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Version: Accepted Version

Book Section:

Irigoin, Alejandra (2018) The new world and the global silver economy, 1500-1800. In: Roy, Tirthankar and Riello, Giorgio, (eds.) Global Economic History. Bloomsbury Academic, London, UK, 271 - 286. ISBN 9781472588432

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The New World and the Global Silver Economy

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Published in *Global Economic History*, T. Roy and G. Riello (editors) (London, Bloomsbury, 2018) chapter 15 pp 271-286

According to Adam Smith, the discovery of the Americas and of a passage to the East Indies by the Cape of Good Hope were the ‘two greatest and most important events recorded in the history of mankind’.¹ Economic historians of the pre-modern period have emphasised one or the other of these two events leading alternatively to what we might call a Euro-Atlantic centrism (as for instance in the triangular trade concept proposed by Eric Williams) or to a Sino-Asian centrism (for instance in the Great Divergence debate). Yet, many of these narratives have provided little help in understanding why Adam Smith’s East and, most especially, West Indies were so crucial to the development of the European economy.

The incorporation of the New World into the pre-modern international economy has been the subject of several recent studies in global economic history. Kenneth Pomeranz and Hersh and Voth underline the contribution of the Americas in terms of ghost acreage for the production of food and fibres for differential European consumption and living standards.² A

¹ Smith, A (1776/1979), *An Inquiry into the Nature and Causes of the Wealth of Nations*, London, The Electric Book Company: <http://www.myilibrary.com?ID=124076> Book IV, part III, ch 7: 829.

² Pomeranz, K. (2000). *The Great Divergence, China, Europe and the making of the modern world economy*, Princeton: Princeton University Press; Hersh, J. and H. Voth (2009). ‘Sweet diversity: colonial goods and the rise of European living standards after 1492’, *Discussion Paper CEPR 7386*.

vast literature discusses the Columbian exchange as detailed in John McNeill's essay in this volume. Factor endowment and a particular European political economy have created a narrative that associates colonialism with the exploitation of New World riches and peoples as described by Trevor Burnard. Finally, the trade of people (slaves) and commodities is also central to economic narratives of the New World and the Atlantic, although recent growth theories have focused on endogenous sources of development and few economic historians today think of trade as the engine of economic growth.

Yet trade matters and arguably the Americas are intimately associated with the production and trade of silver, a commodity that became fundamental for the subsequent development of the global economy after 1500. This essay charts the role of the Americas in global economic history by concentrating on the role of silver. Silver had no substitute and was available in large quantities in Spanish America. This is a well-known topic in European economic history; however, recent developments in Asian economic history have stimulated a revision of the extraction, processing and exchange of American silver in the early modern world economy. American silver was used in the form of coins as the preeminent global currency and remained a currency standard for more than two centuries before a Gold Standard came to define the classic economic globalization of the late nineteenth and twentieth centuries. This chapter considers the America's contribution to the world economy through the lens of silver in order to reassess some of the factors that drove the expansion of trade and integration of markets to an unprecedented level in the three centuries after 1500. It revises conventional interpretations of the development of the early global economy away from views centred in either Asia or Europe.

Silver, Trade and the Early Modern World Economy

Monetary historians explain the stream of silver flowing towards Asia as the result of a difference in gold-to-silver ratios within Eurasia.³ For reasons not yet explored, unlike Europeans, Asians preferred silver as money over gold.⁴ The New World produced large quantities of silver – and to a lesser extent gold in the early eighteenth century – that added to the availability of world silver from the rich mining of Central Europe estimated at 50 tons per year at its peak in the 1540s.⁵ By the early sixteenth century, the Japanese had adopted the technology of cupellation (the process of separating precious metals from ore) from Korea; production boomed and Japan supplied silver to China, the world's largest economy. The Japanese silver output peaked in the 1620s at 130-160 tons per annum.⁶ Although production continued into the eighteenth century, the level of exports declined so dramatically that Japanese silver was all but absent from China already in the 1680s. The 'Japanese silver century' (1580-1680) paled however in comparison with the large quantities and higher quality

³ Flynn, D. Giráldez, A (1996). *World Silver and Monetary History in the 16th and 17th Centuries*. (Aldershot, Variorum); Ibid, (1997). *Metals and Monies in an Emerging Global Economy. Expanding World*, (Brookfield, Variorum)

⁴ Habib, I. (1982). 'Monetary System and prices'. *The Cambridge Economic History of India*. T. Raychaudhuri and I. Habib; Von Glahn, R. (1996). *Fountain of Fortune: Money and Monetary Policy in China, 1000-1700*. (Berkeley, University of California Press). Copper, tin or brass also circulated as small change in different Asian states. Von Glahn, R. (2014). 'Chinese coin and changes in monetary preferences in maritime East Asia in the fifteenth-seventeenth centuries', *Journal of the Economic and Social History of the Orient* 57 (5), 629-68.

