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*The limits of globalization in the early modern world*¹

By JAN DE VRIES

This article reviews the ways in which historians and economists have applied the term ‘globalization’ to the early modern era. It distinguishes a soft and a hard definition, and goes on to test the claims made about the driving forces shaping the growth and character of long-distance trade between Europe and Asia in the age of the European trading companies. On the basis of new estimates of the volume and value of European trade with Asia, the article concludes by identifying the factors limiting the growth of trade in this period.

I

What is globalization? There is no common definition, but we might begin with one offered by Flynn and Giraldez: globalization means the permanent existence of global trade, when all major zones of the world ‘exchange products continuously . . . and on a scale that *generated deep and lasting impacts on all trading partners*’ (emphasis added).² Of course, goods and information have travelled over long distances, crossing cultural and political as well as physical barriers, since prehistoric times. However, these movements typically required the passage of goods through multiple nodal points, relays of international trade involving the sale of goods from one merchant community to another. Each such transfer raised costs and restricted flows of information, and, even more so, flows of people. As long as such regimes remained in place, the world’s many regional economies had only *indirect* contact with each other and this contact necessarily lacked the intensity that could justify the term globalization.³ One might object that the thirteenth-century *Pax Mongolica*, opening to economic and cultural exchange a vast space stretching from the Yellow Sea to the Hungarian plain, constituted a form of Eurasian globalization. Arguably, it brought about the ‘microbial unification’ of Eurasia, but it proved too transient and fragile to have the ‘lasting impact’ essential to Flynn and Giraldez’s definition.⁴ Nor was it truly global. For Flynn and Giraldez, globalization is set in motion uniquely by the sixteenth-century European mastery of the world’s sea lanes and it develops through the ongoing exploitation of new trade routes, when all major zones of the world—now includ-

¹ This paper has benefited from the perceptive and challenging comments made by the participants of seminars at the Australian National University, Oxford University, the International Institute for Social History in Amsterdam, UCLA, and the University of California at Davis. I wish to thank, in particular, Tim Hatton, Avner Offer, Lex Herema van Voss, Naomi Lameroux, Sanjay Subrahmonyan, and Christopher Meissner. I am indebted to anonymous referees for many helpful and clarifying suggestions.

² Flynn and Giraldez, ‘Path dependence’, p. 83.

³ The pre-Columbus/Da Gama trade networks are discussed in Abu-Lughod, *Before European hegemony*. See also: Wolf, *Europe and the people without history*.

⁴ Findlay, ‘Globalization and the European economy’, pp. 43–6; Osterhammel and Petersson, *Globalization*, p. viii.

ing the New World—communicate, such that ‘people, products, and events that originated in one part of the world generated permanent and systematic effects on societies around the globe’.⁵

But what are these ‘impacts’ and ‘effects’ of globalization? A fundamental confusion attached to the globalization concept derives from its simultaneous definition as a process and an outcome. As a *process*, globalization is invoked to explain the specific character and dynamism of modern society. Thus, Flynn and Giraldez speak of ‘sustained interactions’ among the world’s heavily populated land masses that reveal themselves in trade history, but also in epidemiological history, demographic history, and cultural history.⁶ Processes of contact, interaction, and exchange influence far more than simply economic life, of course, a point captured in Steger’s definition, when he states that ‘globalization is about shifting forms of human contact’ leading toward greater interdependence and integration, such that the time and space aspects of social relations become compressed, resulting in ‘the intensification of the world as a whole’.⁷ Evocations of a compressed and intensified world may be called ‘soft globalization’.

The term globalization is a modern usage, but pronouncements of the—often prospective—importance of a new globalized commerce were not uncommon in early modern times. But it is only with Marx in the nineteenth century that we are offered a specification of its world-historical meaning:

There is no doubt . . . that in the 16th and 17th centuries the great revolutions, which took place in commerce concurrently with the geographical discoveries and which speeded the development of merchant’s capital, constitute one of the principal elements in the transition from the feudal to the capitalist mode of production. The sudden expansion of the world-market, . . . the competitive zeal of the European nations, . . . and the colonial system—all contributed materially toward destroying the feudal fetters on production.⁸

Elsewhere in *Capital* Marx spelt out the role played by the new intercontinental trades, through the dispossession of pre-capitalist wealth, in the creation of ‘primitive accumulation’, for example, the formation of the stocks of capital that formed the ‘seed corn’ of capitalism.⁹

⁵ Flynn and Giraldez, ‘Born again,’ p. 368. Osterhammel and Petersson approach the subject in a similar way. In answer to the question of when the ‘age of globalization’ began, they state: ‘If there is indeed a turning point at which globalization becomes a central feature of history and of many human experiences, then it occurred in the early modern period of discovery, slave trade, and “ecological imperialism,” not in the late twentieth century’. *Globalization*, p. 146. Both of these works argue against the influential compilation of Held et al., which presents globalization as a phenomenon with only faint historical precedents. In their view, the ‘state-constraining’ character of globalization is what makes ‘the contemporary epoch . . . unique’. Held, McGrew, Goldblatt, and Perraton, eds., *Global transformations*, p. 425. For an extended discussion on the historical credentials of globalization see: Lang, ‘Globalization and its history’.

