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Born with a "Silver Spoon": The Origin of World Trade in 1571

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THE birth of world trade has been described by C. R. Boxer (1969, p. 17) in the following terms: "Only after the Portuguese had worked their way down the West African coast, rounded the Cape of Good Hope, crossed the Indian Ocean and established themselves in the Spice Islands of Indonesia and on the shore of the South China Sea; only after the Spaniards had attained the same goal by way of Patagonia, the Pacific Ocean and the Philippines—then and only then was a regular and lasting maritime connection established between the four great continents."

Although Boxer does not pick a specific date for the birth of global trade, his logic leads us to choose 1571—the year the city of Manila was founded. Manila was the crucial entrepôt linking substantial, direct, and continuous trade between America and Asia for the first time in history.

For our purposes, global trade emerged when all important populated continents began to exchange products continuously—both with each other directly and indirectly via other continents—and in values sufficient to generate crucial impacts on all the trading partners. It is true that there was an important intercontinental trade before 1571, but there was no direct trade link between America and Asia, so the world market was not yet fully coherent or complete. To understand the global significance of the direct Pacific trade between America and Asia—international trade history's "missing link"—it is useful first to discuss the underlying economic forces that motivated profitable world trade in the early modern period. The singular product most responsible for the birth of world trade was silver.

THE ROLE OF SILVER IN CREATING A WORLD MARKET

More than the market for any other commodity, the silver market explains the emergence of world trade. China was the dominant buyer of silver. On the supply side, Spanish America (Mexico and Peru) erupted with unprecedented production of the white metal. Conservative official estimates indicate that Latin America alone produced about 150,000 tons of silver between 1500 and 1800 (Barrett 1990, p. 237), perhaps exceeding 80% of the entire world production over that time span (Cross 1983, p. 397). Despite America's dominance in silver production over three centuries, Japan may have been the primary exporter of silver to China in the late sixteenth and early seventeenth centuries, shipping perhaps 200 tons per year at times. Japanese silver exports, however, fell off dramatically in the second half of the seventeenth century (Innes 1980, chap. 6).¹ "The amount of Japanese silver poured into foreign trade in the heyday of Japan's overseas trade, 1615 to 1625, through Japanese, Chinese, Dutch, Portuguese and other ships, reached tremendous value, roughly estimated at 130,000–160,000 kilograms—equal to 30% or 40% of the total world silver production outside Japan. This explains why European and Asian merchants were so enthusiastic about developing trade with Japan" (Iwao 1976, p. 10). The central point is that all the great silver mines in both hemispheres sold ultimately to China.

We intentionally emphasize the role of China—and its tributary system (Hamashita 1988)—in the silver trade because the scholarly literature in general has neglected this pivotal country, certainly in terms of recognizing China as a prime causal actor. The literature on New World treasure is huge and multifaceted—sometimes focusing on sixteenth-century price inflation (the price revolution),² and/or the rise and fall of Spain,³ and/or the transition from feudalism to capitalism,⁴ and many other issues—but it is unified in one central respect: it focuses virtually exclusively on Europe as the fulcrum. Europe is considered the epicenter of early modern commercial activity. The sixteenth-century price revolution, for example, is mostly thought of

¹ According to the calculations made by Barrett (1990, p. 225), Japan may have produced about 30% of the world's silver in the sixteenth century and around 16% in the seventeenth century.

² For an overview of the main theoretical arguments of the price revolution literature, see Outhwaite 1969; Ramsey 1971; Flynn 1977, chap. 2; Flynn 1984a and 1984b.

³ See Hamilton 1937; Elliott 1961; Kamen 1964; Gordon 1975; Kamen 1978; Israel 1981; Kamen 1981; Flynn 1982.

⁴ Hamilton 1929; Keynes 1930, vol. 2; Neff 1936; Hamilton 1952; Felix 1956; Nadal 1959; Wallerstein 1974 and 1976; Brenner 1977; Hunt 1978; Flynn 1984.

in terms of European price inflation, when in reality it was a global phenomenon.⁵ In a remarkably clear summary of China's participation in the global price revolution, Geiss (1979, p. 144) provides an exception to the normal Eurocentric focus: "In the late sixteenth century, however, when silver from Mexico and Japan entered the Ming empire in great quantity, the value of silver began to decline and inflation set in, for as the metal became more abundant its buying power diminished. This inflationary trend affected the values of all commodities; everything had been valued in silver and silver lost its value. Ramifications of this change touched the lives of almost everyone in the empire."

Europe's Dutch and English East India Companies are often viewed as prototypes of modern multinational corporations. The scholarly literature recognizes that huge quantities of silver flowed to Asia, but this phenomenon is considered a reflection of Europe's balance-of-trade deficit with east Asia; Europeans developed a far greater taste for Asian finery than the other way around, according to conventional wisdom, so treasure had to flow from west to east to pay for Europe's trade deficit. In short, all the key issues are normally framed in terms of European perspectives.