⁵ Soetbeer 1886, cited by Nef, J. (1941), 'Silver production in Central Europe, 1450-1618', *Journal of Political Economy* 49 (4), 589

⁶ Seiichi, I. (1976), 'Japanese Trade in the 16th and 17th centuries', *Acta Asiatica* 30, 1-18 who estimated this volume equivalent to the 30-40 per cent of the world production at the time

of Spanish American silver that arrived in Asia.⁷ The New World aggregate output was 280-300 tons a year already in the early seventeenth century and it doubled in the following century. All of Spanish American mining combined might have produced 75 to 80 per cent of world output in the pre-modern period.⁸

Between 1500 and 1820, global trade grew at an aggregate one per cent per annum and European intercontinental trade in the eighteenth century grew at 1.26 per cent.⁹ The aggregate production of Spanish American silver grew at 1.09 per cent a year in the same period. European tonnage to Asia grew at 1.16 per cent and Mexican silver production at 1.35 per cent over the course of the eighteenth century.¹⁰ Whereas there are a number of theories that might explain the relation between the growth trends of world trade and the expansion of European commerce, there is little exploration of the co-evolution between the development in the extraction and trade of silver and world trade.¹¹

⁷ Innes, R. (1980). 'The door ajar: Japan's foreign trade in the seventeenth century', Unpublished PhD Thesis, Ann Arbor, University of Michigan, 379, and 582.

⁸ TePaske, J. and K. Brown (2010). *A New World of gold and silver*, Leiden, Brill, table 3.20.

⁹ Maddison, A. (2007). *Contours of the world economy, 1-2030AD: Essays in Macro-economic History*, Oxford, Oxford University Press; O'Rourke, K. and J. Williamson (2002). 'After Columbus: Explaining Europe's Overseas Trade Boom, 1500-1800', *Journal of Economic History* 62 (2), table 1 at p. 421.

¹⁰ De Vries, J. (2003). 'Connecting Europe and Asia: a quantitative analysis of the Cape Route trade, 1497-1975', in D. Flynn, A. Giráldez and R. Von Glahn (eds), *Global Connections and Monetary History 1470-1800*. Aldershot, Ashgate.

¹¹ Williamson and O'Rourke did not consider precious metals because of their monetary role and did not consider relevant their 'impact of intercontinental silver flows on aggregate price levels'. O'Rourke, and Williamson (2002), 'After Columbus', fn. 4. See D. O. Flynn, and A. Giráldez (2004), 'Path Dependence, time lags and the birth of globalization: a critique of O'Rourke and Williamson. *European Review of Economic History*, 8, 81-108.

Global monetary historians point to the arbitrage -that is, buying cheap in one market for sale in another where the good are expensive - that the Europeans carried out in their commerce with Asia and especially with China.¹² The relative abundance or scarcity of specific metal can explain the different bimetallic rates in America, Europe and Asia. However, the gold/silver ratio in China equalised to that of Europe by 1750 though the silver trade not only continued but expanded further with significant increases in the latter part of the century.¹³ As argued elsewhere, by 1800 it was apparent that what China, and perhaps Asia at large, demanded was not silver bullion per se, but specie, a universally reliable means of payment made of silver.¹⁴ Without its own coinage of silver, China became reliant on the currency standard that the Spanish American coin provided.

It remains true, however, that the arbitrage between rich and poor silver markets produced a windfall for Europe. Palma estimates that a 10 per cent increase in the production of precious metals in the New World increased in any given year the real GDP in Europe by 1.3 per cent within four years – because prices responded to monetary injections with considerable lags.¹⁵ To Europe, American silver was the means to trade in Asia . Silver

¹² Frank, A. (1998). *ReOrient: Global Economy in the Asian Age*. Berkeley, University of California Press; and Flynn and Giráldez (various years)

¹³ In India the ratio equalized by 1670 at 15/ 16:1, but reverted to 13:1 and even 11.5:1 in the early eighteenth century, it remained below the European ratio for remainder of the century. Habib, ‘Monetary System’, table 9.

¹⁴ Irigoin, A. (2013). ‘A Trojan horse in Daoguang China? Explaining the flows of silver in and out of China’, *LSE Economic History Working Papers* 173/13.

¹⁵ Palma, N. (2015). ‘Harbingers of modernity: monetary injections and European economic growth, 1492-1790’, Unpublished PhD Thesis, London School of Economics. A comparable argument about the importance of liquidity in Europe and Asia can be found in Findlay, R. and K. O’Rourke (2009). *Power and Plenty: Trade, War and the World Economic in the Second Millennium*, Princeton, Princeton University Press, 201 and 206.

accounted for 93 per cent of the European cargo values to China and 79 per cent of the India-bound cargo.¹⁶ With American silver, the European companies in Asia bought cotton and silk textiles not just for European consumers, but also to trade for slaves and gold in Africa.¹⁷ In the Americas, African slaves cultivated commercial crops such as sugar, coffee and to be shipped to Europe, thus establishing a truly global multilateral trade in people, goods and money.¹⁸ Later, American foodstuff, dyes and cotton found a market in Europe, but silver and gold were the main returns of the New World until well in the late eighteenth century.

Acting as intermediaries in this extensive global commerce, European traders linked different parts of the early modern world economy. In a well-known article, Patrick O'Brien argued however for a peripheral role for the New World in the economic development of Europe when he observed that three quarters of the commodity exports in Europe had another European port as destination.¹⁹ However, he did not consider the actual composition of such intra-European trade: American and Asian commodities such as textiles, tea, sugar, slaves and silver were key to European trade as they were re-exported within and indeed beyond Europe. Along the way, European states taxed their import and consumption thus creating much need

¹⁶ Dermigny, L. (1964). *La Chine et l'Occident; le commerce à Canton au XVIIIe siècle*, 1719-1833, Paris, SEVPEN II, 686.

