



Ancient Chinese coins and silver, actual size. Left: Yuanbao silver ingot, marked with seal of Baohedian money shop. Right, top to bottom: coins from the Yongle (1403-24), Wanli (1573-1620), and Chongzhen (1628-44) reign periods.

Fountain of Fortune

*Money and Monetary Policy in China,
1000-1700*

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University of California Press

BERKELEY LOS ANGELES LONDON

policy constantly shifted course, “the people fear that the coin they obtain today will be worthless tomorrow.”¹⁰⁰

Policymakers like Ge Shouli considered a sufficient supply of coin essential to the economic security of urban plebeians. In Ge’s view, by halting coinage the state had relinquished its sovereign powers over money and, by extension, over the economy as a whole. Consequently, however, and the parasites who profited from its use, were allowed to dominate the economy. Ge’s proposal to renew coinage was rebuffed by the Ministry of Works, however, on the grounds that the mints operated at a loss; the value of coins amounted to less than half the cost of producing them. Opponents of Ge’s proposal also contended that the amount of coin in circulation sufficed for the few regions where coin actually was used.¹⁰¹

Ge Shouli’s memorials of 1567 signalled a new departure in the evolution of Ming monetary policy. Since the late fifteenth century, policy debates had centered on the problem of the deteriorating value of coin resulting from the proliferation of private issues. For Ge Shouli, the *thesaurus* had changed. Ge predictably excoriated counterfeiters for undermining the value of coin, but clearly he found the displacement of coin by silver as the more serious threat to monetary and economic stability. Precisely at the time Ge was writing, China was experiencing the first effects of a sudden surge in silver imports from Japan and the New World. Ge’s alarm over the predominance of silver undoubtedly stemmed from a recognition that the rising tide of silver imports threatened to wrest away what little control the Ming government still exerted over the domestic money supply. Very soon a growing body of opinion would argue, as Ge did, that Ming coin must prevail at any cost. To understand the new orientation in monetary policy that emerged after 1570, we must first take stock of the dramatic changes in the monetary system wrought by the influx of foreign silver during China’s “silver century.”

4 Foreign Silver and China’s “Silver Century,” 1550–1650

During the sixteenth century the first truly global economy came into being. Spain’s plunder of Peru and Mexico unleashed torrents of gold and silver that cascaded around the globe, joining together, however imperfectly, its disparate economies. The economic significance of the massive importation of “American treasure” into the European economy during the sixteenth and seventeenth centuries remains one of the most enduring controversies in the history of early modern Europe. On the positive side, the flood of New World bullion dissolved the liquidity crisis that had congealed European economic activity in the fifteenth century. But the surge of bullion imports also fed inflation, raising the price level across all of Western Europe by 300 percent within a century, and thus directly contributed to the economic depression underlying “the seventeenth century crisis.”¹ In the course of the debate over the economic effects of New World bullion it has been recognized that much of the silver extracted from Spain’s American colonies—one-third, according to Pierre Chaunu’s estimate²—eventually ended up in China, but historians of Europe have not pursued the implications of the migration of silver to China. In recent years, the great impact that global bullion movements had on the Chinese economy has begun to receive considerable attention from historians of China. However, scholars have attributed great weight to the influx of foreign silver with little consideration of how the monetary system actually worked. An analysis of the real economic impact of foreign silver on the late Ming economy must take into account the response of the domestic monetary system to silver imports. But first we must determine the dynamics of trade and bullion flows and the scale and fluctuations of silver imports during China’s “silver century.”

MARITIME TRADE AND THE INFUX OF FOREIGN SILVER

Ironically, the shift from coin to silver as the basic form of money in China coincided with a growing scarcity, at least in relative terms, of

silver. In the Song dynasty, when coin was abundant, the value of silver vis-à-vis coin rose to its historical high of 1:3000+, but the exchange value of silver measured against gold was fairly low (1:10–12; see figure 2). In the fourteenth century, silver rapidly appreciated, and the gold/silver ratio plummeted to 1:4–5. The failure of Ming efforts to establish a sound currency, whether based on paper instruments or coin, only intensified the demand for silver, particularly as a store of value.

A substantial boom in silver mining in the early fifteenth century no doubt helped ease the way to accepting silver as a means of tax payment and, by extension, as a standard of value. But the output of China's silver mines fell sharply after the 1430s, and many mines were closed. The fact that for the period after 1487, Ming documents record only the total quota of the silver mine excise, rather than the actual receipts from the mines, suggests that the output of the mines probably did not even meet the established quotas. In 1499, the central government permanently reduced the excise quota on silver mines to 1,200 kgs., a mere 13 percent of its average annual receipts of silver (9,225 kgs.) during the peak period of mine production between 1409 and 1434.³ Little effort was made to promote silver mining until the strike at Yuwang Gorge, east of Beijing, in 1556, which prompted the Jiajing emperor to reopen many defunct mines. But a scant two years later, in 1558, most of these mines were shut down again. A report on mine closures in 1558 noted that in the past few years the principal mining districts on average had submitted about 1,810 kgs. of silver per year.⁴ Even in the decade 1597–1606, at the height of the court's most aggressive effort to stimulate domestic mining, silver remittances averaged only 3,650 kgs. annually (table 5).⁵ Silver mine output fell sharply from this level after 1606. It is not known exactly what percentage of mining output the state collected in excise taxes, but Quan Hansheng estimates that the Ming state took about 30 percent of all bullion extracted from registered mines.⁶ If this figure is correct, the output of domestic silver mines in the sixteenth and seventeenth centuries generally averaged no more than 4,000–6,000 kgs. per annum, rising to perhaps 15,000–20,000 kgs. during peak years of production.

In the 1530s, while the Ming court was vainly trying to resuscitate its ailing system of bronze coinage, breakthroughs in Japanese silver mining heralded the dawn of East Asia's "silver century." The discovery of abundant silver deposits in Iwami, in western Honshu, coupled with the adoption, via Korea, of a Chinese cupellation technique for extracting silver from ore, inaugurated a prodigious boom in silver mining in traditionally silver-poor Japan.⁷ By the late 1530s, the deluge of Japanese

Table 5. Silver Mining Remittances, 1597–1606

	Amount Remitted (taels)	Equivalent in Kilograms	Estimate of Silver Production (kgs.)
1597	9,790	367	1,224
1598	71,458	2,680	8,933
1599	65,576	2,459	8,197
1600	88,732	3,327	11,091
1601	156,122	5,885	19,515
1602	109,618	4,111	13,702
1603	177,322	6,650	22,166
1604	129,327	4,850	16,166
1605	44,200	1,658	5,525
1606	122,070	4,578	15,259
Total	974,215	36,533	121,788
Annual Average	97,422	3,653	12,179

SOURCE: Wen Bing, *Dingling zhulüe* (Qing ms. Rpt. Taibei: Weiwen tushu chubanshe, 1976), 4.

ships arriving in Korea laden with silver to purchase Chinese goods began to alarm Korean authorities, who feared that the Japanese would siphon off the bulk of Chinese imports and cause prices to rise. Consequently, in 1539 the Yi court banned Japanese merchant vessels from its ports.⁸ Word of the silver strike in Iwami spread quickly within the Chinese trading network. In 1540, vessels from the southern Fujian ports of Quanzhou and Zhangzhou began to arrive in Japan to procure silver. After blundering upon the Japanese archipelago in 1543, Portuguese merchants initiated a lively trade between Ningbo and Kyushu, exchanging Chinese silk goods and silk yarn for Japanese silver.⁹

As we have seen in chapter 3, the Ashikaga shoguns and the *daimyō* of western Japan, rivals for political supremacy, had long sought to expand trading privileges in China. At the end of the fifteenth century, though, the Ming court drastically curtailed diplomatic and commercial exchanges with Japan, much to the dismay of the Japanese warlords. The friction between the *daimyō* houses of Hosokawa and Ouchi, which ignited—but was not extinguished by—the Onin War, also frayed Sino-Japanese relations. The Hosokawa and the Ouchi, playing out their

contest for power in the international as well as the domestic arena, jockeyed for control of the tribute trade with the Ming. In 1511, and again in 1523, the two *daimyō* sent their own separate missions to Ningbo, to the great consternation of Ming authorities. In 1523, when violence erupted between the Hosokawa and Ouchi delegations and escalated into random attacks on Ningbo residents, the Ming court suspended all trade relations with Japan.¹⁰ The closure of Korean ports to Japanese ships in 1539 denied Japanese merchants their last avenue of access to the Chinese market, and left trade between China and Japan in the hands of Portuguese and Chinese entrepreneurs.