Acceptance of a global perspective instead of the predominant Eurocentric view outlined above yields a startlingly different view. It becomes clear that Europeans did indeed play an important role in the birth of world trade, but their role was as middlemen in the vast silver trade; they were prime movers on neither the supply side (except Spain in America) nor the demand side of the worldwide silver market. Europeans were intermediaries in the trade between the New World and China. Massive amounts of silver traversed the Atlantic. After it had reached European soil, the Portuguese in the sixteenth century and Dutch in the seventeenth century became dominant distributors of silver by a multitude of routes into Asia. Attman conservatively estimates that 150 tons of silver passed through Europe into Asia on an annual basis. "The country which reigned supreme in arranging solutions for the deficit problems in world trade was Holland, acting mainly on her own behalf in the Baltic area, the Levant and Asia, but also acting for other nations. . . . Even when other countries needed precious metals Holland acted in many cases as a clearing centre and in the final stage as an exporter of precious metals. . . . But the bulk of the precious metals required for the Asian trade came from

⁵ For price inflation in China, see Cartier 1981 and Wilkinson 1980; for Japan, see Innes 1980; for Turkey, see Sahillioglu 1983; and for Russia, see Blum 1956.

Europe around the Cape" (Attman 1986, p. 6). It is worthwhile to reflect momentarily on Attman's estimate of 150 tons of silver exported each year from Europe to Asia. Attman emphasizes that his estimates include only specie shipments (i.e., bullion is excluded from consideration) and that he has studied only port records (i.e., overland trade is excluded). If Attman had included bullion shipments through ports, as well as specie and bullion shipments over land routes, his estimate of west-to-east silver flows would have been far greater. He warned readers of the conservative and partial nature of his estimates, but scholars rarely acknowledge this when citing his figures.

The Pacific leg of the China trade has not received the attention it deserves. Writing of the period 1571–1620, TePaske says that an enormous quantity of silver passed over the Pacific, especially out of Acapulco and through Manila on its way to China. "Mexican silver also flowed out to the islands in large sums, far exceeding the 500,000-peso limitation. In fact at the opening of the seventeenth century the drain of pesos from Mexico to the Orient through the Philippines was estimated at 5 million pesos [128 tons] annually, with a reported 12 million pesos [307 tons] being smuggled out in 1597" (TePaske 1981, p. 436). These are shocking figures because this alleged average of 5 million pesos (128 tons per year) over the Pacific, at the turn of the century, is only 15% less than the 150 tons minimum that Attman says Europe shipped to Asia on an annual basis. Moreover, the 12 million pesos (307 tons) in 1597 is more than double Attman's estimate of the entire European leg of the journey of silver to China. These may seem like fantastic figures to some, but Barrett (1990, p. 236) has pointed out a glaring discrepancy between Spanish American production figures and estimated exports to Europe: production seems to have exceeded exports to Europe by 5.5 million pesos (135 tons) per year. Barrett reasons that this 5.5 million pesos must have either remained in America or been exported through the Philippines.⁶ It will become clear shortly that exportation of such a vast amount of silver through Manila makes sense in global terms, while its retention in the New World does not.

How has the Philippines trade been perceived by Asian scholars? Using the Blair and Robertson collection of primary sources, Chuan (1969, p. 79) estimates that at least 50 tons of silver (2 million pesos)

⁶ Cross 1983, p. 420, talks of a vast smuggling trade in the sixteenth century: "Quantities of silver left the New World through the ports of Buenos Aires and Sacramento and through the Manila Galleons. At the peak of these activities, perhaps as much as 6 million pesos per year (159,000 kg), or half the output of Peru, was diverted to these channels from the Seville trade."

passed over the Pacific annually throughout the seventeenth century; silver shipments did not decline slightly after 1620 and precipitously after 1640, as previously argued by Chaunu (1960, p. 250).⁷ How significant is 50 tons in relative terms? Fifty tons of silver equals the average annual exports to Asia by Portugal plus the Dutch and English East India Companies combined in the seventeenth century (Flynn and Giráldez 1994a). Fifty tons of silver was also the amount that was shipped through the entire Baltic trade (the Russian and Polish-Lithuanian markets), according to Attman (1986, p. 81). It is interesting to contrast the historiographic notoriety of the Portuguese trade, in combination with that of the East India Companies, with the situation of the Manila galleons on the Pacific side; each may have shipped approximately equal quantities of silver annually, yet the Pacific trade is rarely mentioned.

