. Cash Office/R 1		400,000	
Bank of Zhejiang/xt 1		600,000	
Hubei Off. Cash Office/lt.Qing		1,600,000	17,000,000
HunanOffCashOffice/gx 29	2,027,600	375,700	4,800,000
Shaanxi Off.Silv.&CashOff.			1,000,000
Fengtian Xingye Bank/lt.Qing		12,000,000	
GansuOffSilv&Cash Off/xt 2	173,000		59,000
Xinjiang Province City Off. Cash Office/lt.Qing	1,000,000	15,000,000	
Ili Official Cash Office Bank of Sichuan/xt 3			
Guangdong Off.Cash Off./xt 3		1,000,000	
GuangxiOff.Silv.&CashOff./R 2		2,187,600	
GuizhouOfficiaCash Off/Qing	554,055		
Rehe Off.Silv.& Cash Off./R 1		50,000	

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In the above table the Great Qing Bank issued copper cash bills, but the quantity was not specified. The Bank of Communications had issued silver dollar bills, but reckoned them in silver ounces. I have here commuted them into silver dollars at the rate of 0.72 ounce per dollar. The figure for the Manchuria Official Silver House is the total for silver ounce bills, large Dragon Dollar bills, small silver dollar bills and Eastern [i.e. Manchurian] cash bills. The latter refers to a string of 160 standard coins. Something over 4 strings worth of Jilin Yongheng Official Checks was equal to 1 silver dollar. The figure for Heilongjiang lumps together silver dollar bills and copper dollar bills. The Shandong figure amalgamates silver ounce bills and capital cash bills. The Rehe figure is the sum of the silver ounce bills, silver dollar bills and copper cash bills issued. In addition, for Jiangxi province the table only sets forth the figure for the guangxu 29 issue by the Jiangxi Official Cash Office. Actually, after it became the Jiangxi Official Silver and Cash House in guangxu 33, it issued silver ounce bills and silver dollar bills.

[36]Zhang Zongyuan (*The Evolution of Chinese Coins*) says

Cash House also had some 70 million strings worth. The provincial official cash offices of Henan, Hubei, Jiangxi and Jiangnan all issued cash bills. We may suppose that the other provinces also issued cash bills, particularly the urban money shops.

We cannot treat the cash bills of different provinces identically because the values they represented were not the same. For example, 4 strings 500-600 cash worth of Jinlin Yongheng official checks was only worth 1 small silver dollar in cash, so that if you wanted to commute it into standard cash bills, 1 string 300-400 cash worth would be equal to 1 silver dollar's worth of cash bills. Therefore, I suspect that 70 million strings worth would come to less than 20 million strings of copper cash.

We cannot, however, use the figures for Jilin and Heilongjiang provinces as a standard for making calculations about the cash bills of other provinces. This is because the paper money of Manchuria then was disproportionately large in amount compared to that of the other provinces, most of which was made up of cash bills. None of these Manchurian cash bills were redeemabe for copper cash, but rather were denominated in terms of small foreign coins. Hence whether to consider these copper cash bills or small foreign coin bills is a question not very easy to answer. I have here labeled them cash bills.

Of the other provinces, Hubei had 17 million strings of cash bills, and Henan only had 110,000 strings worth. If we estimate each province's issue at 3 million strings, then the national total would be 60 million strings. These were all official bills.

There were also private bills or private checks. By private bills I do not mean counterfeits, but bills from privately owned money shops and commercial establishments. There must have been no small number of such private bills, since they were found in large and small cities all over the country.[37] According to a Bank of China survey of Manchuria,[38] Fengtian province's 46 districts had over 5.48 million strings worth, or more than $3.11 million. This survey took place in Republic 8 [1919]. It is said that there was even more at the end of Qing. Hence on the average each district must have had 200,000-300,000 strings worth. The local notes of each of the districts of Jilin were at most 300-400,000 strings, and at least 200-300,000 strings, and the average must have been 300,000 strings. That would have made the total for the whole province 12.6 million strings, equal to 6.3 million strings of standard coins.