Of course, the interdiction of private maritime commerce decreed by the Ming founder in 1371, and the closing of the Intendancies for Maritime Trade at Ningbo, Canton, and Quanzhou in 1384, had had a chilling effect on overseas trade, but by the late fifteenth century, enforcement of the ban had grown lax. Beginning in 1513, Portuguese merchants repeatedly tried to negotiate trading privileges at Canton, but in 1522 the Ming court firmly rebuffed their entreaties. Thereafter the Portuguese conducted clandestine trade with their Chinese counterparts from anchorages at offshore islands along the Fujian and Zhejiang coasts. Since Japanese ships were excluded from Chinese ports, Japan, with its hunger for Chinese goods and its now abundant supplies of silver, offered a ripe opportunity for Chinese and Portuguese merchants to profit from trade. Chinese visitors to Japan came away convinced that Japan was utterly dependent on imports from China, notably silk yarn: "If foreign vessels do not trade with them, the Japanese would have no yarn for weaving cloth. A hundred *jin* of yarn is worth fifty to sixty taels in their land, and thus those who bring yarn to sell earn a ten-fold profit."¹¹ In return, Japanese silver proved irresistibly attractive to Chinese traders: "The 'barbarian traders' from Japan [i.e., the Portuguese] exclusively use silver to purchase goods, in contrast to the western nations [i.e., central Asians], who bring commodities to trade.¹² Fujian folk profit from the favorable price at which they can obtain silver while at the same time evading customs duties."¹³ While silk yarn was the Chinese product in greatest demand in Japan, finished silk and cotton goods, sugar, porcelain, and mercury all commanded high prices as well.

The swelling trade with Japan, Southeast Asia, and the nascent Portuguese trading empire in the East Indies brought unprecedented prosperity to the coastal cities of southern and southeastern China. Indicative of this newfound affluence was the economic development of the erstwhile fishing port of Yuegang (later Haicheng) in Zhangzhou Bay.

As early as the turn of the fifteenth century Yuegang's wealthy entrepreneurs were building ocean-going ships, in defiance of imperial proscription, to conduct trade with the Ryukyu and Southeast Asia.¹⁴ The traffic in foreign goods that funneled into Yuegang attracted buyers and brokers from the commercial heartland of Jiangnan, earning Yuegang the sobriquet "Little Suzhou/Hangzhou."¹⁵ Indeed, in the marketplaces and shops of Yuegang one was just as likely to hear the dialects of Suzhou and Hangzhou as the local patois.¹⁶ In 1548, Zhu Wan, the high commissioner dispatched by the court to curb illicit maritime trade along the southeastern coast, described Yuegang as "the great metropolis of southern Fujian . . . containing several ten thousands of inhabitants who have amassed hoards of rare goods from distant lands obtained in trade with Japan to the east, Siam to the west, and the Portuguese to the south."¹⁷ In the early 1560s, a native of Yuegang wrote that the port was home to 100 to 200 two-masted ocean-going vessels.¹⁸

The sudden increase in maritime trading activity along the southeast coast aroused considerable dismay among provincial authorities and at the court. Beginning in 1547, the Ming court began to take severe measures to halt the intercourse between Chinese merchants and foreign traders operating out of the offshore islands near Ningbo and Zhangzhou. Zhu Wan's summary execution in 1549 of ninety-six "pirates" seized in a raid on Portuguese vessels anchored near Yuegang was intended to show the court's resolve to enforce its long-standing prohibition against private maritime trade. But the principal effect of these measures was to force ship captains and merchants to become outlaws and renegades, resorting to the smuggling, piracy, and raids on coastal settlements known as the Wokou ("Japanese pirate") troubles. The designation "Japanese pirates" was singularly inapt; Japan figured not as the homeland of the so-called pirates but, rather, as the trading ground they desperately sought to secure.

For two decades, lasting until the late 1560s, coastal settlements and cities suffered repeated devastation at the hands of the Wokou. The protracted campaigns of suppression against the Wokou seriously disrupted Chinese maritime trade and created an opening for Portuguese merchants to seize the advantage in the Japanese market, as the missionary Luis Frois noted in a letter written in Malacca in 1555:

Last year we learned from the ships that came here from China that there were very great quarrels and disputes between China and Japan. A great fleet from Kagoshima had destroyed many places in China

which were situated along the sea-coast. . . . They say that these wars are so fierce that they will not be appeased for many years. The discord between China and Japan is a great help to the Portuguese who want to go to Japan; for as the Chinese do not go thither to trade with their merchandise, the Portuguese merchants have a great means of negotiating their worldly business.¹⁹

Through negotiation (and, according to hostile Chinese critics, bribery) the Portuguese also succeeded in acquiring the right to trade at the port of Canton. In 1554, Portuguese traders reached an understanding with Chinese officials in Canton that would allow them to operate in the guise of nationals of tributary states possessing trading privileges with the Ming in exchange for rendering aid in suppressing piracy. In 1557, the Portuguese received permission to found a permanent base at Macao that became the hub of the Portuguese trading network in East Asia.

Wearying of the constant menace of Wokou depredations and under pressure from distressed merchant communities in the coastal provinces, the court eventually softened its opposition to maritime trade. In 1567, the governor of Fujian persuaded the court to renew trade with “the eastern and western oceans” (i.e., insular and continental Southeast Asia, including the Portuguese merchant colonies) while retaining the ban against all diplomatic or commercial relations with Japan. Certain restrictions were imposed: Chinese ship captains needed to obtain licenses, the number of which was fixed by quota; the export of strategic materials such as sulfur, copper, and iron was forbidden; and merchants were required to return to China within a year’s time. Subsequently the Wokou disturbances largely ceased along the Zhejiang and Fujian coasts. Yuegang, raised to the status of a county seat and rechristened as Haicheng, served as the principal home port for the Chinese merchant fleets embarking on overseas trading expeditions. Although Chinese merchants carried on a clandestine trade with Japan, Portuguese vessels operating out of Macao provided the major conduit for the transfer of Japanese silver to China.

Beginning in the 1570s, the influx of silver from Japan was complemented by silver imports from the New World. After the Spanish conquest of Luzon and the founding of Manila in 1571, Chinese merchants quickly seized the opportunity to supply the isolated Spanish colony with foodstuffs, iron, and other necessities. By the end of the decade, goods purchased from Chinese traders, such as silk and porcelain, and spices from the Indonesian archipelago, were being shipped to the New World

via Manila in exchange for Peruvian silver. Haicheng merchants besieged the Ming authorities with requests for more licenses for Luzon (i.e., Manila), and in 1589 the Ming court finally acceded to their demands. The new licensing system drawn up in that year fixed the total number of licenses at 88, apportioned among several dozen foreign destinations.²⁰ By far the largest number—16—was reserved for Luzon (as many as Batavia, Siam, Palembang, and Cochin combined; no other destination was allotted more than 2 licenses). By 1597, the number of licenses issued at Haicheng had risen to 137, though we do not know how many were granted to Manila-bound ships. In any event the number of Chinese ships, licensed or not, arriving at Manila rose from nine per year in 1577–78 to as many as forty-eight in 1588, and by the late 1590s fifteen to forty Chinese vessels made port at Manila each year (see table 6). Even in 1592, during a short-lived embargo on all maritime commerce (1591–93) promulgated by the Ming in response to the Japanese invasion of Korea, more than twenty Chinese ships reached Manila. Maritime customs revenues at Haicheng rose from 6,000 tls. in 1575 to more than 29,000 tls. after the maritime embargo was lifted in 1594. Even so, customs officers at Haicheng complained that vessels returning from Luzon carried no cargo except for silver coins (Spanish rials-of-eight) and thus paid no customs duties, which were levied only on commodities. In 1589, therefore, the Haicheng customs imposed a surcharge of 150 tls. (lowered to 120 tls. the next year) on ships returning from Luzon to correct this inequity.²¹

The storm of protest that greeted the renewal of the embargo in 1591 testified to the growing dependence of the southeastern coastal provinces on foreign trade. A chorus of leading officials in Fujian resoundingly condemned the suspension of foreign trade, reminding the court that earlier attempts to interdict maritime commerce had resulted in decades of social and economic turmoil. In 1593, they persuaded the court to rescind the ban in the interest of maintaining social peace along the southeast coast.²²