Manila had no purpose other than the trade in silver and silk. The city contained 42,000 inhabitants in the middle of the seventeenth century (Wolf 1982, p. 153), approximately the same population as Barcelona, Danzig, Marseille, and other cities with more broadly based economies (Mols 1977, pp. 42–43; deVries 1984, app. 1). Manila's population circa 1650 included about 15,000 Chinese, 7,350 Spaniards, and an estimated 20,124 Filipinos.⁸ The Pacific route of silver to China was Spain's only avenue for entry into the lucrative Asian marketplace because the trade out of Europe in the sixteenth and seventeenth centuries was controlled first by the Portuguese and later by the Dutch. Spain's Manila galleons initiated the birth of Pacific rim trade more than 420 years ago.

Eurocentrism predisposes us to imagine that the East India Companies injected dynamism into backward Asian economies in the early modern period. Recent scholarship (Hamashita 1988, for example) suggests that the European companies simply plugged into the pre-existing network of intra-Asian trade. The export of Japanese silver provides a good example of this process. As was the case in the west-to-east trade, first the Portuguese—in competition with Chinese junks and Japanese red-seal ships—and then (after 1639) the Dutch played

⁷ Pierre Chaunu's conclusions were based on study of the *almojarifazgo* duties, which covered only the taxed portion of the trade. It is widely known, however, that smuggling was rampant in the Manila trade, and sources from the Asian side of the Pacific provide estimates of silver exports far in excess of Chaunu's numbers (Flynn and Giráldez 1994a and 1995).

⁸ Phelan (1959, p. 178). There were thousands of Japanese in Manila, too, including Japanese Catholics fleeing persecution at home. Spaniards feared a Japanese "fifth column" within the Philippines, however, and expelled large numbers of Japanese several times (Innes 1980, p. 59).

the role of intermediaries in this crucial Sino-Japanese trade. Again within Asia's marketplace, the European role is most accurately portrayed as that of middlemen, not prime movers. Europeans were important, but potentially disposable, intermediaries who could be—and in the case of the expulsion of the Portuguese from Japan in 1637, were—replaced at the convenience of Asian trading partners.

CHINA: THE WORLD'S SILVER SINK

The early modern production and distribution of silver in the western hemisphere has been studied extensively, but the world's biggest end-customer, China, is routinely eliminated from the story. This is peculiar. Nobody would think of analyzing, say, the world oil industry today without paying considerable attention to the major oil-importing industrial regions; China's dominance as an importer of silver was arguably at least as pivotal during the birth of world trade as is the industrial world's dominance as importers of oil in today's global marketplace. Godinho (1963, 1:432–65) aptly describes China as a "suction pump" (*bomba aspirante*), a "vacuum cleaner" that attracted silver globally for centuries. Surprisingly, few scholars have continued to investigate the nature of China's metamorphosis into a seemingly bottomless silver sink; Atwell (1977, 1982, 1986, 1988) provides perhaps the most consistent exception to this bias.

The market value of silver in Ming territory was double its value elsewhere. This fact is reflected in the bimetallic ratios reported in Chuan (1969, p. 2): "From 1592 to the early seventeenth century gold was exchanged for silver in Canton at the rate of 1:5.5 to 1:7, while in Spain the exchange rate was 1:12.5 to 1:14, thus indicating that the value of silver was twice as high in China as in Spain." Divergent bimetallic ratios created tremendous prospects for profitable arbitrage trade. Economic theory predicts that gold should have flowed out of China, where it was undervalued relative to the rest of the world, in exchange for Japanese and Western silver, which was relatively overvalued in China compared with the rest of the world. This is precisely what happened from the middle of the fifteenth to the middle of the seventeenth century (Chaudhuri 1978 and 1986; Flynn 1986). It is crucial to focus on silver to understand the underlying motivation of world trade: it was the elevated value of silver inside China that created the opportunities for profit around the globe. Rather than see the west-to-east flow of silver as a reaction to Europe's trade deficit with Asia, we contend that the cause of the trade centered in China and its

tributary system. Demand-side causation was of Asian origin, to which the rest of the world reacted.

How can we be confident that the arbitrage argument outlined above is superior to the traditional European trade-deficit hypothesis? The trade-deficit argument says that "money" would have to have been transshipped to Asia to cover the trade imbalance. "Money" here refers to all types of high-value coins containing internationally recognized intrinsic content, such as gold and silver. However, we have already established that gold and silver did not travel jointly into the Asian marketplace as a balancing item called "money." New World silver did indeed travel from Europe to Asia, but it crossed paths with gold coming in the opposite direction—out of Asia and into the West. Abstract "money" did not balance a trade deficit in the passive way commonly portrayed in the literature; rather, it was a specific commodity—silver—that traveled to Asia, not gold. Gold was one of the products for which silver was exchanged. The cause of this trade rests with developments endemic to the silver market, not with developments in nonsilver markets. Moreover, the exchange of silver for gold was not a Europe-versus-Asia issue in any case. Japanese silver also flowed to China in exchange for Chinese gold, which flowed into Japan, for exactly the same reasons that gold flowed to the West. In sum, Europe was not the causal center in early modern trade; moreover, the East-versus-West "trade imbalance" was not the mechanism driving world trade. There was no "trade imbalance" for which to compensate, so long as we recognize that silver itself was the key commodity distributed globally and that it was exchanged for items—mostly silk and porcelain but also gold—from the Asian mainland. Causation was located in the silver market itself, with America and Japan anchoring the supply side and China dominating the demand side.