¹⁷ Klein, H. (1990). 'Economic aspects of the eighteenth-century Atlantic slave trade', in J. Tracy (ed.), *The Rise of Merchant Empires Long Distance Trade in the Early Modern World 1350-1750*, Cambridge, Cambridge University Press, 287-310; Weber, K. (2002), 'German rural industry and Trade in the Atlantic, 1680-1840', *Itinerario* 26 (2): 99-119.

¹⁸ US cotton became a prime export commodity after 1815 but, strictly speaking, it was cultivated with homegrown slave labour of African descent, which makes this crop distinct from the traditional West Indies exports.

¹⁹ O'Brien, P. (1982). 'European Economic Development: The Contribution of the Periphery', *Economic History Review* 35 (1), 4.

revenue for the rising European nation states.²⁰ The old mercantilist idea that precious metals were to be stocked did not account for the profits derived in the intermediation of all these goods. A more modern understanding of mercantilism can explain how specialization and trade contributed to the growth in Europe. Without silver the scale of European commerce would have been much smaller and any resulting Smithian growth improbable.²¹

The Production of Silver in Latin America

How was silver obtained from the New World? Mining in Spanish America was a wholly private enterprise, which paid taxes to the royal purse on the volume of metal extracted. Spanish colonialism imposed a royal ownership of land and the subsoil. Thus, the King granted the right to mine the precious metals to individuals – even to indigenous communities – in exchange for a share or direct tax on the production. So mining, smelting, refining and even minting were all private affairs. Coerced labour was the exception rather than the norm, despite the emphasis by both neo-institutionalist and Marxist economic historians on the exploitative nature of Spanish colonialism.²² Slaves made up only half or less of the famous Potosí workforce and

²⁰ O'Brien, P. (1998). 'Inseparable Connections: trade, economy, fiscal state and the expansion of empire', in P. J. Marshall and A. Low (eds), *The Oxford History of the British Empire. Vol. 2. The Eighteenth Century*, 53-78; P. O'Brien (2014). 'The formation of states and transitions to modern economic, England, Europa and Asia compared' in L. Neal and J. Williamson (eds), *The Cambridge History of Capitalism. Vol 1. The Rise of Capitalism*, Cambridge: Cambridge University Press, 357-64.

²¹ Findlay, and O'Rourke, *Power and Plenty*, 210.

²² Dell, M. (2010). 'The persistent effects of Peru's mining mita', *Econometrica* 78 (6), 1863-903; Van der Linden, M (2011), *Workers of the World, Essays toward a Global Labor History*, Leiden, Brill.

worked in Huancavelica's quicksilver mines.²³ The pre-Hispanic tributary system persisted under the Spanish rule, being known as the *Mita* (quechua for 'shift' or 'turn'). It performed more as a 'rent' to miners than a core input to mining. The great silver mines of Mexico employed overwhelmingly free wage labour – a total workforce of around 50,000 men in the eighteenth century.²⁴

The largest mining site of all, Zacatecas in the northern periphery of the Spanish settlement, developed from the mid-sixteenth century in an area without a sizable native population. Indigenous and increasingly mix-race people made a very (spatially) mobile labour force in mining. African labour, by contrast, was not the best suited for mining at more than 2,500 metres altitude as in Zacatecas (or for that matter at the 4,000 metres altitude of Potosí) but slaves and wandering labourers worked the gold mines of Colombia and Brazil. Indigenous people and increasingly mestizos provided the bulk of the labour force in silver mining. Spaniards were relatively more numerous among refiners, smelters, and renters of mines, and definitively controlled the exchange of ore and bars for coin as they run the financing of mining.

The persistence of communal property rights to land by the indigenous communities increased the opportunity cost of wage labour even in the most populated regions of the New World. Nominal wages were very high and stable over time. Indeed, earnings adjusted by sizable non-monetary compensation that followed declining demographic trends. Their reduction starting in the 1780s followed population recovery. This explains the extraordinarily

²³ Tandeter, E. (1981) 'Free and forced labour in late Colonial Potosí', *Past & Present*, 93, table 2; Bakewell, P. (1984), *Miners of the Red Mountain, Indian labour in Potosí*, Albuquerque, University of New Mexico Press.

²⁴ Marichal, C. (2006), 'The Spanish American silver peso: export commodity and global money of the ancien regime (16-18th centuries)', in Topik, S, Marichal, C and Zephyr, F. (eds), *Latin American Commodity Chains and the Building of Global Economy*, Durham, Duke University Press, 30.

high (and steady) nominal wage of compulsory labourers in Potosí; they received about 12.5 grams of fine silver a day, a rate comparable to skilled labour's in late eighteenth-century London.²⁵ The combination of indigenous property rights, regulated urban food supplies, and the peculiarity of a silver abundant economy shaped a very different labour market and higher standards of living in Spanish America than what most recent studies posit.²⁶

Mining was widespread both geographically and socially. The location and size of mines were more varied in Mexico than in Spanish Peru, where Potosí produced by far the largest volume of silver in the seventeenth century. With a faster population recovery and more numerous and dispersed silver deposit, Mexico became the dominant world supplier of silver in the eighteenth century, producing according to Soetbeer 45 to 55 per cent of the world silver.²⁷ Potosí continued producing silver, though with marginal decreasing profits. Europeans had originally relied on indigenous technology for the extraction, smelting and casting of silver

²⁵ Tandeter, E (1993), *Coercion and Market: Silver Mining in Colonial Potosí, 1692-1826*, Albuquerque: University of New Mexico Press; R. C. Allen (2001), 'The Great Divergence in European wages and prices from the middle ages to the First World War', *Explorations in Economic History*, 38 (4), 411-47.