The continuing ban on trade with Japan also proved only a minor hindrance. In 1592, Japan’s supreme leader, Hideyoshi, anxious to obtain strategic military supplies like lead and saltpeter, and gold to finance the invasion of Korea, began to issue “vermillion-seal” licenses to merchants in Japan that allowed them to trade at Macao and the ports of Southeast Asia. While Hideyoshi chiefly was interested in trade as a means to obtain war materiel, Japan’s domestic prosperity, fed by the

Table 6. Arrivals of Chinese Merchant Vessels at Manila, 1577-1645

<i>Chinese Vessels</i>	<i>Total Number of Arrivals</i>	<i>Chinese Vessels</i>	<i>Total Number of Arrivals</i>
1577	9	15	1612
1578	9	33	46
1580	19	50	23
1581	9	?	1627
1582	24	?	21
1588	48	?	1628
1591	21	?	1629
1596	40	?	1630
1597	14	?	1631
1599	19	29	1632
1600	25	30	1633
1601	29	33	1634
1602	18	21	1635
1603	16	?	1636
1604	15	26	1637
1605	18	23	1638
1606	26	30	1639
1607	39	42	1640
1608	39	?	1641
1609	41	44	1642
1610	41	?	1643
1611	21	?	1644
			1645
			11
			8
			30
			16
			34
			30
			8
			11
			14

SOURCE: Chaunu, *Les Philippines et le pacifique des ibériques (XVI^e, XVII^e, XVIII^e siècles)* (Paris: S.E.V.P.E.N., 1960) I: 148-60.

vigorous fecundity of its silver mines, whetted a keen appetite for Chinese products. Yao Shilin, a native of Hangzhou writing in the 1590s, boasted that Japan depended entirely on imports from China for its fine consumer goods:

Nearly all the needs of Japan are supplied with products from China. Their homes are furnished with Chinese rugs and curtains woven in the Chang'an quarter of Hangzhou; the rouge, powder, fans, and lacquered goods used by Japanese women, and the gold and silver leaf needed by their artisans, all are manufactured in Hangzhou as well. Porcelain from Jingdezhen, silk and brocade from Huzhou, pongee and

satin from Zhangzhou, and cotton cloth from Songjiang are considered especially precious in their country.²³

Despite the taste for luxuries touted by Yao, silk yarn destined for the weaving shops in Kyoto's burgeoning Nishijin district accounted for the largest share of Japan's imports.

Tokugawa Ieyasu (1542-1616), who established himself as Hideyoshi's successor with his triumph at the battle of Sekigahara in 1600, continued and expanded the "vermillion-seal" licensing system and negotiated a treaty restoring trading relations with Korea. Ieyasu also sought to restore diplomatic and trade relations with China via Korean and Ryukyu intermediaries and warmly received Chinese merchants who visited Japan's ports.²⁴ In 1610, the governor of Fujian complained that the allure of the Japanese market, which he described as twice as profitable as Manila, caused flagrant violations of the proscription against trade with Japan.²⁵ Over the next few years many Fujian vessels were seized for making illicit voyages to Japan, and the court approved a new policy of arresting investors as well as shipbuilders and crews in an effort to stifle the expansion of commercial exchanges with Japan.²⁶ Despite the increasingly severe penalties meted out for violating the embargo, some sixty to seventy Chinese ships made port at Nagasaki in 1613.²⁷

More commonly, Japanese and Chinese merchants traded with one another in the neutral settings of Southeast Asian ports. The newly founded Nguyen kingdom, established in Quang-nam province (known to Europeans as Cochinchina) along the central coast of Vietnam, proved especially hospitable to foreign merchants. The port of Hoi-an (called Faifo by the Portuguese), near modern Danang, emerged as a major crossroads for intra-Asian maritime trade in the final years of the sixteenth century. The Nguyen rulers' benign neglect of the entrepot at Hoi-an only magnified its attractiveness to Chinese and Japanese merchants, who chafed under the noose of tight regulation in their homelands. Europeans were unable to establish a foothold at Hoi-an. The deep drafts of their vessels prevented European traders from crossing the bar into Hoi-an's protected harbor, forcing them to settle for a poorer anchorage farther north, at Tourane. Thus, Chinese and Japanese merchants dominated the rich trade at Hoi-an, where Japanese silver and copper was exchanged for sugar and Chinese silks. One historian has described Hoi-an in this period as "a Chinese port away from China."²⁸ But in fact the city was divided into two separate enclaves, one Chinese and one Japanese, and Hoi-an probably occupied an even more central place in the foreign trade of Japan as the principal destination of the

Table 7. Japanese Silk Yarn Imports, 1634

Source/Port of Entry	Carrier	Yarn Imports (kin)	Value of Yarn Imports (kgs. of silver) ^a
Vietnam	"Vermillion-Seal"	1,500	14,625
Nagasaki	Chinese	1,000	9,750
Ryukyus	Chinese	700	6,825
Hirado	Dutch	640	6,240
Nagasaki	Portuguese	200	1,950
Total		4,040	39,390

SOURCE: Robert L. Innes, "The Door Ajar: Japan's Foreign Trade in the 17th Century," Ph.D. diss., Univ. of Michigan, 1980, p. 391.

^aThe value of yarn imports is based on the current price of 2.6 *kanme* per *kin* of yarn.

"vermillion-seal" ships. Nearly a quarter of all of the "vermillion-seal" ships bearing the Tokugawa shogun's patent embarked for Hoi-an.²⁹ The expulsion of the Japanese from Macao in 1608 and renewed Ming efforts to curb smuggling off the Chinese coast left the free port of Hoi-an as perhaps the key link in the exchange of Chinese silk for Japanese silver.

The ascendancy of the "vermillion-seal" ships and the ports of Vietnam as the principal intermediaries between Chinese and Japanese markets was revealed in a letter by the Jesuit missionary Valentin Carvalho, writing from Macao in 1615, explaining the reasons behind the recent downturn in the fortunes of Portuguese traders:

In 1612, Portuguese ships imported only 1,300 quintals of raw silk [into Japan]. Apart from other commodities, Japan imported 5,000 quintals of raw silk aboard Japanese [i.e., "vermillion-seal"], Manila [Spanish], and Chinese ships. Particularly, Cochin China started trading activities which proved to be a great obstacle to the activities of Portuguese ships. Chinese ships brought large quantities of raw silk there, where the Japanese went to buy it, load it on their ships, and carry it back home.³⁰

As table 7 shows, in 1634—a year in which silk yarn constituted 48.5 percent (by value) of all Japanese imports—the "vermillion-seal" trade with Vietnam was Japan's primary source of Chinese silk yarn. The data in table 7 also reveal that the Dutch and Portuguese, who together

delivered only 20 percent of yarn imports, occupied a fairly marginal position in this lucrative trade.

After the Tokugawa regime vanquished its remaining rivals in 1615, its preoccupation with obtaining strategic military supplies diminished, and the shogunate steadily gravitated toward control and restriction of foreign trade. The shogunate abrogated the "vermillion-seal" ship trade in 1635, expelled the Portuguese after the outbreak of the Christian-inspired Shimabara Rebellion in 1639, and by 1641 confined both the Dutch and Chinese to the single port of Nagasaki. The seclusion policies adopted by the Tokugawa were integrally linked to the shogunate's effort to create a rigidly stratified society of functionally distinct orders in which governance and commerce were strictly segregated. The main motive behind the seclusion policies was a desire to separate public duty from private gain by insulating the *daimyō*, the principal investors in the "vermillion-seal" trade, from the corrupting influence of commerce. But the Tokugawa did not intend to deny themselves the benefits of foreign trade.³¹ The volume of Japan's foreign trade reached a new peak in the period 1636–39, and remained at a high level throughout the 1640s, despite the restrictions and the expulsion of the Portuguese.³²