⁶ Flynn and Giraldez, ‘Born again’, pp. 370–2.

⁷ Steger, *Globalization*, p. 8. In this he is influenced by the sociologist Anthony Giddens, who speaks of ‘time–space distanciation’, which refers to the replacement of ‘real-time’ physical interactions of traditional societies by new institutions spanning time and space. The resulting ‘deterritorialization’ of social interactions reflects changes in transportation, communications, and media technologies that act simultaneously at the level of the individual, group, and organization. Giddens, *Consequences of modernity*.

⁸ Marx, *Capital*, vol. III, p. 327.

⁹ *Ibid.*, vol. I, p. 751. ‘The discovery of gold and silver in America, the extirpation, enslavement, and entombment in the mines of the aboriginal population, the beginning of the conquest and looting of the East Indies, the turning of Africa into a warren for the commercial hunting of black-skins, signaled the rosy dawn of the era of capitalist production. These idyllic proceedings are the chief momenta of primitive accumulation’.

Globalization as exploitation remains a popular definition in contemporary political discussion: it is a process initiated and conducted by ‘globalizing entities’—imperial states and multinational corporations, among others. In historical analysis this is now a conventional view, no longer embraced by advanced thinkers, who seek instead to uncover more complex interactions between institutions, political ideas, and economic activity.¹⁰ An example of such more evolved thinking emphasizes the intermediate role of institutional change in the globalization process. The growth of early modern intercontinental trade concentrated capital in the hands of urban merchants. As these merchants, forming a commercial bourgeoisie concentrated geographically in Atlantic Europe, grew in power, they demanded and obtained changes in institutions to protect their property rights. In the words of Acemoglu, Johnson, and Robinson, who endorse this interpretation, ‘The indirect effects of Atlantic trade through institutional change, as well as its direct effect, account for much of Western European growth from 1500 to 1850’.¹¹

The rapid growth of port cities with direct access to the Atlantic Ocean has the merit of being a phenomenon that can be measured. Atlantic ports were prominently represented among the fastest growing cities of Europe between 1500 and 1800. Indeed, between 1600 and 1750 15 such Atlantic port cities accounted for 38 per cent of the total urban growth achieved by all European cities.¹²

The argument that intercontinental trade, through its differential impact on the location of commercial life, forced changes in political institutions that were favourable to long-term economic growth may be seen as a variant of the ‘small events can have large consequences’ argument. To proceed beyond a concession of plausibility to a demonstration of causality is particularly difficult, as this requires discriminating among rival small events, any of which might claim parentage for the same large consequences. When all is said and done, we are presented with two simultaneous developments—the establishment and development of a global maritime trading system under western European direction and the divergent growth of the western European economies—and are asked to believe that a causal link exists connecting the first to the second. Such a link is not necessarily lacking, but how can we actually demonstrate the strength of this causal relationship relative to others?

Of course, to some the causal relationship sketched above between global trade and economic development is wrong, either because it overstates the importance of global trade in the period 1500–1800 or because it wrongly characterizes the relative dynamism of the European economies. For the World Systems School of Historical Sociology international trade is the centrepiece and driving force of Europe’s early modern development, but world system theorists specifically

¹⁰ Bayly, *Birth of the modern world*, pp. 1–12. Bayly’s global history offers a vigorous sketch of these complex interactions, whereby initiatives taken from multiple centres—the globalizing entities—lead, in an interactive process, to the emergence in the eighteenth century of an age of global imperialism.

¹¹ Acemoglu, Johnson, and Robinson, ‘Rise of Europe’, p. 563; idem, ‘Colonial origins of comparative development’.