²⁶ Allen et al. (2012), 'The colonial origins of the divergence in the Americas: a labor market approach', *Journal of Economic History* 72 (4), 863-94; Abad Arroyo and J. L. Van Zanden (2011), 'Between conquest and independence: real wages and demographic change in Spanish America, 1530-1820', *Explorations in Economic History*, 49 (2), 149-66; Dobado, R and Garcia Montero (2014), 'Neither so low nor so short: wages and heights in Bourbon Spanish America from an international comparative perspective', *Journal of Latin American Studies*, 46 (2), 291-321; and Challu, A and Gomez, A (2015), 'Mexico's real wages in the age of the Great Divergence, 1730-1930', *Revista de Historia Economica / Journal of Iberian Latin American Economic History*, 33 (1), 83-122 for a different view

²⁷ TePaske and Brown, *A New World*, 140.

in wind-blown furnaces.²⁸ The incorporation of amalgamation – the blending of pulverized ore with mercury - and the availability of mercury in Huancavelica in the Andes or from Almaden in Spain secured indispensable inputs and fostered a steady growth in the production since the late sixteenth century. To some Andean historians, the new technology also was prejudicial to indigenous miners, subjecting them to a wage labour relation in lieu of former sharing system. This, together with the commutation of tribute in kind for cash payments established market relations for production factors and goods very early in the Spanish New World (Figure 15.1).

INSERT HERE FIGURE 15.1

Yet, the volumes produced are extraordinary. Throughout the period, the combined output of Mexican and Peruvian mines added 300 tons a year to a stock that largely exceeded the contemporary Asian demand. At its peak in the 1780s-1800s, silver output in Spanish America totalled 600 tons a year. Precious metals accounted for around 60 per cent of the value of whole the New World exports throughout the 1740s. Even at the peak of gold production in Brazil' in 1730s and 1740s silver never represented less than 60 per cent of precious metals total output. This proportion diminished with the growth of exports from the British colonies in the mainland and record sugar production in the West Indies by the 1760s. Yet silver made at least a third or more of the total New World exports. The rise in the international price of silver between the 1790s and 1810s lowered the price of imports giving an additional boost to

²⁸ Assadourian, C. S. (1982), *El Sistema de la economía colonial. El mercado interior. Regiones y espacio económico*, Mexico, Nueva Imagen, 22

the production of non-precious metals commodities in Spanish America. The production of silver collapsed only with the implosion of the Spanish rule in the 1820s.²⁹

More importantly, silver was obtained by means of trade and not from extraction. Historians like Hamilton for the seventeenth century, and Morineau and Garcia Baquero for the eighteenth century, agreed that until the late 1770s at least 70 per cent of the ‘treasure imports’ to Spain was made of privately-owned silver. Moreover, at around 20 million pesos, private remittances reached up to 90 per cent of total silver sent to Europe in the 1790s when exports boomed.³⁰ So the extraordinary volume of silver shipped out of the New World, which by large was private property, indeed reflects the levels of private consumption attained in the Americas.³¹

The Spanish Silver Trade

Over the period 1580s-1730s export values increased ten times, from around a million pesos a year in the 1580s to 10 million (250 tons of pure silver) in the 1730s. These volumes doubled after the 1750s and neared 30 million (750 tons) in the 1770s. Thus the European re-export of silver to China – estimated at an average of 114 tons of silver a year between 1719 and 1833 - becomes less important in this light. By and large, the main destination of silver was Spain, a

²⁹ Irigoin, A (2009) ‘Gresham on Horseback. The monetary roots of Spanish America political fragmentation in the nineteenth century’, *Economic History Review* 62 (3), 551-75.

³⁰ Cuenca, J (2008), ‘Statistics of Spain’s colonial trade, 1747-1820: new estimates and comparisons with Great Britain’, *Revista de Historia Economica / Journal of Iberian and Latin American Economic History*, 26 (3), 323-54.

³¹ Significantly, this data does not include Brazilian gold exports or the silver smuggled by European interlopers or traded in the Pacific commerce. Gold was also produced in Peru, Colombia, Chile and Mexico.

trade carried out via the few authorised ports - Seville first and Cadiz since 1700 from where silver was re-exported into Europe and beyond. Figure 15.2 shows the relation between output and coinage of silver and shipments to Europe throughout the eighteenth century.

INSERT FIGURE 15.2

For most of the eighteenth century, when data is available, the relation between the pace of mining and minting, and the shipment of silver to Europe was weak.³² The export of precious metals to Europe was not immediate or automatic as often assumed. Instead, most of the silver remained in circulation in the domestic economy before it was traded for goods and services overseas. Although agriculture accounted for the largest share of the colonial economy, mining was its engine. Provisioning, labour and services such as transport disseminated silver domestically throughout the Empire. Internal and external commerce was the main source of revenue for the Spanish administration as trade and consumption taxes became the fiscal backbone of the empire in the eighteenth century.³³ Concerned with the supply side aspects of the silver trade, economic historians have underestimated the importance of silver in the New World.

³² The r^2 is .30, whereas the correlation between output and coinage is .94.