The other provinces employed metal money, and paper money bulked much less in their systems. If we assume that the private bills in the other provinces came to half the number in the districts of Manchuria, then each province would have had 3 million strings, and the national total would have been about 60 million strings. The large city private bills would have added another

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20 million strings, making the national total for official and private paper notes 130 or 140 million strings,[39] or $100 million. This would include copper dollar bills.[40]

There were fewer silver ounce bills, and there are no exact statistics for them. According to figures issued by various sources, they must have come to around 12 or 13 million ounces worth. There are obvious omissions from this figure. For example, the Chinese Bank of Commerce had issued silver ounce bills, but these were not included. The provincial official silver houses of Jiangxi, Hubei and Rehe also issued silver ounce bills, as did some private silver houses. Moreover silver ounce bills came in large denominations, and unlike cash bills and silver dollar bills, these large bills were not numerous. Therefore, there must have been at least 20 million ounces[41] of them in the whole country, or $27-$28 million. Some say[42] that aside from those silver

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that the Guangxin Company issued 100 million strings of cash bills. This was in addition to the Heilongjiang Official Silver House's capital cash bills.

[37] At the end of Qing, H. B. Morse surveyed foreigners living in various places in China about the money in circulation where they lived. Replies from Niuzhuang, Shaanxi, Gansu, Nanjing and Fuzhou all said that cash bills were in circulation. There were about 3 million strings worth in Niuzhuang, and there were no other bank notes. *Report on the Introduction of the Gold-Exchange Standard*, pp. 263-265.

[38] *Record of Survey of the Manchurian Economy*, compiled in Republic 8 [1919].

[39] The Republic 7 *Brief Report on the Monetary System* says that the cash bills came to 64,393,761 strings and 371,813,619 short strings.

[40] *Ibid.* says that the national total of copper dollar bills (commuted into 10-cash Copper Dollars) was 470,287,210 coins, and another 60,261,069 strings. The quantity of late Qing copper dollar bills was far from being this large.

[41] In the Japanese edition of his *The Currencies of China* (p. 145), E. Kann states that in February 1908 the Board of Revenue Bank's capital liability account listed an issue of paper money coming to 296,152,415 ounces. This entry might not refer only to silver ounce bills, but might total the value of various paper notes. Moreover, the unit is probably an error, because in two places below he uses the term *baiwan* rather than *yi* to mean 100 million as he does here.

[42] H. B. Morse's survey. Cf. p. 263 of the work quoted in note 4.

ounce bills issued by foreign banks, such notes never really circulated. These statements are incorrect.

More silver dollar bills seem to have circulated than silver ounce bills, but there were fewer of them than of the copper cash bills because except for those issued by the foreign banks, practically all of the paper notes issued by the Manchurian provinces were cash bills. it is said, however, that the Fengtian Xingye Bank issued over $12 million in notes at the end of Qing. I suspect the actual amount was not this great. Hubei also mainly used cash bills. None of the other provinces used only silver dollar bills. Naturally, the Great Qing Bank issued the most silver dollar bills, with over $12 million at the end of Qing. Though there were a number of other issuing institutions, there were substantially fewer of them than there were issuers of cash bills.

The silver dollar bills issued by several commercial banks at the end of Qing probably came to less than $2 million. The total of silver dollar bills of the provincial official silver and cash houses and the provincial banks was probably $8 or $9 million. Local money shops and silver houses, especially those in the bigger cities, also issued silver dollar bills, but not in large quantities. Hence the national total probably did not exceed $50 million. This figure includes small foreign coin bills.

There remain the foreign paper notes. These include paper notes issued by foreign banks in China and notes issued by foreign banks or governments abroad and brought into China, where they either circulated or could easily be put into circulation. There are no statistics for these, since there are only comprehensive statistics for the quantity of notes issued by foreign nations or banks, and these statistics run together those circulated in China with those circulated abroad. Foreign notes circulated only in China would have been a minority of the total amount.