China's metamorphosis from a paper-money system (dating from at least the eleventh century) to a silver-based economy was crucial. Overissue of paper money in China had reduced the value of this fiduciary medium to virtually nothing by the middle of the fifteenth century (Gernet 1982, p. 415). Daily commerce required a medium of exchange to replace the worthless paper money, and silver evolved as the metal of choice. Gold was too valuable for most ordinary transactions, but copper coinage was a candidate for monetary preeminence. Geiss (1979, p. 155) explains how silver defeated copper, in a passage worth quoting at length:

The value of the coin lay in the metal, not in the mint. In that respect copper coins were hardly different from silver; each was valued as a

piece of precious metal. While silver could, if necessary, be assayed for purity, copper coins could not. To assay a copper coin entailed its destruction. The only way to ascertain the copper content was to melt the coin, and this would defeat the purpose of coining money. But with coins of varying weight and metallic content in circulation, setting a price in copper coins became a tricky business. The rice merchant would have to specify what kind of copper coin he had in mind, each had a different value in the marketplace, and the price of the merchant's rice depended on the type of coin offered in payment. How much simpler to set the price in silver, and that in fact is what happened. Silver came to be the preferred medium of valuation and exchange.

Geiss's explanation is straightforward and compelling. Silver's gradual "conquest" of the Chinese economy may seem relatively innocuous to some at first glance—just another detail in "area studies"—but this development fundamentally altered the direction of international commerce. It also influenced the structure of power among nations throughout the world.

The Ming tried repeatedly to retard the intrusion of silver into (and from) the coastal centers of merchant power. Silver's penetration was irresistible, however, and local governments in maritime regions began specifying that taxes be paid in silver. Gradually Ming rulers abandoned their resistance to silver and implemented the Single-Whip tax system around the 1570s (Huang 1974; Liang 1970). The Single-Whip system specified two things: first, myriad existing national levies were consolidated into a single tax; second, all tax payments were to be made in the form of silver. Considering that China contained perhaps one-fourth of the earth's population by the seventeenth century, with urban centers of up to 1 million inhabitants (five to seven times greater than the largest cities in western Europe), the "silverization" of China inevitably had global ramifications.⁹ China's tributary system also converted to silver, so we are talking about far more than one-quarter of the globe's population. Conversion of the world's largest economic entity to silver caused the metal's value to skyrocket in China relative to the rest of the world.

The early modern world silver trade involved structural transformations that penetrated much deeper than the mere movement of a couple of hundred thousand tons of the white metal to its most lucra-

⁹ Demand for silver along China's coastal region alone must have been significant, considering that Nanjing contained more than 1 million inhabitants and Beijing around 660,000 in the late Ming period (Rodzinski 1979, p. 201).

tive market. The process yielded prodigious profits for key individuals and institutions. From mines in the Andes and Japan to the streets of China, profit was the motive force at each stage of the trade. European middlemen profited mightily from intercontinental trade and perhaps even more from the inter-Asian trade linkages, but the truly grand profiteers in the silver saga were those entities that controlled the centers of its production: imperial Spain and the Tokugawa shogunate. Conversely and ironically, the silver trade may have contributed indirectly to the overthrow of the Ming dynasty.

SILVER AND THE POWER BASES OF IMPERIAL SPAIN, THE TOKUGAWA SHOGUNATE, AND MING CHINA

The richest silver mine in the history of the world was discovered at more than 15,000 feet altitude in the Andes in Potosí (present-day Bolivia), a one-way journey of two and one-half months via pack animal from Lima. Nothing grew at that altitude, so there was no population at the time silver was discovered in 1545. During the ensuing sixty years, Potosí's population swelled to 160,000, about equal to that of London or Paris.¹⁰ This would be the modern-day equivalent of, say, 20 million people moving to a spot on Alaska's North Slope. Evidently something unusual was going on in Potosí.

Potosí's *cerro rico* (rich mountain) may have produced 60% of all the silver mined in the world in the second half of the sixteenth century.¹¹ Its veins were incredibly rich. In addition to naturally bountiful deposits, a series of new production technologies—the most famous being the mercury-amalgam “patio process”—combined to render Spanish American mines the world's lowest cost sources of silver (Jara 1966). This supply-side phenomenon was particularly fortuitous because it coincided chronologically with the extraordinary rise in the value of silver caused by the Chinese demand-side forces culminating in the Single-Whip tax reform. The combination of low supply-side production costs in Spanish America and Chinese-led demand-side elevation in silver's value in Asia generated probably the most spectacular mining boom in human history. This combination of supply-side and demand-side forces implied enormous profits.