¹² In the sixteenth century, Atlantic ports accounted for 17% of all urban growth (in cities of at least 10,000 inhabitants). Again, in the period 1750–1800, Atlantic ports accounted for 16 percent of all urban growth. But in the period 1600–1750, these ports, 15 in number accounted for 38% of all urban growth generated by the 288 European cities with at least 10,000 inhabitants in this period. de Vries, *European urbanization*, pp. 133–42.

exclude the intercontinental trade with Asia (whether via the Cape of Good Hope or via the Pacific route to Manila) as part of the 'European world system' of the early modern period. World system adherents hold the trade with Asia to be 'external' to this world system and, thus, incapable of altering the functional character of economic relations. European trade with Asia after Da Gama was an appropriation and elaboration of the earlier trade routes, and remained superficial, being limited to a trade in luxuries. Moreover, until the 1750s at the earliest, these trades were not sufficiently 'unequal' to contribute to the primitive accumulation referred to by Marx.¹³

While world system adherents hold the trade with Asia to be impotent to account for the divergent growth of Europe, a literature that has become known as the 'California School' regards the question itself to be badly put: as there was no divergent growth in the early modern era, there is no need for an explanation.¹⁴ From this perspective, neither the living standards nor the technologies—nor, for that matter, the political institutions—of the leading Asian societies were demonstrably inferior to those of Europe until the end of the eighteenth century. Only then is western Europe deflected from the course of Malthusian and environmental crises that hitherto had been the common fate of all advanced civilizations. It is deflected by the combined effects of coal and the resources of the New World. Intercontinental trade between Europe and Asia is not particularly relevant to this story.¹⁵

Studies of early modern intercontinental trade have not led to any consensus about the applicability of the term globalization. Despite broad agreement about the novelty of the new trading world established after 1500, there is no agreement about the nature of its direct impact. In this setting 'soft globalization' gains appeal as a definition because it embraces a broad array of indirect developments as part of its purported impact. It beckons to interdisciplinary study as it evades modelling and testing.¹⁶

This brings us to 'hard globalization'. Globalization-as-outcome is a measure of the direct impact of an historical process. It recommends itself to social scientists seeking to cast their arguments in a testable, measurable form. Bhagwati launches his recent *In defense of globalization* by defining economic globalization as the 'integration of national economies into the international economy through trade, direct foreign investment, short-term capital flows, international flows of workers

¹³ Wallerstein, *Modern world-system*, p. 330. Wallerstein cites Lasch to explain why Asia was not part of the European world-economy from 1500 to 1800. In this period Europe's relations with Asian states 'were ordinarily conducted within a framework and on terms established by the Asian nations. Except for those who lived in a few colonial footholds, the Europeans were all there on sufferance'. Lasch, *Asia in the making of Europe*, p. xii.

¹⁴ Important works include: Pomeranz, *Great divergence*; Wong, *China transformed*; Goldstone, 'Rise of the west?'

¹⁵ No account of the world system and California School literatures would be complete without making reference to the last major work of Frank: *ReOrient*. Frank's work combines elements of both literatures to offer an interpretation at odds with the main tenets of both. In his view, European economic prowess is in most respects inferior to that of Asia, especially China, until the end of the eighteenth century, but it gains its advantage over Asia via its long-standing trading relations with Asia, which allowed it 'to climb up on the shoulders of the Asian economies' via three centuries of trade 'within the world economy itself' (p. 334).

¹⁶ Flynn and Giraldez defend their definition of globalization, and the correctness of their sixteenth-century launch date, with a direct appeal to economic historians to become discussants in broad, interdisciplinary narratives. 'Born again', pp. 383–85,

and humanity generally, and flows of technology . . .'.¹⁷ His definition alludes to processes—flows of goods and factors—but the essence of globalization is integration of markets across space.¹⁸ The advantage of this crisp specificity comes at a price: it tends to reduce the concept of globalization to an umbrella term, a short-hand reference to the underlying phenomena that for the exponents of soft globalization are the objects of primary interest. As Rosenberg notes, 'globalization as an outcome cannot be explained simply by invoking globalization as a process tending toward that outcome'.¹⁹ If globalization is simply the outcome of ongoing, ever-deepening, social and economic processes—in this case, trade flows of all kinds—there is no need for a distinctive theory of globalization.²⁰ For economists, the vocabulary of conventional trade theory remains wholly adequate. But, if globalization adds meaning or interpretive value to the study of transnational historical processes how can we tell when these processes, cumulatively, have the 'deep and lasting impacts' on all participants of which soft globalization adherents speak?

The fullest discussions of 'hard globalization' are found in the recent writings of Williamson, O'Rourke, and co-authors.²¹ For these authors globalization is nothing more nor less than the intercontinental convergence of commodity and factor prices. Thus, the 'deep and lasting impacts' of globalization referred to in the 'soft' definition of Flynn and Giraldez can take but one form in the 'hard' definition of Williamson et al.: price convergence. A growing volume of trade, even a rise in the trade-intensity of GDP, is not sufficient as this does not necessarily result in price convergence. It could be the result of income growth, increasing the demand for foreign goods, and/or more elastic supplies, reducing the supply price of imports. Commodity price convergence, true globalization by this definition, is driven by reduced transaction costs: reduced transport and communication costs (technological) and/or reduced barriers to trade (political and organizational).²²