Official trade between Fujian and Manila reached its peak in the first two decades of the seventeenth century (see table 8). In 1611–12, Chinese vessels accounted for 91.5 percent of the total customs revenue collected at Manila, a telling indication of the overwhelming dominance of Chinese merchants in the Philippine market.³³ Spanish colonial administrators in both Mexico and Manila, dismayed by the drain of New World silver out of the Spanish empire, particularly deplored the loss of silver to China, which they estimated at 5 million pesos (equivalent to 127,800 kgs.) per year.³⁴ In the 1620s, though, the aggressive actions taken by the Dutch to wrest away the Chinese market from their Iberian rivals severely disrupted commercial traffic between China and Manila. In 1622, after their attempt to seize Macao was repulsed by Portuguese defenders, the Dutch occupied the Pescadores. The Ming navy routed the Dutch from the Pescadores in 1623 but succeeded only in driving them into a new refuge on Taiwan. The Dutch presence on Taiwan, which became a new center for smuggling and piracy, provoked the Ming court to renew the blanket prohibition against maritime trade, briefly in 1623–24, and then permanently from 1626 onward, except for a year-long hiatus in 1631–32.³⁵ But the Dutch trading base of Zeelandia in southern Taiwan, and the Spanish outpost founded in 1626 at Keelung, at the

Table 8. Estimates of Philippine Silver Exports to China, 1586–1645
(five-year totals)

	Chinese Ships		Portuguese Ships	
	Value of Exports (pesos) ^a	Equivalent in Kilograms of Silver	Value of Exports (pesos) ^a	Equivalent in Kilograms of Silver
1586–90	625,000	15,975	—	—
1591–95	3,827,500	97,831	—	—
1596–1600	4,026,000	102,905	—	—
1601–5	5,017,333	128,243	—	—
1606–10	7,730,500	197,592	—	—
1611–15	4,479,700	114,232	—	—
1616–20	1,754,517	44,845	167,916 ^b	4,292
1621–25	506,383	12,943	560,365	14,323
1626–30	935,866	23,921	474,009	12,116
1631–35	849,333	21,709	967,167	24,721
1636–40	1,894,417	48,421	304,250	7,776
1641–45	1,020,750	26,090	529,167	13,525
Total, 1601–45	617,996		76,753	
Total, 1586–1645	834,707		76,753	

SOURCES: Chaunu, *Les Philippines et le pacifique des ibériques*, I: 200–205; Juan de Ybarra, "Discussion Regarding Portuguese Trade at Manila" (1636), in *The Philippine Islands, 1493–1898*, ed. E. H. Blair and J. A. Robertson (Cleveland: Arthur H. Clark Co., 1905), XXV: 143–44.

^aExtrapolated from *almojarifazgo* customs duties collected from Chinese and Portuguese vessels at Manila (the *almojarifazgo* was set at 3 percent *ad valorem* up to 1610, and 6 percent thereafter).

^bPortuguese vessels were allowed to trade at Manila beginning in 1619.

island's northern end, thrived because of their close proximity to Fujian's ports.³⁶

Dutch depredations, the revival of piracy, and the hostility of the Ming court to foreign trade greatly weakened the Chinese merchants' domination of the Manila market. But when the Ming ban on maritime commerce was relaxed from 1624 to 1626, and again in 1631, Chinese merchants immediately regained their paramount place in Manila.³⁷ Even in the 1633–37 period, despite the reinstatement of the ban, Chinese merchants were able to recover a substantial portion of the Manila market. In 1636, though, Crown investigators led by Don Pedro de Quiroga y Moya discovered evidence of widespread evasion of customs

duties by Portuguese ships. Quiroga ordered a halt to all trade with China and Macao. Although the embargo was lifted a year later, Quiroga's action had a catastrophic effect on trade relations with China. Rising discontent among the Chinese in the Philippines exploded in a violent insurrection, bloodily suppressed by the Spanish, in 1639–40.³⁸ In the aftermath of the uprising, trade with Chinese merchants declined, though it rebounded again in 1642–43 (see table 6).

The reduced Chinese trade with the Philippines after 1620 was offset to a significant degree by normalization of commercial traffic between Macao and Manila. Despite the absorption of Portugal into the Spanish empire in 1580, Spanish authorities in Manila resolutely refused to allow the Portuguese more than a token foothold in the Philippines. But the predatory tactics of the Dutch left Macao increasingly isolated from the Portuguese trading empire in the Indian Ocean, forcing Macao's merchant colony to seek a new link to Europe through the Philippines. From 1619, the Portuguese won approval to establish direct trade between Macao and Manila, and during the 1620s and 1630s the Portuguese garnered a significant share of the Manila market, about 25 percent of the total value of registered imports. The actual size of the Macao-Manila trade undoubtedly was far greater, since most of the trade with Macao was conducted surreptitiously. A report of 1632 estimated that imports from Macao averaged 1.5 million pesos a year, though customs duties were levied on only a tenth of that amount. Quiroga's embargo of 1636 was prompted by his discovery that a mere 20 percent of what he estimated at 4 million pesos' worth of Portuguese imports was registered with customs officials at Manila. Although Portuguese trade was also adversely affected by the Chinese uprising in Manila in 1639–40, in 1642 the Portuguese registered their highest recorded total of legal imports (valued at 434,610 pesos), a level that Chinese imports had not attained since 1620.³⁹ Moreover, a growing portion of the trade between the Philippines and Fujian passed behind the veil of the Dutch and Spanish settlements on Taiwan, which provided smugglers with convenient havens sheltered from the reach of the Ming navy.⁴⁰

THE CIRCULATION OF SPECIE IN EAST ASIA DURING THE "SILVER CENTURY"

It is important to keep in mind that in the trading network of East Asia, silver served not simply as money but as a commodity in itself. Merchants acquired silver, much like any other commodity, with the intention of

reaping arbitrage profits upon delivering it to the market in which silver was in greatest demand (i.e., China). Thus the Dutch merchant Jan Huygen van Linschoten, at anchorage in Macao in 1587, wrote in his log that "the commodity taken from Macao to Japan is silk, while only silver is brought from Japan, *the profit on silver being considerable*" (my emphasis).⁴¹ The role of silver as a commodity was cogently described by the Jesuit missionary Père Borri, who resided in Quang-nam (Cochin) from 1618 to 1622: "[All foreign merchants] bring silver to Cochin to exchange for the merchandise of the country. These wares are not purchased but, rather, are bartered for this silver, which is used here as a commodity, worth sometimes more or sometimes less, depending on whether or not it is available in great abundance, just as in the case of silk and other commodities."⁴² Borri neglected to mention that Quang-nam served as one of the principal transfer points for silver journeying from Japan or Goa to China. But he rightly recognized that the trade in silver should not be construed as a sign of a money economy. Indeed, bronze coin, not silver, served as the local means of exchange in the Nguyen realm, despite the busy trafficking in silver that took place in its ports. Silver, like other kinds of merchandise, was exchanged through a system of barter, and its value was determined not by any ruler's writ, but by the laws of supply and demand.

The "profit" silver yielded in China impelled Chinese merchants to seek new sources of supply abroad. Korean annals from the 1540s and 1550s recorded that Chinese merchants traveled to Japan for the sole purpose of procuring silver.⁴³ The Chinese market's insatiable demand for silver profoundly disturbed many Ming officials. Much of the criticism against foreign trade voiced by Chinese statesmen arose from the conviction that merchants brought to China only precious metals devoid of any practical worth. Thus, for example, in 1551, in the midst of the Wokou troubles, Feng Zhang urged the court to retain the embargo on maritime commerce by arguing that foreign trade furnished little of value: "Unscrupulous merchants carry away to foreign lands precious commodities of the Middle Kingdom like silk yarn, brocades, damask, cotton, porcelain, and iron, which they exchange not for goods but only for gold and silver." Feng admitted that a few imports, such as pepper and sapanwood, found a ready market in China, but he claimed that the demand for these products was limited and within a few years the market would be saturated.⁴⁴ In 1604, the governor of Fujian, Xu Xueju, likewise affirmed that because of China's essential self-sufficiency foreign trade yielded few benefits. Xu observed that while the goods Europeans

produced, such as woolens, would find no market in China, Chinese traders hungered after the silver in the Europeans' possession: "Zhangzhou folk know that they possess silver, and silver is highly coveted. Moreover, initially the Europeans were readily deceived about the true value of Chinese goods, and much silver could be obtained from them in trade. Our subjects engage in commerce in Luzon solely because of the silver coins of the Portuguese [sic]."⁴⁵ The grand secretary Li Tingji, replying to Xu's report, ruefully acknowledged that the poor of Fujian "invariably bring to Luzon cheap and shoddy goods which they exchange for silver coins; returning home fully laden with coin, they often attain great wealth."⁴⁶

For conservative statesmen like Xu Xueju and Li Tingji, silver imports were a dubious blessing. But others believed that foreign silver was a commodity of great value. In 1630, the Fujian native He Qiaoyuan argued in favor of repealing the ban on foreign trade enacted in 1626 by stressing the rich profits that foreign trade yielded:

By the "Eastern Ocean" we mean Luzon, which is populated by the Portuguese [sic]. Their country contains silver mountains, the product of which the foreigners mint into silver coins in prodigious quantities. When our Chinese subjects journey to trade in the "Western Ocean" [i.e., continental Southeast Asia and the Indian Ocean] they trade the goods we produce for the goods of others. But when engaging in trade in Luzon they have designs solely on silver coins. . . . A hundred *jin* of Huzhou silk yarn worth 100 taels can be sold at a price of 200 to 300 taels there. Moreover, porcelain from Jiangxi [i.e., the pottery works of Jingdezhen], as well as sugar and fruit from my native Fujian, all are avidly desired by the foreigners.