No entity reaped greater rewards from the silver industry than the

¹⁰ DeVries 1984, app. 1.

¹¹ Cross (1983, p. 404) states that “despite the decline of Potosí, beginning in the 1640s, the viceroyalty of Peru accounted for 60% of the world's silver production in the sixteenth and seventeenth centuries.”

Spanish crown, which wisely allowed favored “private sector” entrepreneurs to operate New World mines, rather than attempting to do so itself.¹² Instead, the crown took a substantial fraction of mining profits through taxes. The most famous tax was the *quinto*, a 20% severance tax on gross value, but there were many indirect taxes as well.¹³ According to Hamilton (1934, p. 34), 27.5% of total registered precious metals entering Seville between 1566 and 1645 belonged to the crown of Castile.¹⁴ Revenues from overseas mines provided the fiscal foundation for the Spanish empire.

Spain was a small country of perhaps 7.5 million inhabitants by the middle of the sixteenth century, about half the population of France (Elliott 1961, p. 57). Elliott (1961, p. 62) has described Castile of 1600 as “an economy closer in many ways to that of an East European state like Poland, exporting basic raw materials and importing luxury products, than to the economies of West European states.” Carande (1965, p. 340) and many others classify Spain as backward domestically, substantiating the observation that the financial foundation of the Spanish empire was based on resources outside the Iberian peninsula.¹⁵ Mine profits were enormous, and there was no comparable profit center elsewhere, so we conclude that the New World mines supported the Spanish empire (Flynn 1982).

This view of Spain leads to surprising but inevitable conclusions. We have already established that domestic developments inside China elevated the value of silver in world markets far beyond what it could have been otherwise. The largest beneficiary of silver's high value must have been the Spanish crown, the institution that reaped enormous profits by way of its control and taxation of the low-cost New World centers of production. Thus, the silver-industry profits that financed the Spanish empire were huge because China had become the world's dominant silver customer. This implies that ultimately China was responsible for a power shift within early modern Europe. In the ab-

¹² The crown did directly control the famous mercury mines near Huancavelica on the Peruvian coast. Potosí's resurgence after 1573 was attributable to the reforms enacted by Toledo, which included successful adoption of the mercury-amalgam mining process (Cross 1983, p. 402).

¹³ For discussion of the *quinto*, which frequently amounted to far less than 20% in reality, see Brading and Cross 1972.

¹⁴ Note that the 27.5% of shipments belonging to the crown represents far more than 27.5% of the total profit. Much of the crown's revenues could be considered “profit,” while huge costs had to be subtracted from private receipts before arriving at private net profit.

¹⁵ Scholars such as Elliott (1961) and Lynch (1984, 2:1), have long emphasized both external and domestic foundations of the Spanish empire. For a more complete discussion of why we believe that the foundation of empire was external, not domestic, see Flynn and Giraldez 1995.

sence of the "silverization" of China, it is hard to imagine how Castile could have financed simultaneous wars for generations against the Ottomans in the Mediterranean; Protestant England and Holland and the French in Europe, the New World, and Asia; and against indigenous peoples in the Philippines.

Even giant China could not prop up Spain indefinitely. As tens of thousands of tons of silver accumulated on the Asian mainland, its value gradually fell there (as it had already been doing in the West and Japan) toward its cost of production. Imports eventually glutted even China's vast silver market. We know that this portrayal of silver's loss of value is accurate because by about 1635 it took about 13 ounces of silver to buy an ounce of gold in China, while a half century earlier it took 6 ounces of silver (Geiss 1979, p. 165). The value of silver also fell relative to other things, not just gold, which is to say that price inflation occurred. "In the late sixteenth century . . . when silver from Mexico and Japan entered the Ming empire in great quantity, the value of silver began to decline and inflation set in; for as the metal became more abundant, its buying power diminished. This inflationary trend affected the value of all commodities; everything had been valued in silver and silver lost its value. Ramifications of this change touched the lives of almost everyone in the empire" (Geiss 1979, p. 144). As silver lost value, more silver money was required to purchase items that had maintained their value. Price inflation is defined as the surrender of more pieces of money for a given set of items, so the descent of silver to its cost of production is what ultimately caused prices to inflate in China to about the same extent as in Europe and elsewhere (Cartier 1981, p. 464; Geiss 1979, pp. 159-64, 198; Goldstone 1991, p. 360).