Some have estimated that the number of paper notes which were issued by the eight foreign banks for circulation in China came to $30 or $40 million.[43] This figure cannot, however, represent the quantity of foreign notes circulating in China then. Take, for example, the notes of the English-registered banks. In addition to those issued in the Shanghai region, there were also

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Hong Kong notes circulating in Guangdong. Notes of the Japanese Mercantile Bank of Taiwan must have been coming into China during late Qing.

The most important sphere of operations for foreign paper money was Manchuria. Some have estimated that at the time of the Eight Power Intervention, Russia had invested between 500 million and 600 million rubles in Manchuria, most of which had probably been used to meet the expenses of the construction of the Chinese Eastern Railway. For this reason what the Chinese called Qiang Checks (i.e. ruble bills), circulated widely in Manchuria.

After the withdrawal of the Russian army in 1902, faith in the Qiang Checks was shaken, and their holders hurried to redeem them for cash. Their sphere of circulation contracted drastically after the Russo-Japanese War. In 1904, some 100 to 200 million rubles worth were brought to Shanghai, Tianjin and Yantai for redemption.[44] Thereafter, their circulation was limited to northern Manchuria, in places like Harbin, Heihe and Manzhouli.

Because their use was obligatory on the Chinese Eastern Railway, it is reasonable that there should still have been 200 to 300 million rubles worth of Qiang Checks circulating in Manchuria during late Qing. It is possible that the great majority of them were in the treasuries of those engaged in the silver and cash trade, where they served as a kind of foreign exchange reserve. Probably not many of them were actually in circulation. I estimate the total at $50 million.

Southern Manchuria used Japanese paper money, including that of the Bank of Japan and the Yokohama Specie Bank. It is said that at the time of the Russo-Japanese War the Japanese army alone issued $150 million in paper money for its use in China.[45]

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[43]Xianke, *An Outline of the Issue of Paper Money By the Imperialist Banks in China During the Last Hundred Years* cites the figures used in the first edition of my book, and makes mistakes with the Board of Revenue and Finance survey, saying its estimate is too high. Moreover, on pp. 57-58 he says that paper money issued during 1910 in China by foreign registered banks and foreign money circulating in China came to $35,370,279.50. This included the English-registered Chartered Bank of India, Australia and China and the Hong Kong & Shanghai Banking Corporation, the American-registered International Banking Corporation, the Japanese-registered Yokohama Specie Bank, the German-registered Deutsch-Asiatische Bank, the French-registered Oriental Remittance Bank, the Belgian-registered North China, and the Russian-registered Sino-Russian Daosheng. He also says that in 1912 the figure was $42,948,359.80, including notes from seven of these eight firms, the Oriental Remittance Bank not being included.

[44]Report of the U.S. Consul in Niuzhuang in 1904. Cf. the work cited in note 4, pp. 280-282.

[45]Hou Yuanpei and Wu Juenong, *Japanese Imperialism's Aggression Against China*, chapter 6.3. Imamura Tadao, *On China's New Currency Work* says that it was $140 million. Xianke, *An Outline of the Issue of Paper Money By the Imperialist Banks*

Later on they probably redeemed this paper with Yokohama Specie Bank notes, but not all of it was redeemed. A Japanese source says that in 1911 there was still around $2 million which had not been redeemed.[46] As a consequence of such a redemption one might expect the note issue of the Yokohama Specie Bank to have increased, but this factor is hard to isolate. Japanese bank notes circulating in Manchuria at the end of Qing also included paper money issued by the Bank of Korea and the Bank of Japan, but the quantity of this was not large.

The total figure for Japanese paper money would be $30 million, and the total for both Japan and Russia would be $80 million, but this component is the hardest to estimate. If one said it was twice this figure, it would not be an impossible estimate. The national total for foreign paper money must be more than $100 million. The national total for all kinds of paper money would be $270 or $280 million. This would be the value represented by the entire amount of paper money, and not its total face value.