He Qiaoyuan concluded that the silver acquired through foreign trade brought real economic benefits both to Fujian and southern China as a whole. Foreign markets ensured employment for weavers, potters, and merchants, whose waxing affluence augured higher standards of living for all.⁴⁷

Chinese merchants did not simply pursue bullion; they sought one particular metal—silver. The source of profit from silver was, of course, the high price silver commanded in China. The gold/silver ratio in China had drifted slightly downward from its historical peak of 1:4–5, achieved in the late fourteenth century, to 1:6 by the early sixteenth century (see figure 2). In contrast, the gold/silver ratio hovered around 1:12 in Europe, 1:10 in Persia, and 1:8 in India. Rials-of-eight struck in Europe with New World silver steadily migrated eastward, to the Levant, India, and

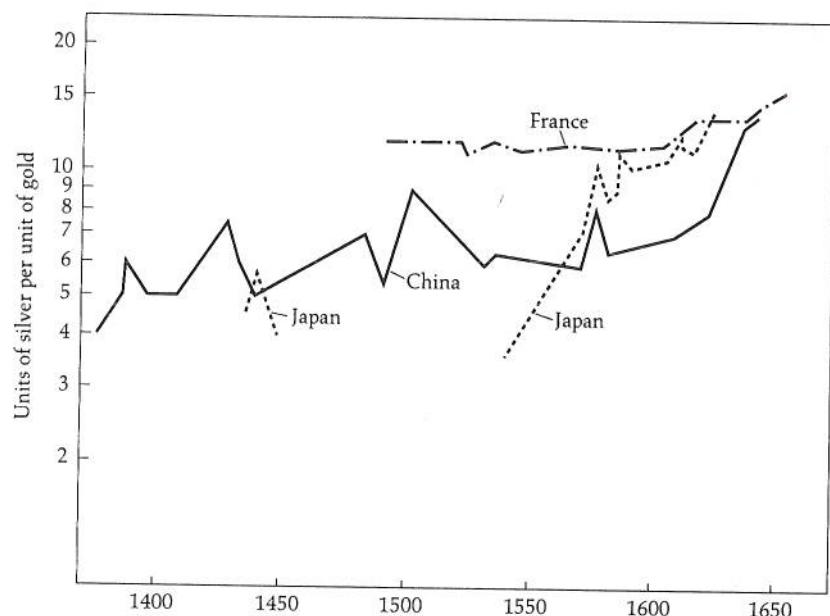


Figure 4. Gold/silver ratios in China, Japan, and France, 1370–1660.

Sources: France: Official mint price, from Frank C. Spooner, *L'économie mondiale et les frappes monétaires en France, 1493–1680* (Paris: Armand Colin, 1956), p. 339. China: Combination of official and market prices, from Peng, *Zhongguo huobi shi*, p. 714. Japan: Relative purchasing value of precious metals measured in rice, from Yamamura and Kamiki, "Silver Mines and Song Coins," pp. 354–56.

Malacca, before being “sucked in” to China.⁴⁸ The Chinese appetite for silver was fully apparent to Europeans as early as 1563, when the Venetian merchant Caesar Fredericke wrote that “the [Portuguese] ship that goeth every yeere from the Indies [Malacca] to China is called the ship of Drugs, because she carieth divers drugs of Cambaia [on the northwestern coast of the Indian subcontinent], but the greatest part of her lading is silver.”⁴⁹ While the value of silver in China began to decline following the onset of foreign imports in the middle of the sixteenth century, China’s gold/silver ratio remained well below the international rate until the 1640s, when a rough (and short-lived) equilibrium was established between precious metals ratios in China, Japan, and Europe (see figure 4). The premium silver obtained in China made the Chinese market the final destination of worldwide silver flows. Thus the retired Portuguese merchant Gomes Solis could write in his *Arbitrio sobre la plata* (*Discourse on Silver*; published in Lisbon in 1621), “Silver wanders

throughout all the world in its peregrinations before flocking to China, where it remains, as if at its natural center.”⁵⁰

Before the mid-sixteenth century, international exchanges of specie in East Asia primarily consisted of exports of Chinese bronze coins to Japan in return for Japanese gold. The prodigious growth of silver mining in Japan after 1530 radically transformed the vectors of international bullion flows in East Asia; henceforth silver poured into China, while gold reversed course and migrated abroad. Ralph Fitch, who traveled in the East Indies between 1583 and 1591, noted that silver flowed into China from both east (Japan) and west (India), while gold traveled in the opposite directions: “When the Portugals go from Macao in China to Japan, they carry much white silk, gold, musk, and porcelains; and they bring from thence nothing but silver. They have a great carrack which goeth thither every year, and she bringeth from thence every year about six hundred thousand cruzados; and all this silver of Japan, and two hundred thousand more in silver which they bring yearly out of India, they employ to their great advantage in China; and they bring from thence gold, musk, silk, copper, porcelains, and many other things very costly and gilded.”⁵¹ The falling value of silver in Japan encouraged a rush to gold. In Japan, the intensifying struggle for unification and military supremacy and Hideyoshi’s invasion of Korea in 1592 raised the demand for gold to unprecedented heights (see figure 5).⁵² The Jesuit Alessandro Valignano remarked on this hunger for gold during his visit to Japan in 1592: “Daimyos want to have their silver sent to Macao through the padres of the Society of Jesus and to get it exchanged for raw silk or gold. In ordinary cases, they only want gold. . . . When I visited Macao last year [1591], I was given permission by the municipality of Macao to send up to 6,000 ducats of silver to Macao to exchange it for gold. But this amount is not sufficient to meet even half the demand for gold of the daimyos in Japan, and I am afraid that it will increase day by day.”⁵³ According to the testimony of a Japanese envoy at Macao, recorded in a Jesuit work published there in 1590, great quantities of gold flowed out of China to Japan and other overseas markets: “This region [China] affordeth especially sundry kinds of metals, of which the chief, both in excellence and abundance, is gold, whereof so many pesos are brought from China to India and our country of Japan, that I have heard say, in one and the same ship, this present year, 2,000 such pieces, consisting of massie gold, as the Portugals commonly call golden loaves, were brought unto us for merchandise; and one of these loaves is worth almost 100 ducats.”⁵⁴ These figures translate into a scarcely-credible

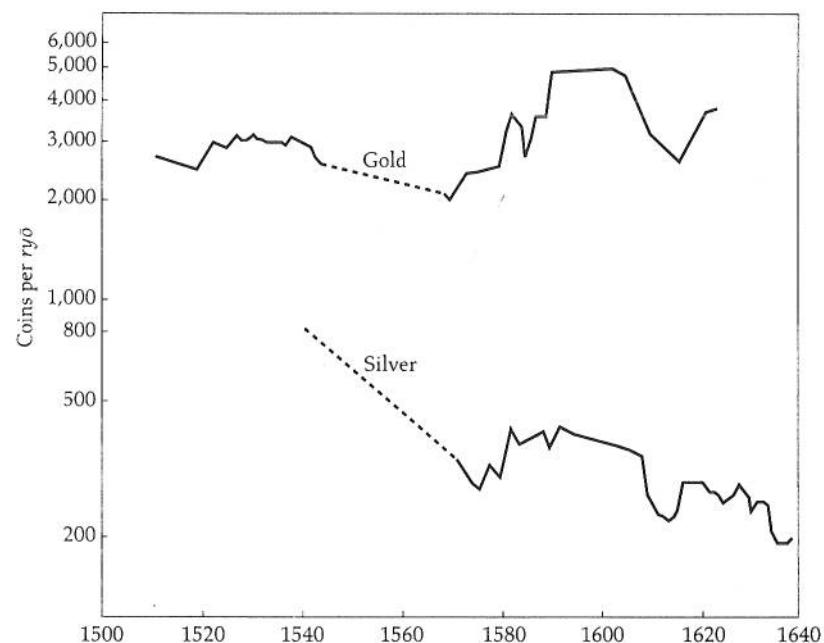


Figure 5. Gold/bronze coin and silver/bronze coin exchange ratios in Japan, 1500–1640.