The unavoidable fall in the value of silver is a crucial issue because each year as it descended closer to its cost of production in America, profit per unit of silver also shrank. Declining profits were not due to inefficient operations; rather, they were the inevitable result of the laws of demand and supply (Doherty and Flynn 1989). The existence of arbitrage profits motivated the trade, and the trade itself, in turn, led to the elimination of such profits. Faced with declining profits from its silver industry, Castile could no longer afford its vast empire. China contributed mightily to the duration of the Spanish empire, but even China's prodigious demand for silver could not prevent the eventual erosion of mine profits and therefore the decline of Spain. Spanish American silver production may have peaked in the 1590s, but large production coupled with vanishing profits per ounce of silver still

implied a vanishing overall profit level by this time (Flynn 1982, p. 142).

Historians tend to focus too much attention on the quantity of silver shipments, while the participants themselves cared only about the profits associated with the trade. In the words of an executive in a standard business joke today, "Since we are losing money on each item sold, we simply must make up for it in volume!" Spain experienced multiple bankruptcies in the late sixteenth and early seventeenth centuries, during a time of record silver production, because the value of each unit of silver continued to decline. When profit per unit of a product declines to zero, multiplication of zero per-unit profit times any quantity of output must yield zero total profit. Spanish American mines were not yet yielding zero profits per unit of product, but the trend was clearly in that direction. Silver's declining value affected the crown so profoundly that interest payments on Castile's federal debt alone—"the equivalent of at least ten years' revenue" by 1623 (Parker 1979, p. 188)—eventually exceeded total crown receipts. Spain vanished as a serious Western power as its silver basis eroded, but the Iberian surge to power had been lengthy and impressive. The fact that Spain's empire owed its financial foundation to distant Ming China is a forceful reminder that much of what passes for local history in the early modern period can only be understood in terms of world history.

Since China's hunger for silver altered the balance of power in the West by transferring huge profits to the Spanish crown, it is logical to suspect an Asian power shift as a result of the inter-Asian trade in silver. The laws of supply and demand apply on all continents. As noted earlier, China's primary source of silver in the late sixteenth and early seventeenth centuries was Japan, which shipped as much as 200 tons per year at times (Innes 1980, especially chap. 6; Tashiro 1986, p. 2). Contrast this figure to the conservative average estimated by Attman (1986, p. 78) of 150 tons of silver flowing annually through Europe and into Asia in the seventeenth century. Who captured the Japanese mine profits, and what became of them?

The Tokugawa shogunate provides an interesting example of East-West comparative history because, like the Spanish crown and its American mines, the shogunate gained control over Japanese silver mines (Tashiro 1986, p. 3) and sold to China. Flynn (1991) has argued that profits from silver mines financed the defeat of hundreds of rival feudal lords (*daimyo*), thereby permitting the consolidation of Japan. The shogun was forced to align himself with the merchant class, creating an indigenous market-based economy with Asian (not Western) roots. Unlike Spain, the Tokugawa invested heavily in agricultural and

urban infrastructure. Japan succeeded in withdrawing from the Chinese tributary system and even sent hundreds of thousands of troops in an unsuccessful attempt to conquer China.

Europeans were important middlemen in the Sino-Japanese silver trade, with Japan as the dominant supplier and China the end-customer. It is ironic that China's demand for Japanese silver generated the profits used by the latter to withdraw from China's tributary system. With the help of profits from its silver mines, Japan established commercial capitalism in Asia at roughly the same time that capitalism was taking root in northwestern Europe. Capitalism's Japanese track evolved independently from, and almost simultaneously with, developments in northwestern Europe. But where Japan used mining profits to establish commercial capitalism in Asia, Spain used mining profits to attack the emerging capitalist powers of northwestern Europe. It is difficult to imagine how either one of these developments could have occurred in the absence of Chinese demand for silver.

What about the impact of silver on China itself? Atwell (1977, 1982, 1986, 1988) has long argued that American silver played a critical role in the commercial and political evolution of domestic China. Basing his argument on Geiss (1979), Goldstone (1991, p. 371) has challenged Atwell's emphasis on forces external to Asia (i.e., American treasure), insisting instead that intra-Asian factors explain structural changes within Ming and Qing China. Goldstone says that domestic price inflation in late sixteenth- and early seventeenth-century China destroyed the financial basis of the Ming dynasty. Taxes formerly paid in rice had been converted to payments in a fixed quantity of silver. But over a period of a century, silver itself had lost two-thirds of its value. Even if the quantity of silver collected had increased during the late Ming, it would still be true that the purchasing power of silver taxes definitely declined. The fiscal foundation of the Ming dynasty eroded because China's tax revenues declined continuously in terms of purchasing power. Institutionalization of fixed silver taxes during an era of global price inflation (in terms of silver) may have created a fiscal crisis on the Asian mainland that led inexorably to overthrow of the Ming (accomplished by the Manchus in 1644).