³³ Grafe, R & Irigoien, A (2006). 'The Spanish Empire and its legacy: fiscal redistribution and political conflict in colonial and post-colonial Spanish America', *Journal of Global History*, 1 (2), 241-67. In the eighteenth century, the growth of population and of mining together with the expansion of the Europeanised economy over the territory suggest some Smithian growth empire-wide. Taxing commerce a 'developmentalist' state enlarged its fiscal base along the way. Grafe, R & Irigoien, A (2012), 'A stakeholder empire: The political economy of Spanish imperial rule in America', *Economic History Review*, 65 (2), 609-51.

Surely the mark-up price of goods exported to Spanish America was huge considering the various costs incurred: transportation costs within and outside Europe, trading costs and taxes as most of these goods were re-exports from Asia and other European countries, plus the intermediation costs charged by the Spanish privileged participants in the American trade. Economic historians have assumed that this trade was driven by the need for imported commodities. However, the Spanish settlements in the mainland and in the Caribbean islands were self-sufficient in food and plenty of high quality foodstuffs like sugar and meat. There is also an idea that this was a close commercial system organized for the profit of the Spanish King and metropolitan merchants, which prejudiced economic development in the region. But the structure of this trade is poorly known. Indeed, as in Africa, European merchants were price takers in the commerce for silver in Spanish America.³⁴

For all the bad reputation of their monopolistic practices, the Spaniards had limited control on the commerce with their possessions. A maritime empire without a fleet might appear an oxymoron. Yet, Spain's shipping capacity did not match the geographical and maritime extension of its empire. Remarkably, trade to the Spanish East Indies - the so-called Manila Galleon - was 'rationed' to one or two ships a year only.³⁵ The size of the two fleets convoyed over the Atlantic in the 1720s and 1730s averaged barely 10-12,000 tons on a dozen vessels respectively each journey. At arrival, the fleet and galleons traded their goods for silver in fairs in Jalapa/Veracruz and Portobello/Cartagena as in Acapulco, where similarly privileged cartels of local merchants controlled the supply of silver and the sale of imports further inland.

³⁴ Baskes, J (2005), 'Risky ventures: reconsidering Mexico's colonial trade system', *Colonial Latin American Review*, 14 (1), 27-54; Brading, D (1971) *Miners and merchants in Bourbon Mexico, 1763-1810*, Cambridge: Cambridge University Press, 97.

³⁵ Findlay and O'Rourke attribute this restraint to a compromise between 'a permit to trade, but to restrict it to a prescribed level permitting the survival of the import competing silk industry' (in Mexico and Spain). Findlay, and O'Rourke, *Power and Plenty*, 168.

From the 1760s, fleets were discontinued, hence individual vessels doubled in number and more ports were licensed in the metropolis and colonies to trade, legalizing de facto an existing large irregular trade.³⁶ This ‘liberalization’ eroded the rents of cartels that controlled each step of the trade. This increased further the number and frequency of vessels bringing in some competition. When US ships were allowed as Neutrals to carry the Spanish commerce after 1797, they were already regulars: more than 200 foreign ships a year called off in Havana in the 1800s.³⁷ The Napoleonic Wars threw the Spanish America trade open to the United States’ vessels in the 1790s and to the British after Trafalgar. This explains why US merchants became dominant in the silver trade to Asia after the 1780s. They supplied 80 per cent of the 3,800 tons of silver that China imported after 1790 and were large exporters to India too into the nineteenth century.

Formally, until 1778, Andalusian ports enjoyed the privilege to organize the trade with America. Subsequent ‘liberalization’ did not change Cadiz’s primacy among Spanish ports as the city continued sending 75-80 per cent of all American imports in the last two decades of the eighteenth century. In reality, foreigners had always dominated Spanish colonial commerce. The *Catastro de Ensenada*, a census of the 640 traders in Cadiz compiled in 1762, reveal that around 80 per cent of the commerce was in foreign hands, 42 per cent controlled by French mercantile houses, 15 per cent by English/Irish and Dutch/Flemish merchants respectively, and 10 per cent by Italians.³⁸ Spaniards were numerous among the smallest

³⁶ Numbers compare to the English East India Co in the East Indies and China.

³⁷ Salvucci, L. (2005), ‘Atlantic intersections: early American commerce and the rise of the Spanish West Indies (Cuba)’, *Business History Review*, 74 (9), 781-809.

³⁸ D. Ozanam (1968), *La colonie française de Cadix au XVIII siècle*, Madrid, Melanges de la Casa de Velazquez.

freighters or acted as figureheads for foreign houses.³⁹ Indeed the Cadiz merchant guilds (Consulado) were constantly at odds with similar corporations in the New World as they competed for the control of silver returns for foreign goods.⁴⁰

Yet, trade liberalization resulted in more and relatively cheaper silver traded to Europe. Neither the composition nor the origin of goods changed, but terms of trade improved for New World producers, and gave a boost to non-precious metals commodities. Access to direct shipping opened a cleavage between new commercial interests and the established merchant networks which controlled inland commerce. Thus, the clout of the powerful Consulados of Mexico and Lima started to wane and in the 1790s Caracas, Guatemala, Guadalajara in Mexico, and Buenos Aires, Cartagena, Veracruz, Havana, Santiago de Chile and Manila obtained the royal charter for their own mercantile jurisdiction. The carry trade by US and Britain catalysed the competition into the civil conflict that followed the collapse of the Spanish government in the 1810s.