Source: Yamamura and Kamiki, "Silver Mines and Song Coins," pp. 354–55.

cargo of 750 kgs. of gold, twenty times as much as Valignano brought from Macao, and ten times more than the amount annually remitted to Beijing from the gold mines of Yunnan.⁵⁵

Other observers shared the Japanese envoy's wonder at the quality and quantity of gold in China. Pedro de Baeza, a Spanish official who served in the East Indies for thirty years, eagerly promoted the idea that Spain should exploit the opportunity to trade New World silver for Chinese gold in a treatise published in 1609: "Forasmuch as throughout all the kingdom of China there is an enormous quantity of fine gold of more than twenty-two carats touch; if this was brought to New Spain, or to Castile, a profit of 75 or 80 per cent would be made." Baeza noted that the Chinese treated gold "as a commodity which rises and falls in accordance with the supply and demand, and it does not have a fixed value there as here in Castile." Describing the market at Canton in the 1590s, he stated that gold commonly traded in China at a ratio of 1:5.5 with silver, and even when gold was most dear the gold/silver ratio did not surpass 1:7.5, in contrast to the prevailing ratio of 1:12.5 in Spain.

By purchasing gold from the Chinese, Baeza argued, Spain could earn sufficient profits to offset the chronic trade deficits with China incurred in the Philippines.⁵⁶

Though Baeza's plan apparently did not win converts in Madrid, Portuguese and Dutch traders reaped enormous arbitrage profits by bringing Chinese gold to Japan. A Portuguese memorandum on trade between Macao and Japan that C. R. Boxer dates to around 1600 declared that gold could be purchased from the Chinese at a price of 5.4 tl. per *liang* and then sold in Japan for 7.8 tl., yielding a profit of 45 percent.⁵⁷ In 1622, the governor of the Dutch factory at Batavia reported to Amsterdam that several hundred thousand *liang* of gold could be purchased in Macao at an exchange ratio with silver of 1:8, and then sold in Japan at a rate of 1:13.⁵⁸ But the high value of gold in Japan stimulated domestic mining in the second quarter of the seventeenth century, depressing the demand for gold imports, while the price of gold in China continued to rise. In 1635, a Dutch merchant who sold 500 *liang* of gold in Japan calculated his profit at 30 percent, in contrast to the 60 percent that could be obtained in 1622. In the 1630s, European merchants discovered that gold now fetched a better price in Southeast Asia than in Japan and began to export Japanese gold to Quang-nam and Siam until the shogunate, alarmed by the drain of gold abroad, prohibited the export of gold in 1641.⁵⁹

In China, too, the value of gold appreciated in the early seventeenth century, though at a slower pace than Japan. However, Chinese merchants exhibited no interest in gold. Antonio de Morga, a former colonial administrator in Manila writing in Mexico around 1609, confirmed that Chinese merchants greatly favored silver over gold, accepting only silver coins as a means of payment, "for they do not like gold, nor any other goods in exchange, nor do they carry any to China."⁶⁰ The most succinct statement of the Chinese hunger for silver came from the pen of the missionary Sebastiao Manrique, who recounted that Spaniards in Manila, where he worked in 1637–38, said that in the eyes of the Chinese, "silver is blood."⁶¹

The surfeit of silver in Japan also prompted a steep fall in its purchasing power measured against bronze coin (see figure 5). As we saw in chapter 3, Chinese coin continued to provide the bulk of Japan's currency throughout the sixteenth century. Even cheap counterfeit coin manufactured in Yuegang specifically for export—derided by Gu Yanwu as "worst of all coin"⁶²—was worth nearly as much in Japan as full-bodied coin was in China.⁶³ Although Oda Nobunaga began minting

gold and silver coins in 1572, bronze coin only slowly surrendered its preeminence as a medium of exchange (and did so to rice rather than to gold or silver specie). Tokugawa Ieyasu, upon achieving political supremacy in 1600, immediately set out to establish a new currency system based on precious metals. Ieyasu deplored the chaotic jumble of imported and counterfeit coin that constituted Japan's domestic money and sought to remedy this ignominious disorder by putting Japan on a gold standard. Beginning in 1601, Ieyasu issued gold coins, most notably the *koban* (initially fixed at 10 *monme*, or 37.5 g.), in addition to a standard silver ingot known as *chōgin* (weighing 500 *monme*, or 1.875 kg.). Yet not until the 1630s was the Tokugawa shogunate able to institute stable gold and silver currencies.⁶⁴ In any case, imports of Chinese coin, both full-bodied and debased, probably had slowed to a trickle by the end of the sixteenth century as domestic private coin proliferated.

Chinese coins were also highly prized in Southeast Asia, which for centuries had suffered chronic shortages of hard currency. In nearly every marketplace throughout the Indonesian and Malay archipelagos European traders found Chinese bronze coins used as the common currency.⁶⁵ Much of the coin of Chinese origin circulating in Southeast Asia had been minted in the Song period, though a certain amount of Ming coin also leaked abroad.⁶⁶ By the early seventeenth century, the dramatic increase in the production of cheap, private coin in Japan provided another source of supply. As precious metals supplanted coin as the principal hard currency in Japan, these cheap coins—bearing Chinese reign-marks, of course—were exported to Southeast Asia, where even broken coins won ready acceptance. Coin became, apart from silver, the principal export cargo of the “vermillion-seal” ships. The export of coin to Quang-nam yielded great profits for Japanese merchants, and their domination of this particular commodity put European merchants in Quang-nam at an even further disadvantage.⁶⁷ During the heyday of the “vermillion-seal” trade, Japan’s role in international exchanges of coin was turned on its head: traditionally an importer of Chinese coin, Japan became the leading exporter of coin to the pan-Asian market.

Thus, the flow of specie in East Asia during the sixteenth century cannot be interpreted simply as a mechanism for offsetting deficits in international trade. Bullion flows were triggered by the price differentials between sources of supply and areas of demand. But Chinese desired only one particular form of bullion—silver. Gold, a net import a century earlier, flowed out of China during the “silver century.” Evidence regarding bronze coin is more exiguous, but it seems likely that the long-

standing hemorrhage of Chinese coin abroad continued, even if at a reduced rate. Silver poured into China because the Chinese market valued it more highly than anywhere else in the world; at the same time bronze coin and gold departed through Ming China’s porous frontiers, pulled by the magnetic power of external markets.

QUANTITATIVE ESTIMATES OF SILVER IMPORTS IN LATE MING CHINA

The problem of estimating the total quantity of silver imported into China from Japan and the New World has been the subject of intense scrutiny and debate. In the absence of any quantitative data on foreign trade in Chinese sources, it is necessary to extrapolate the scale of silver imports using reports from contemporary observers and trade data from exporting countries. Although the significant lacunae in these records preclude precise estimation of the quantity of silver imported into China, we can use existing records to determine at least the magnitude of silver imports in late Ming China and the degree to which the volume of silver imports fluctuated over time. My estimates for silver imports rest on one key assumption: that China was the ultimate destination of all silver that entered the East Asian trading sphere. The rationale for this assumption is that silver earned a higher return on the Chinese market than anywhere else in the world during this period. It is likely that a small percentage of silver, for example a portion of Japanese silver brought by the Dutch to Batavia, was shipped to India instead. But on the whole I believe the assumption is a valid one.⁶⁸