It appears that the core arguments of Atwell and Goldstone are not incompatible. Along with its Japanese counterpart, American silver contributed mightily to developments inside China. On the positive side, America and Japan were instrumental in the victory of a rising merchant class that succeeded in converting China to a silver zone.

Unhappily for the Ming dynasty, however, fixing taxes in terms of silver may have created a fiscal crisis that led to the emergence of the Qing dynasty.

SUMMARY AND CONCLUSION

Truly global trade dates from the founding of the city of Manila in 1571, which formed the first direct and permanent trade link between America and Asia. From this date forward, all heavily populated continents traded with each other directly and indirectly in substantial volumes. Silver was the *sine qua non* of this global trade. Spanish America was the source of an estimated 150,000 tons of silver between 1500 and 1800, comprising perhaps 80% of world production. The second-leading source of silver was Japan, responsible for around 30% of world output in the sixteenth century and perhaps 16% in the seventeenth century. Not coincidentally, entrepôt Nagasaki was founded at virtually the same time as Manila. Silver was shipped to China, the world's dominant end-customer, regardless of whether it was produced in Asia or in the West.

Much American silver traversed the Atlantic Ocean, passing through Europe on its journey to Asia. Europe exported at least 150 tons of silver annually to Asia, a significant portion of which passed through Amsterdam. Attman has been most vocal in calling attention to the Baltic route, which carried eastward at least 50 tons per year. Traditional Mediterranean-Levantine trade routes carried vast quantities of silver too, but the Cape route was biggest of the three. Direct trade out of Acapulco, through Manila, and onward to China has been mostly ignored in the scholarly literature, despite evidence that 128 tons annually may have been shipped through Manila in the late sixteenth and early seventeenth centuries (and 307 tons in 1597, according to a single source). Recent research seems to indicate that the Manila trade did not drop off after the 1620s or the 1640s, notwithstanding the claims of Chaunu (1960). The tremendous volume of unofficial trade (smuggling) rendered official figures misleading. Chuan (1969) indicates that the Pacific leg of silver's journey carried more than 50 tons of silver per year throughout the seventeenth century, equal to the combined European shipments of Portugal and the Dutch and English East Indies Companies.

The conventional explanation of this west-to-east flow of "money" is that Europe had to send treasure to Asia because the West had to settle its trade deficit with Asia. Europeans liked Asian silks, spices,

and porcelain, but Asians had not yet developed an appreciation for European wares. This conventional view is flawed for at least three reasons. First, it was not "money" or "treasure" that flowed out of Europe, but silver. Silver, not gold, was attracted to Asia; Asian gold and sometimes copper (both "money" substances) flowed in the opposite direction, into Europe. It is best to look at factors affecting the supply and demand for silver in its own right, rather than confusing the issue by aggregating this unique substance with other metals as "money," which is alleged to have played a passive, reactive role. Second, the role of Japan needs to be considered. Japan was the Asian counterpart of America (site of production) and Spain (country controlling production) combined. We prefer to focus on the supply side and the demand side of the silver industry, irrespective of which hemisphere contained centers of production, rather than to visualize global trade as an abstract East-West issue. Third, there is a basic anomaly in the treatment of America in the conventional view. Since treasure is alleged to have flowed from Europe to Asia because of a European trade deficit, then why has the Pacific trade not been explained in the same terms? We know of no one who argues that the Manila galleons carried huge quantities of treasure to Asia because of America's insatiable appetite for Asian goods, which in turn caused an American trade deficit with Asia.

Depicting precious metals as passive "money" that adapts to trade imbalances diverts attention from the central issues. Silver was produced for profit. It migrated from points of production (Japan and America) to end-customers (mostly in China). Developments within China have been largely ignored in the diverse literatures dealing with global flows of precious metals and early modern price inflation, yet China was the pivotal country. International business entities would not have shipped tens of thousands of tons of silver to China unless significant profits induced that activity. Profits from the silver trade were immense for two reasons. First, on the demand side, China's monetary and fiscal systems had substantially converted from a paper-money system to silver by the time of the Single-Whip tax reform of the 1570s. Conversion of more than one-quarter of the world's population (and its government) to silver customers contributed to the rise in the price of silver in China. Second, on the supply side, extraordinarily rich silver mines were discovered in Japan and Spanish America, and new technologies reduced production costs. Supply and demand forces created disequilibrium: silver's value in China was double its value in the rest of the world. This is what drove the silver trade—the birth of world trade—and not some abstract notion of trade deficits.

Both the Spanish empire and Tokugawa shogunate captured a substantial portion of silver profits from mines they controlled. Spain's mines financed a century of multifaceted war and empire. The shogun (and his immediate predecessors) used mine profits to finance consolidation of Japan and withdrawal from the economic domination of China. Spain nearly crushed the emerging capitalistic powers of northwestern Europe, while a market-oriented economy was established within Japan. The laws of supply and demand guaranteed that the price of silver would slowly decline to its cost of production, which is what happened. A direct effect of this process is that profit per ounce of silver was steadily squeezed out. This caused the decline of Spain. Japanese silver-mine profits plummeted too, but gold and copper production soared in Japan in the second half of the seventeenth century. The shogun had also invested heavily in improvements in infrastructure, so there was no decline of Japan in the seventeenth century.