ESTIMATED SUPPLY OF LATE QING CHINESE MONEY BY CATEGORIES

Type of Money	Quantity	Equiv.in Silver Dollars	% of Total
Silver Coins		1,297,000,000	61.85
Chin.Silv.$	$200,000,000	200,000,000	9.54
For.Silv.$	$500,000,000	500,000,000	23.84
Silv.dimes	$250,000,000	250,000,000	11.92
Silv.ingots	250,000,000 oz	347,000,000	16.55
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Copper Coins		522,253,731	24.90
Copper $	200 bill.coins	149,253,731	7.12
Copper cash	500 bill.coins	373,000,000	17.78
Paper Money		277,777,777	13.25
Silv.oz.bills	20,000,000oz	27,777,777	1.33
Silv.$bills	$50,000,000	50,000,000	2.38
Copp.cashbill	134,000,000str	100,000,000	4.77
Foreign$bills	100,000,000	100,000,000	4.77
TOTAL		$2,097,031,508	100.00

According to the above estimate, by the end of Qing, the money supply for the whole country was approximately $2.1 billion, or 2.8 billion strings of cash, or 1.5 billion ounces of silver. If we take the national population as 400 million persons, that comes to $5.24, or 3.77 ounces of silver, or more than 7 strings of cash per capita. What is worthy of attention is the following:

First, metal money was an overwhelming proportion of the total, at 86 percent. Paper money only constituted a little over 13 percent. This shows the backwardness of the Chinese economy. The position of silver was especially important. A rather large proportion of the metal money was, however, being hoarded, particularly in the farming villages. Even if silver ingots, silver dollars or copper cash were not hoarded, their velocity of circulation was very low. I suspect that a silver dollar only changed hands once a year in a farming village. Silver ingots barely took part in circulation at all. Even in big cities, they merely served as means for making large payments, and not as a general instrument for circulation. Most of them served as reserves backing paper money. Therefore the quantity of money truly in circulation was much smaller that the figure given in the table.

Second, foreign money occupied a very large proportion of the total figure, nearly 30 percent. This was a reflection of the colonial nature of the Chinese economy then. [It may simply mean that China's industrialization and hence substantial interaction with the world economy had only recently begun. That was the situation of the United States in the early nineteenth century when its money was also mostly foreign. EHK]

The quantity of a country's money is closely related to that country's level of economic development. Therefore, to study the quantity of money of a period is of help in studying that period's productive power. It is a reflection of that period's productive power, but we cannot solely rely on the quantity of money to reflect the time's productive power. We must multiply the quantity of money by the value of a unit of that money. And even this is only significant if compared with the situation during other periods or of other nations.

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The quantity of money at the end of Western Han was mainly composed of the 28 billion Five-grainers, as well as the privately minted coins and the Four-grain Half-ounces which I surmise continued to circulate. These two may be estimated at 7 billion cash, making the total 35 billion copper cash, or 35 million strings of cash. This is not counting 700,000 catties of gold. If we reckon the cost of rice at 650 cash per hectoliter, then 35 billion copper cash were worth a total of 53.85 million hectoliters of rice. On the basis of a population of 59.6 million,

in China During the Last Hundred Years says it was $190 million.

[46] Imamura Tadao, *On China's New Currency Work*, p. 325.

that makes 587 cash per capita, which was worth 0.9 hectoliters of rice.

The quantity of money during Tang prior to the An-Shi Rebellion may be estimated at 40 to 50 million strings. Prior to the kaiyuan period [618-713], approximately 100,000 strings were minted per year, making for a total of around 9 million strings. During the kaiyuan period [713-42], 200,000 strings were produced annually, for a total of 5.8 million strings. Annual coin production during tianbao [742-56] was 300,000 strings, with a total of 4.5 million strings. The quantity of private coins was probably not much different from the total for official coins, about 38.6 million strings. Old coins from previous dynasties may be estimated at 4 million strings, making a grand total of 42.6 million strings. At a rice price of 336 cash per hectoliter, these would be worth 127 million hectoliters of rice. Assuming a population of 52.9 million, there were 720 cash per capita, which was worth 2.5 hectoliters of rice.

The amount of money per capita for Western Han was not as much as during high Tang, and its value was lower. This demonstrates that production was better developed during Tang than during Han.