Silver allowed Europeans to participate in the Baltic and Hanseatic trades, and trade with the Ottoman Empire, Central Asia, and certainly with maritime Asia.⁴¹ But its persistence beyond the equalization of the bimetallic ratios within Eurasia requires a further inquiry. The

³⁹ Bernal, M (1992), *La financiación de la Carrera de Indias (1492-1824). Dinero y crédito en el comercio colonial español con América*, Cadiz, Fundacion El Monte.

⁴⁰ Litigations before the court between the different Consulados in Seville, Mexico, Lima and Manila were constant. Probably the dispute around the introduction of Asian silks and textiles to the New World over 150 years recapitulated by Alvarez de Abreu, A (1736/1977), *Extracto historial del comercio entre China, Filipinas y Nueva España*, Mexico, Instituto Mexicano de Comercio Exterior, is the best example.

⁴¹ Malowist, M. (1958), 'Poland, Russia and Western trade in the 15th and 16th century', *Past & Present*, 13, 26-41; S. Pamuk (1994), 'Money in the Ottoman Empire, 1326-1914', in H. Inalcik and D. Quataert (eds), *History of the Ottoman Empire, 1300-1914*, Cambridge, Cambridge University Press, 947-85.

geographical distribution – and size - of the silver flows cannot conceal the significance of consumption in Spanish America. With a total population of 12 million people by 1800 and fabulous silver endowments, the ‘silverization’ of the world economy had an equivalent in the extraordinary levels of private consumption in the New World, high inequality notwithstanding. The production of local manufactures there oscillated between the ‘protection’ of high transport costs (both overseas and overland) and the costs of intermediation of several rent-seekers, as well as a growing Dutch Disease effects from the world demand of silver.

The quantity of silver was probably less important than - and of secondary importance to - the profits Europeans made in its global re-exports. These were not ‘super-profits’ derived from their exploitation of extra-European people and riches. They were the rents that all mercantilist states in Europe competed to in order to obtain a less costly and more direct access to silver. So silver as driver of global trade was also the driver of institutional and production changes in European economies to secure cheaper goods and more profitable trade. That meant the increasing substitution of imports and lower domestic financial costs of war making. Ultimately it was the marginal acquisition of silver which allowed the continuation of trade; and trade was the means to increase the elasticity of supply and demand in the European economy. Mercantilism might have been a zero-sum game within Europe, but the process of Smithian growth worldwide since 1500 owed a great deal to the intermediation of silver and the trade it fostered.

Silver in Europe and Asia

Silver was exported as a commodity out of Spanish America.⁴² It is unclear whether silver was imported into Europe and Asia as a commodity or money, as the overwhelming proportion of it was coined with very consistent pure silver content, size and weight.⁴³ Historians use the term silver to indicate bullion or specie. However private agents, bankers and states beyond the Spanish American world had a more informed view: the Genoese, for instance, financed the Spanish King and traded a great deal of silver into Europe in the mid seventeenth century, valued the piece of eight over its intrinsic content of pure silver. In the 1640s the price for the Spanish coin oscillated between 103.35 and 108.11 *soldi* which was their money of account. Their own silver coin, the scudo, had 36.7929 grams of pure silver and quoted between 117.75 and 122.33 *soldi*, while the exchange rate with the peso hovered between 1.12-1.14 per scudo.⁴⁴ Given that the piece of eight (the Spanish coin)⁴⁵ had 25.560 grams of pure silver the exchange rate at silver parity was 1.4394 *soldi* indicating that the piece of eight as specie enjoyed 20 per cent premium in Genoa.

Seafarers on English ships in the mid seventeenth century demanded pieces of eight for their wages; lawsuits records at the High Admiralty Court show the variation in the exchange rate to sterling depending on the distance from Cadiz where it was exchanged at 48 pence, to

⁴² The section builds largely on my paper ‘Standard Error: the problems for economic historians from (mis)taking Spanish American silver as commodity money, 1700s-1830s’ presented at the Economic History Society 2017 Congress and Iberometrics, Pamplona 2017.

⁴³ Mintage was done locally and overwhelmingly made of one peso coin. R. Romano (1998), *Moneda, seudomoneda y circulación monetaria en la economía de México*, Mexico, Fondo de Cultura Económica

⁴⁴ Thanks to Claudio Marsilio for sharing the exchange rates information.

⁴⁵ The coin had a fractional equivalent to 8 reals. It was called *peso de a ocho* after 1732 when started to be milled. Henceforth it was known as Spanish dollar in English and *piastre* in French.