Estimates of the scale of Japanese exports to China before 1600 have been based principally on statements of contemporary European merchants and missionaries, who calculated the value of silver carried by Portuguese vessels from Japan to Macao in terms of Portuguese cruzados or Italian ducats (see table 9). Both the cruzado and the ducat were employed as monies of account equivalent to the Chinese silver tael, the common monetary standard of East Asia. Since the tael itself was a measure of weight (37.5 g.), the figures quoted by European observers can be readily translated into actual quantities of silver. The most generous estimate of Japanese exports is that proposed by Yamamura Kozo and Kamiki Tetsuo, who, based on Robert Fitch’s high figure, suggest that Portuguese ships carried some 890,000–1,490,000 kgs. of silver from Japan to Macao during the period 1560–1600.⁶⁹ Brian Moloughney and Xia Weizhong, also citing Fitch, propose a far more conservative

Table 9. Estimates of Silver Carried by Portuguese from Japan to Macao in the Late Sixteenth Century

	<i>Observer</i>	<i>Value of Silver</i>	<i>Equivalent in Kilograms</i>
ca. 1583-91	Robert Fitch	600,000 cruzados	15,336
ca. 1583-87	Jan van Lischoten	150-200,000 ducats	3,834-5,112
1585	Luis Frois	500,000 cruzados	12,780
1593	Allessandro Valignano	500,000 ducats	12,780

SOURCES: C.R. Boxer, *The Great Ship from Amacon* (Lisbon, Centro des Estudos Historicos, 1959), pp. 48, 64; George Bryan Souza, *The Survival of Empire: Portuguese Trade and Society in China and the South China Sea, 1630-1754* (Cambridge: Cambridge University Press, 1986), p. 56.

figure of 500,000 kgs. exported from Japan to Macao before 1600.⁷⁰ G.B. Souza has weighted the contemporary observations according to the actual number of voyages made between Macao and Japanese ports to arrive at a sum of 745,000-914,000 kgs. for the period 1546-1597.⁷¹ On balance, Souza's estimate stands as the most persuasive. If we accept Yamamura and Kamiki's crude estimate that during this period 11,500 kgs. of silver were directly exported each year from Japan to China by Chinese vessels,⁷² the total quantity of Japanese silver exported to China before 1600 was on the order of 1,200 to 1,370 metric tons.

The quantity of silver imported into China from the Philippines during this period, though less than Japanese imports, nonetheless was considerable. Pedro de Rojas, the licentiate of the Audiencia of Manila, wrote to Philip II in 1586 to announce that Chinese vessels carried off 300,000 pesos (peso = rial-of-eight) annually, and in that year the total sum of purchases from Chinese merchants surpassed 500,000 pesos.⁷³ Spanish officials in Manila continually warned Madrid that the drain of New World silver to China portended dire consequences ranging from the growing indolence of native peoples in the Philippines to the decimation of Mexico's fledgling silk industry. In 1591, the governor at Manila wrote to Philip II to urge the king to suspend trade with Chinese merchants, but he added the caveat that this measure would cost the colony 30,000-40,000 pesos per year in customs duties (known as *almojarifazgo*).⁷⁴ *Almojarifazgo* receipts from Chinese vessels actually averaged 23,000 pesos a year in the 1590s but rose substantially in the first two decades of the seventeenth century (see table 8). Extrapolating

from the customs duty of 3 percent ad valorem levied on Chinese traders beginning in 1581, we can deduce that the total value of dutiable Chinese exports to Manila in the 1590s averaged around 770,000 pesos annually. Since Philip II had exempted foodstuffs and military supplies—which probably constituted the largest portion of Chinese cargoes—from the customs duty in 1589, it seems reasonable to conclude that the total value of Chinese imports substantially exceeded 1 million pesos. In light of the report of 1589 by customs officials at Haicheng that ships returning from Luzon bore no cargo other than silver coins, we can infer that annual Chinese imports of New World silver in the 1590s exceeded 750,000 pesos, and probably totaled more than 1 million pesos. The peso, of course, was a current coin, equivalent in weight to 0.75 liang.⁷⁵ I estimate, based on these figures, that the total amount of silver exported from Manila to China from 1572 to 1600 to have been no less than 584,000 kgs., considerably higher than the estimate of 420,000 kgs. given by Yamamura and Kamiki.⁷⁶ This figure amounts to about 7.5 percent of the total output of Peruvian mines during this period.⁷⁷

In addition to imports channeled through Manila, New World silver also reached China from Europe, via the Portuguese trading network ringing the Indian Ocean and the caravan route that passed from the Levant across central Asia. Artur Attman estimates the annual average outflow of bullion from Europe to "Eastern Asia" (everywhere east of the Levant) at 1.4 million rix-dollars (36,400 kgs. of silver) circa 1600 and 1.3 million rix-dollars (33,800 kgs.) circa 1650.⁷⁸ Although much European silver that reached India was converted into coin, Indian rupees also tended to migrate toward China.⁷⁹ Ralph Fitch estimated that in the 1580s Portuguese traders each year brought 200,000 cruzados (7,500 kgs. of silver) in trading capital from Goa to Macao.⁸⁰ If even half the silver transmitted from Europe to India passed on to China, we can project, based on Fitch's estimate for the second half of the sixteenth century and Attman's figures for the first half of the seventeenth, that some 1,230 metric tons reached China by this route during the "silver century."

Based on the above calculations, it seems reasonable to suggest that in the last half of the sixteenth century, China imported in excess of 2,330 metric tons of silver, or 46,600 kgs. per year, about 60 percent of which originated in Japan. Given the lacunae in the data and the lack of documentation for the volume of silver brought to China by smugglers, this figure should be seen as a minimum level.

Table 10. Estimates of Japanese Trade and Silver Exports, 1604–1639

Carrier	Value of Imports (kanme)	Value of Imports (kgs. of silver)	Estimate of Silver Exports ^a (kgs.)
"Vermillion-seal" ships	298,000	1,053,750	843,000
Portuguese	216,900	813,375	650,700
Chinese	114,620	429,825	343,860
Dutch	76,332	286,245	228,996
Total	705,852	2,583,195	2,066,556

SOURCE: Innes, "The Door Ajar," pp. 379–80.

^aThe estimate of silver exports is based on the approximation that silver constituted 80 percent of the total value of exports.

Statistical data on foreign trade and bullion exchanges are more abundant for the seventeenth century, but estimating Chinese imports is equally problematic. In my view, Yamamura and Kamiki, following earlier studies by Kobata Atsushi and Iwao Seiji, present implausibly high estimates for Japanese silver exports, in the range of 150,000–187,500 kgs. per year, for the first half of the seventeenth century.⁸¹ As Robert Innes and others have pointed out, the Kobata-Iwao calculations are projected from the peak years of Japan's foreign trade and cannot be considered representative of the average volume of silver exports.⁸² The relatively good foreign trade statistics for Japan enable us to calculate the magnitude of Japan's silver exports. Unfortunately, the trade data pertains only to imports and thus does not provide direct evidence for the quantity of silver exports. Still, we know that in 1636 silver made up 86 percent of the total exports of the Dutch factory at Hirado.⁸³ In the period 1656–65, after the output of Japanese silver mines had begun to slacken, silver still accounted for 69 percent of Japan's total exports.⁸⁴ We are probably safe in estimating that silver constituted at least 80 percent of Japan's exports in the first half of the seventeenth century. Applying this percentage to the whole volume of Japanese trade for the period 1604–39 (see table 10), we arrive at an estimate of 2.07 million kgs.⁸⁵ Adding to this an estimate of 362,000 kgs. for the Dutch and Chinese trade from 1640 to 1645 (see table 11) gives us a crude total estimate of 2.432 million kgs. (2,432 metric tons) of silver exported from Japan in the period 1604–45, far less than the 6.0–7.5 million kgs. projected by Yamamura and Kamiki. Of course, some quantity of Jap-

Table 11. Exports of Silver from Japan by Dutch and Chinese Ships, 1640–1645

	Dutch Silver Exports (guilders)	Chinese Exports Equivalent in Kilograms	Estimate of Chinese Silver Exports ^a (kgs.)	Total in Kilograms of Silver
1640	3,720,313	38,245	13,847	41,541
1641	769,500	7,910	? ^b	50,000 ^b
1642	1,063,050	10,928	9,922	29,763
1643	1,949,400	20,040	10,626	31,878
1644	2,089,050	21,475	15,277	45,831
1645	1,222,650	12,569	17,291	51,873
Total		111,167		250,886
				362,053

SOURCES: Dutch Exports: F. S. Gaastra, "The Exports of Precious Metal from Europe to Asia by the Dutch East India Company, 1602–1795," in Richards, ed., *Precious Metals in the Later Medieval and Early Modern Worlds*, p. 474, table 1.