The worldwide decline in the value of silver in the early modern period translated directly into global price inflation. When money declines in value with respect to goods, the result is called price inflation. Geiss (1979, p. 158) explains this process clearly for late Ming China: "Such massive infusions of silver diminished the purchasing power of the metal. Silver, like any commodity, lost its high value when supply exceeded the usual demand. This in turn affected the prices of almost everything in the empire, for the structure of prices was tied to the value of silver." Transportation technology permitted connection of silver markets throughout the world. The interconnection of world markets guaranteed that the fall in silver's value was global, which in turn implies that price inflation was a global phenomenon in all areas on a silver standard.

We have consciously neglected any attempt to tie the African continent into the global trade of silver. Nonetheless, it seems that the Portuguese swapped huge numbers of (mostly smuggled) African slaves directly for (mostly smuggled) New World silver via the Rio Plata in Brazil:

During the decade 1616–1625, recorded imports for Buenos Aires (the sum of legal and confiscated goods) were 7,957,579 pesos, while exports for the same period amounted to only 360,904 pesos. The annual trade deficit, which was met with smuggled silver from Upper Peru, amounted to at least three-quarters of a million pesos per year. Between 1619 and 1623, port officials seized a total of 3,656 slaves from illegally landing vessels; their market value in Lima would have approached two million pesos. These numbers do not include those

slaves legally imported and those which evaded port officials. The size of these figures clearly indicates a flourishing and considerable illicit trade up the Rio Plata from the 1580s until probably the 1640s. During its most successful years, no less than 1–2 million pesos (roughly 25,000 to 50,000 kg) flowed illegally from the mines of Peru out through the port of Buenos Aires. These totals equalled from 15% to 30% of the silver output of Potosí. (Cross 1983, p. 414)

Not all the slaves remained in Brazil, nor were all of them plantation laborers. Palmer (1995) has provided demographic information suggesting that between 10,000 and 20,000 Africans were domestic slaves in Mexico City in the early seventeenth century. Since, as we have argued, the Spanish enterprise in America was financed by the world silver market (as were the activities of the Portuguese traders), and since China was the dominant factor in the global silver market, then it appears that the trans-Atlantic slave trade was heavily, though indirectly, influenced by monetary and fiscal developments in Ming China. In other words, end-customer China created profitable trade in the New World, and profitable trade in America created the demand for African slaves. Clearly, a global view of early modern trade may suggest many research topics that might otherwise be overlooked.

Scholars have long been interested in the impact of Europeans on Asia (and the rest of the world). The focus has shifted in recent years, however, especially among Asian scholars who increasingly emphasize the dominant historical role of the intra-Asian marketplace. These revisionists view Europeans as having participated in a vast and sophisticated existing Asian commercial network, rather than as having introduced modernization to backward Asia. This essay is in the revisionist camp; it even suggests a reversal of causality. The economic impact of China on the West was far greater than any European influence on Asia in the early modern period. We agree with the sentiments of Moloughney and Xia (1989, p. 68), who protest that "late Ming China was not an outpost of a Seville-centered world economy."¹⁶ Perhaps a reversal of this logic would be more accurate: Seville was an out-

¹⁶ Moloughney and Xia (1989, pp. 67–68) have criticized Atwell for insisting on the importance of American silver in early modern Chinese history. The basis of the Moloughney-Xia counter-argument is empirical: the influx of American silver peaked during, rather than before, the decline of the Ming in the 1640s. This essay is consistent with both sides of this debate. American silver may have been crucial in the decline of the Ming dynasty not because of its scarcity but precisely because its abundant accumulation depressed the value of silver. Views that are contradictory from the perspective of conventional macro-economic logic become comparable in terms of our cost-of-production model.

post of a world economy that had not one center but three (Beijing on the demand side, and America and Japan on the supply side).

The physical presence of Europeans in Asia in early modern times—and the simultaneous physical absence of Asians in the West—has understandably led scholars to pay attention mostly to the impact of the West on Asia. Superior naval firepower may explain the presence of Europeans in Asia, but the most powerful economic undercurrents ran in the opposite direction. Without the Chinese demand for silver, there would have been no finance mechanism for the Spanish empire. Without China, there would have been no century-long price revolution. Without China, the birth of world trade would have been delayed to some unknowable extent. But China did convert, both monetarily and fiscally, to silver. This fact reverberated across all continents and gave birth to world trade in 1571, providing a powerful force in shaping the modern world.

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