Smyrna at 57-67 pence and Mozambique at 78 for instance.⁴⁶ However, it is doubtful that these rates reflected the gold price of silver in each place. The exchange rate in sterling at Malaga in the same years was 54 pence and in Genoa, it fluctuated mirroring the particular local market conditions.⁴⁷ It should not be surprising that sailors demanded pieces of eight for wages in international shipping; they also hoarded pieces of eight - or pesos after 1732 - for savings as the Old Baily records attest.⁴⁸ Chinese seamen engaged in the junk trade to Batavia preferred this coin as a means to send remittances home and according to historian of the Xianfeng inflation Jerome Ch'en 'fearing the eventual collapse of the Qing regime' at the time people hedged against inflation and turmoil transfer(ing) 'their savings into silver, mostly in the form of the Spanish Dollar (peso)'.⁴⁹

Individuals were not the only ones who invested in pieces of eight or Spanish pesos. European sovereigns had different ways to take part of the intermediation of specie. The Spanish Monarchy had no means to control the rates at which her American specie was to be

⁴⁶ Blakemore, R (2017) 'Pieces of eight, pieces of eight: seamen's earning and the venture economy in Early Modern Seafaring' *Economic History Review*, 70 (1) (early view). See his 'Descriptive Report' in <http://humanities.exeter.ac.uk/history/research/centres/maritime/resources/sailingintomodernity/datasets/> accessed 16/08/2017

⁴⁷ Marsilio, C (2012) 'The Genoese and Portuguese financial operators' control of the Spanish silver market (1627-1657)', *Journal of European Economic History*, 41 (3), 67-89.

⁴⁸ Dolan, A (2015) 'The Fabric of Life: Linen and life cycle in England, 1678-1810', Unpublished PhD Thesis, University of Hertfordshire.

⁴⁹ L. Blussé (2011) 'Junks to Java. Chinese shipping to the Nanyang in the second half of the eighteenth century' in Tagliacozzo, E and Chang, W, *Chinese circulation. Capital commodities and networks in South East Asia*, Durham, Duke University Press, 285; CH'en, J. (1958) 'The Hsien-Feng Inflation', *Bulletin of the School of Oriental and African Studies*, University of London, 21 (3), 580.

transacted in Cadiz or in the colonies. Exchange was a private open business subject to royal licenses granted to export silver out of Spanish America. Eventually the market came to be controlled by different sets of foreigners who obtained one privilege or another to import goods, slaves or victualled the Spanish 'contractor state'. Amsterdam, by contrast, was a free market for precious metals slightly above the mint price and France struggled during the *ancien regime* to stabilize the silver price of her currency. Napoleon took pains to move the French monetary system to a silver based currency in the first decade of the nineteenth century, leading to the establishment of the modern Banque of France. Even then *piastres* imported from Spain continued to Amsterdam and beyond.⁵⁰ Some European countries smelted the imported silver and cut their own specie, but debasements and recoinages were frequent.

In the seventeenth century, South Asia operated with multiple metallic currencies, but used the piece of eight to fix different exchange rates as reported by the East India Company's factors. One of them, Charles Lockyer in 1711 indicated that the 'pillar dollars are the most esteemed and therefore bear the highest price (at St George's fort)'. In Madras 'silver in any form passes current by weight instead of money, reckoning from a take decimally to the smaller matter imaginable, in payments made with tankards, dishes, bowls, plates, spoons and silver porringers'. According to Lockyer, the Chinese however were well acquainted with the English goldsmith mark, therefore, 'old plate is the most profitable silver you can carry with you, *when dollars are dear*'.⁵¹ Most rulers in South East Asia considered the Spanish legal tender of sorts, even if they were seldom seen in their markets, as late as in 1820s Penang or Singapore.⁵²

⁵⁰ Zylberberg, M (1993), *Une si douce domination. Les milieux d'affaires françaises et l'Espagne vers 1780-1808*, Paris, Comité pour l'histoire économique et financière de la France.

⁵¹ Lockyer, C (1711), *An account of the trade in India*, London, Samuel Crouch, 136 and 140.

⁵² Wong, L. (1960), 'The trade of Singapore, 1819-69', *Journal of the Malayan Branch of the Royal Asiatic Society*, 33 (4), 4-135; A. Reid, and F. Radin (1996), 'Shipping on Melaka and Singapore as an index of growth, 1760-1840', *Journal of South Asian Studies*, 19 (1), 59-84.

Some economies involved in the silver exchange were exceptional in their own way. In China, from the 1780s at least, silver specie circulated as money in the southern region, adding another layer of complexity to the peculiar monetary system of an Empire that did not coin silver but relied on imported specie.⁵³ In England, silver coinage was drastically reduced after 1696. Thereafter gold and small change in copper formed the nation's currency. Goldsmiths continued producing silver plate in sizable quantities through the eighteenth century and the East India Company exported silver to record levels.⁵⁴ Until the 1740s in England, the exchange business with bullion and specie was in the hands of goldsmiths. Thereafter, the Bank of England took over the market aligning the private rates by setting an official rate for the silver peso along with the exchange rate for gold and silver bullion.⁵⁵ Notably the banking services that goldsmith bankers had offered declined in favour of discount banks.

Figure 15.3 shows the relation between the market rates of the silver peso in sterling and the silver/gold ratio in England. It is apparent that the market price of specie in London in the eighteenth century did not bear any relation with the silver/gold ratio in England. Obviously, Figure 15.3 encompasses the period when sterling was inconvertible, yet at the time

⁵³ Irigoien, A. (2013). 'A Trojan horse in Daoguang China?'; R. Von Glahn (2013) 'Cycles of silver in Chinese monetary history', in Billy K. L. So (ed.), *The Economy of Lower Yangzi Delta in Late Imperial China*, London, Routledge, 17-71.

⁵⁴ Mayhew, N. (2012), 'Silver in England, 1600-1800: coinage outputs and bullion exports from the records of the London Tower Mint and the London Company of Goldsmiths', in Munro, J. (ed.), *Money in Pre-Industrial World: Bullion, Debasements and Coin Substitutes*, London, Pickering & Chatto, 97-108.