I have estimated the quantity of money during Northern Song's xining and yuanfeng periods [1068-86] at 200 million strings of copper cash, 20 million strings of iron cash, and 2.5 million strings worth of Exchange Notes denominated in iron cash. With 2 iron cash equal to 1 copper cash, and copper cash at 77 to the hundred, the total equivalent in full strings of cash was 147 to 148 million strings. Assuming 40 million strings of old coins surviving from previous dynasties, we get a total of 190 million strings. The average price of rice during xi'ning and yuanfeng was 1,000 cash per hectoliter, and so the total money supply was worth 190 million hectoliters of rice. Song Dynasty population records are obviously unreliable since they assume only two persons per household. If we correct them on the assumption there were five persons per household, and use the xining 8 [1075] figure of 15,684,529 households, we would obtain a population of over 78 million individuals, and there would have been over 2,400 cash per capita, worth 2.4 hectoliters of rice.

The late Ming money supply included both copper cash and silver. Silver amounted to 150 million ounces. The quantity of copper cash was far below the Northern Song level because Ming minted few cash before its last years. I estimate that official coins, private coins and coins from previous dynasties came to a total of at most only 50 million strings. This is because a large number of Song coins had been buried during times of disorder, a portion of them had been exported, and the majority of them were melted down and reminted during late Ming times. The price of silver then was 800 standard coins per ounce, but it was twice that for private coins. If we assume an average price of 1,000 cash per ounce, the total quantity of money was the equivalent of either 200 million strings of cash or 200 million ounces of silver. The cost of rice was 1.16 ounce of silver per hectoliter, and so the total money supply was worth 130

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million hectoliters of rice. With a population of 60 million [perhaps an underestimate. Some put it at 100-150 million. EHK], the amount of money per capita was 2 strings 500 cash, which was worth a little over 2 hectoliters of rice.

At the end of Qing the amount of money per capita came to something over 7 strings, which was more than for any of the other dynasties. At the end of Qing, the price of rice was 5,250 cash per hectoliter, and the per capita money supply was worth 1.33 hectoliters of rice. This was larger only than the Western Han figure. It was less than for any of the other dynasties.

COMPARATIVE MONEY SUPPLIES
OVER THE COURSE OF HISTORY

Dynasty	Money Supply (in strings)	Cash Per Capita	Rice Equiv. (hectltrs)
late W.Han	35,000,000	587	0.90
Tang, 713-756	42,600,000	720	2.14
Song, 1068-1086	190,000,000	2,436	2.44
late Ming	200,000,000	3,333	2.87
late Qing	2,097,031,508	7,326	1.33

These figures are not very precise. Even if they are roughly correct, those for each dynasty have their own idiosyncracies. For example, gold is not included for Western Han, but silver is for Ming and Qing. Although Western Han's gold was not like Ming and Qing silver, late Ming silver also differed somewhat from late Qing use of the metal. During late Ming, silver was used by weight. During late Qing it was used in the form of minted silver coins. Therefore, the late Ming figures ought to be discounted before they can be compared with those for late Qing and earlier dynasties.

Similarly with copper cash, their velocity of circulation could not have been the same over time. Even during late Qing, the proportions of the whole occupied by the differenct currencies changed almost

annually.

As for paper money, in guangxu 26 [1900], in Manchuria alone there were several hundred million dollars worth of foreign notes, but after several years the amount went down to a significant degree. The other categories of money could, of course, increase in response to this.

Also, as the reliability of population figures varies for different periods, the per capita money supply figures and their value in real terms are not altogether reliable. Aside from this, the late Qing per capita money supply commutation into rice figure is based on the cost of rice in Shanghai. This could have been twice the price level in farming villages. If that latter cost is used, then the per capita figure would be twice that given above, and that would not have been much lower than the late Ming figure.

Generally speaking, the quantity of money during late Qing was unprecedentedly large, but because of the fall in money's purchasing power,

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particularly the fall in price of silver, and because of the increase in population, the amount of money per capita did not increase in proportion. Indeed, in terms of its value, it actually decreased. That is to say, the quantity of money during late Qing was not too large, but rather was too small. The problem of money's scarcity could not, however, be resolved through increasing its quantity. It was necessary to increase production before it would be possible to increase the money supply.