Chinese Exports: Innes, "The Door Ajar," p. 408; there are trivial discrepancies between the figures cited by Innes and those reported in Iwao, *Shūinsen bōekishi*, p. 380.

^aThe estimate of silver exports is based on the approximation that silver constituted 80 percent of the total value of exports.

^bIn 1641, 97 Chinese vessels arrived at Nagasaki (highest recorded total prior to 1686; see Iwao Seiichi, "Kinsei nisshi bōeki ni kansuru sūryōteki kōsatsu, *Shigaku zasshi* 62.11 (1953), p. 991). By comparison, in 1645, 76 Chinese ships arrived at Nagasaki. Most likely, Chinese exports of Japanese silver in 1641 exceeded any other year in this six-year period. Therefore, I am including what I believe is a conservative estimate of 50,000 kgs. exported by Chinese ships in this year.

anese silver was smuggled to China. But we must also keep in mind that the *chōgin* silver exported from Japan was a mere 80 percent fine, in contrast to the 90-percent-plus fine silver that circulated in China and the New World. Bars of Japanese *chōgin* silver were regularly discounted 15 to 20 percent on the international market because of their low degree of purity.⁸⁶ It is not unreasonable to simply net out the volume of smuggled silver and the discounted value of debased *chōgin*.

While the estimate of Chinese silver imports from Japan presented here is well below the figures frequently repeated in the secondary literature, it is important to recognize that the volume of imports from Japan remained steady throughout the first half of the seventeenth century despite dramatic alterations in the routes by which this silver traveled.

Initially, Western and Chinese historians alike overlooked the significant flow of silver from Japan to China and instead emphasized the

remarkable volume of New World silver that emigrated to China by diverse routes. The reports of enormous transfers of silver via Manila to China on the scale of 5 million pesos (127,800 kgs.) per year, with a report of 12 million pesos for the year 1597, have served as the principal evidence for estimates of Chinese silver imports in excess of 200,000 kgs. per year in the early seventeenth century.⁸⁷ However, the customs duty data indicate a far more modest level of exports from Manila to China. As table 8 shows, the value of registered Chinese exports to the Philippines between 1600 and 1645, extrapolated from *almojarifazgo* receipts, was equivalent to 618,000 kgs. of silver, and that of Portuguese imports amounted to 76,750 kgs. of silver, for a total of 694,750 kgs. Of course, as noted above, the authorities in Manila regularly complained that 50 to 90 percent of Portuguese trade went unreported, and Chinese merchants engaged in smuggling as well. The sharp fall in *almojarifazgo* revenues after 1620 probably owed to the displacement of a large portion of the Philippine trade out of official channels and into the hands of smugglers. In fact, the amount of silver sent to the Philippines from Acapulco peaked during the 1620s (see table 12), and a leading authority has speculated that the drain of silver to the Philippines in the 1620s was a principal reason for the decline in remissions of New World silver to Spain at this time.⁸⁸ Thus the figure of 694,750 kgs. without doubt greatly underestimates the volume of China's silver imports from the Philippines; the actual scale of silver imports to China could easily have been three or four times as great, though 5 million pesos a year (which would yield a total of 5.75 million kgs. for the entire period 1600–45) seems far-fetched. Most of the reports from Manila in the 1620s and 1630s estimated the volume of silver exported to China at roughly 2 million pesos (51,100 kgs.) annually.⁸⁹ This figure would be roughly 3½ times the value of Chinese imports extrapolated from customs duties. I would suggest a more conservative estimate of 1.5 million pesos (or 38,325 kgs.) of silver imports from Manila. Altogether, then, we can roughly estimate that the Chinese and Portuguese merchant fleets delivered 1,725 metric tons of silver from the Philippines to China in the first half of the seventeenth century.

In sum, the volume of silver exported to China in the last century of the Ming can be estimated at around 7,300 metric tons (see table 13), although this figure is significant more as an order of magnitude than as a precise measure of quantity.⁹⁰ In the first half of the seventeenth century the amount of silver imported into China each year averaged 116,000 kgs., or 250 percent more than in the second half of the sixteenth century.

Table 12. Officially Registered Exports of Silver from Acapulco to the Philippines, 1581–1700 (in kgs.)

	<i>Public Monies</i>	<i>Private Stocks</i>	<i>Total</i>
1581–90	32,198	—	32,198
1591–1600	11,912	14,779	26,691
1601–10	30,030	89,886	119,916
1611–20	64,967	129,035	194,002
1621–30	92,545	138,638	231,183
1631–40	93,882	89,716	183,598
1641–50	56,408	44,980	101,388
1651–60	38,556	51,523	89,079
1661–70	35,262	?	—
1671–80	41,625	?	—
1681–90	49,900	?	—
1691–1700	42,467	?	—
Total, 1581–1650	381,942	507,034	888,976

SOURCE: TePaske, "New World Silver, Castile, and the Philippines," pp. 444–45, tables 4–5.

Still, the scale of silver imports was considerably less than the estimates in excess of 200,000 kgs. per annum that are frequently encountered in the recent scholarship on the "seventeenth-century crisis." Moreover, the data on bullion flows assembled here does not show any sharp decline in Chinese imports in the waning years of the Ming dynasty. The expulsion of the Portuguese from Nagasaki and the demise of the "vermillion-seal" ship trade in the late 1630s were followed by a dramatic surge in Dutch and Chinese exports of Japanese silver. Similarly, the decline in official trade between China and the Philippines after 1620 most likely was offset by a proliferation of illicit trade on a scale comparable to the peak years of the official trade. Overall, the Chinese economy did not experience any sudden diminution of silver imports during the last years of Ming rule. During the period 1640–45, China received 50,000 to 80,000 kgs. of silver per year from Japan and the Philippines, exclusive of smuggling (see tables 8 and 11).

While the evidence does not bear out the thesis that China suffered a sharp contraction in silver imports in the late Ming, the impact of silver imports on the late Ming economy, and on the monetary system in particular, was indeed substantial. Our estimate of domestic silver mine

Table 13. Estimates of Chinese Imports of Foreign Silver, 1550–1645
(in metric tons)

Source/Carrier	1550–1600	1601–1645	Total, 1550–1645
Japan			
Portuguese	740–920 ^a	650 ^d	1,390–1,570
Chinese	450 ^b	599 ^{d,e}	1,049
"Vermillion-seal"	—	843 ^d	843
Dutch	—	340 ^{d,e}	340
Smugglers	?	?	?
<i>Subtotal</i>	1,190–1,370+	2,432+	3,622–3,802+
	(1,350–1,950) ^b	(6,000–7,500) ^b	(7,350–9,450) ^b
New World/ Philippines			
Chinese	584 ^c	620 ^f	1,204
Portuguese	—	75 ^f	75
Smugglers	?	1,030 ^c	1,030+
<i>Subtotal</i>	584+	1,725	2,309+
	(420) ^b	(900) ^b	(1,320) ^b
Indian Ocean/ Europe	380 ^c	850 ^c	1,230
Total	2,154–2,334+	5,007+	7,161–7,341+
	(1,770–2,370) ^b	(6,900–8,400) ^b	(8,670–10,780) ^b

NOTE: Figures in parentheses are estimates from Yamamura and Kamiki, "Silver Mines and Sung Coins," pp. 351–53.

^aSource: Souza, *The Survival of Empire*, pp. 54–58.

^bSource: Yamamura Kozo and Kamiki Tetsuo, "Silver Mines and Sung Coins: A Monetary History of Medieval and Modern Japan in International Perspective," in J. F. Richards, ed., *Precious Metals in the Late Medieval and Early Modern Worlds*, pp. 351–53.

^cSource: Author's own estimates.

^dSource: Table 10.

^eSource: Table 11.

^fSource: Table 8.

output, it will be recalled, was 4,000–6,000 kgs. per year. In contrast, silver imports ranged from 46,600 kgs. per year in the late sixteenth century to an annual average of 116,000 kgs. in the early seventeenth century. With due recognition of the limitations of these estimates, we are probably on safe ground in concluding that during the second half

of the sixteenth century silver imports were adding at least eight times more bullion to China's stock of money than domestic mines; in the first half of the seventeenth century, imports exceeded domestic production by perhaps twenty-fold. To appreciate the impact of such massive imports of silver on China's domestic economy and monetary system, we must return to the raucous debates over the direction of Ming monetary policy.