⁵⁵ J. H. Clapham (1941), 'The Private Business of the Bank of England, 1744-1800', *Economic History Review* 11 (1), 77-89; Hotson, A and Mills, T. C. (2015), 'London's market for bullion and specie in the 18th century: the roles of the London Mint and the Bank of England in the stabilization of prices', in M. Allen, and D. Coffman (eds), *Money, Prices and Wages; Essays in Honour of Prof. Nicholas Mayhew*, Basingtoke, Palgrave, 217-27.

the depreciation of sterling to the silver peso was higher than to gold.⁵⁶ It is worth exploring the role of the Bank in steering the market for specie and the business with the Company. A particular cooperation between three major institutions at the time made the English an incomparable arrangement for the market of specie. Remarkably, the English East India Company replicated the mechanism in India; it fixed a standard rate for the silver peso /Spanish dollar for their accounts in transactions that involved silver and a variety of currencies. It was the rate against which discounted bills in London, and priced goods in India, suggesting that the Company dealt with Treasure exports in a similar fashion than the Bank run the market for exchange in London.⁵⁷

INSERT HERE FIGURE 15.3

The Mint, the Bank of England and the East India Company concurred to stabilise and develop a market for bullion while the silver commerce with Asia expanded; at the same time a particular monetary regime and banking practices were established foreshadowing a new international currency standard. The Gold Standard of the British pound eventually replaced the currency standard that the silver peso had created in the mid-seventeenth century. The Napoleonic Wars in Europe, which led to both the Restriction period and the implosion of the Spanish rule in America, resulted in a definitive cleavage in monetary matters too.

Twenty years ago Michel Morineau thought that ‘the incorporation of precious metals in the general circulating medium of European economies, their effective role in the

⁵⁶ Silberling, N. J. (1919), ‘British prices and business cycles, 1779-1850’, *Review of Economics and Statistics*, 1 (10), 282-97.

⁵⁷ Chaudhury, K. N. (1968), ‘Treasure and trade balance: the East India Company’s export trade, 1660-1720’, *Economic History Review*, 21 (3), 480-502.

development of the economy and of the armed forces, the concurrence with other means of payment, and the transition to the different modern monetary regimes of the 19th century' remained to be explained.⁵⁸ His research on silver import to Europe was crucial to debunk Hamilton's ideas about the Price Revolution and the Crisis of the seventeenth century, which persisted in the economic historiography for a long while.

Conclusion

For Adam Smith, New World commodities were 'new values, new equivalents' in the global economy to be exchanged for the surplus of each intervening country – even in those which 'never sent any commodities to America, (and) never received any from it'.⁵⁹ Among those, silver, in his words was 'one of the principal commodities by which the commerce between the two extremities of the Old (world) is carried on, and by means of it, in a great measure, that those distant parts of the world are connected with one another'.⁶⁰ Moreover, he pointed at 'what has been said of the East India trade might possibly be true of the French; that though the greater part of the East India goods were bought with gold and silver, the re-exportation of a part of them to other countries brought back more gold and silver to that which carried on the trade than the prime cost of the whole amounted to', revealing the crucial importance of the carry trade among European nations and of silver as a factor in the underlying process of Smithian growth in Europe.⁶¹

⁵⁸ Morineau cited in A. García-Baquero González (1996), 'Las remesas de metales preciosos americanos en el siglo XVIII: Una aritmética controvertida', *Hispania: Revista Española de Historia*, 56 (192), 266.

⁵⁹ Smith, *Wealth of Nations*, Book IV, ch 7: 782.

⁶⁰ Ibid., Book I, ch 11: 287.

⁶¹ Ibid, Book IV, ch 3: 629, 621-25.

Therefore the ‘general advantage which Europe, considered as one great country’ derived from the discovery of America and of the Passage to the East Indies, ‘consisted first, in the increase of its enjoyments, and secondly, in the augmentation of its industry’. Despite the largesse of its production and exports to the world, Spanish American silver did not have persistent inflationary effects in prices worldwide. On the contrary, it was for Smith ‘the gradual enlargement of the market for the produce of silver mines in America, probably the cause .. which has not only kept up the value of silver in the European market, but has perhaps even raised somewhat higher than it was about the middle of last century’. The market had become ever ‘more extensive’ in America – as in Asia - and the ‘greater part of Europe has been much improved, England, Holland, France and Germany, even Sweden and Denmark and Russia have all advanced considerably both in agriculture and in manufactures’.⁶²

For Smith, these improvements ‘must necessarily have required a gradual increase in the quantity of silver coin to circulate it; and the increasing number of wealthy individuals must have required the like increase in the quantity of their plate and ornaments of silver’.⁶³ He flagged that ‘America is itself a new market for the produce of its silver mines; and its advances in agriculture, industry and population are much more rapid than those of the most thriving countries in Europe; its demand must increase much more rapidly’.⁶⁴ However, scholars within and outside the region have overlooked this relation – or result – between silver and the development of the global economy because of an inaccurate understanding of the colonial economy in Spanish America.

Thus, the role of the global silver trade is still little understood. The incorporation and circulation of silver – and specie - in the European economy and the importance of the private

⁶² Ibid, Book IV, ch 7: 780

⁶³ Ibid, Vol III, ch 11: 282-83.

⁶⁴ Ibid.

consumption in the New World – in Spanish America particularly – are aspects yet to be mined by global economic historians.