According to Williamson and O'Rourke, Europe's trade with Asia in the early modern period grew significantly—they characterize it as an 'intercontinental trade boom'—but this trade growth led to no significant reduction in transport costs, nor by their account did trade barriers decline in significance, and, consequently and most importantly, they find no evidence for commodity price convergence between Asia and Europe: 'If it was market integration at work, we should see evidence of commodity price convergence and erosion in intercontinental price gaps. Yet, we do not'.²³

Elsewhere Williamson and Lindert elaborate on the lack of globalizing 'impact' flowing from the growth of Euro-Asian trade. '[M]ost of the traded commodities were non competing. That is, they were not produced at home [e.g. in Europe] and

¹⁷ Bhagwati, *In defense of globalization*, p. 3.

¹⁸ Williamson and O'Rourke, 'Once more', p. 109. 'We define globalisation the way all economists are trained, as the integration of markets across space.'

¹⁹ Rosenberg, 'Problem of globalisation theory', p. 92.

²⁰ Jones, *Dictionary of globalization*, pp. 114–15.

²¹ Williamson, 'Globalization'; Aghion and Williamson, *Growth, inequality and globalization*; Williamson and Lindert, 'Does globalization make the world more unequal?'; Williamson and O'Rourke, 'After Columbus'; Williamson and O'Rourke, 'When did globalisation begin?'; Williamson and O'Rourke, 'Once more'; Findlay and O'Rourke, 'Commodity market integration'.

²² Williamson and O'Rourke, 'After Columbus', p. 424.

²³ *Ibid.*, p. 426.

thus did not displace some competing domestic industry. In addition, these traded consumption goods were luxuries out of the reach of the vast majority of each trading nation's population. In short, pre-1820 trade had only a trivial impact on living standards of anyone but the very rich'.²⁴ For wealthy Europeans the trade was of real significance, as it appears to have caused luxuries to become cheaper relative to staples, thereby increasing the real incomes of the rich even as those of the poor deteriorated across the early modern era. Perversely, globalization (defined simply as the growth of global trade) brought about *divergence* within and even between European countries.

This last claim stands in some tension with the fundamental cause adduced by Williamson and his co-authors for the absence of intercontinental price convergence: the Euro-Asian trade 'remained effectively monopolized, and huge price markups between exporting and importing ports were maintained even in the face of improving transport technology'.²⁵

We may summarize this 'hard globalization' position as follows: a Europe-Asia trade boom stretching across most of three centuries did not lead to commodity price convergence. Therefore, the early modern era does not deserve to be called the first age of globalization, the chief reason for this being the exercise of monopoly power by the European trading companies. Even as the volume of trade boomed these monopolists preserved large price mark-ups, thereby denying to others the benefits implicit in the sixteenth-century establishment of global trade.

II

In the second section of this essay I will explore the claims about early modern globalization summarized in the preceding paragraph: (1) Did trade between Europe and Asia 'boom' in the early modern era? (2) Were price mark-ups maintained, preventing commodity price convergence? Indeed, is price convergence really the best measure of 'hard globalization'? (3) Can the monopoly power of the European trading companies account for a lack of price convergence? (4) If large price mark-ups were preserved for so long, trading company profits must have been high. Is there evidence to support this?

Was there a trade boom? To avoid confusion, it must be stated at the outset that in what follows I will focus on intercontinental trade between Europe and Asia. Many generalizations about early modern trade speak of *all* intercontinental trade, but the trends of Atlantic trade (with West Africa and the New World) differed significantly from the Cape-route trade with Asia. Moreover, the New World trades were from the outset colonial in nature: the Europeans defined the institutions of New World economic life as they pertained to long-distance trade and export-orientated production. Thus, the real test of early modern globalization, by any

²⁴ Williamson and Lindert, 'Does globalization make the world more unequal?', p. 232; Williamson and O'Rourke, 'Once more', p. 116, where the authors claim that non-competing goods 'minimize the impact of long-distance trade on resource allocation and factor prices locally'.

²⁵ *Ibid.*, p. 232. Williamson and O'Rourke, 'After Columbus', makes the same claim in a somewhat more nuanced way: 'The price spread of pepper, cloves, coffee, tea, and other non-competing goods was not driven solely, or even mainly, by the costs of shipping, but rather by monopoly, international conflict, piracy, and government restriction.' p. 426.

Table 1. *Europe–Asia Trade, 1501–1795 (per decade totals)*

Decade	Departing Europe for Asia		Arriving in Europe from Asia		Returned as % of outbound tonnage
	Ships	Tonnage	Ships	Tonnage	
1501–10	151	42,778	73	21,115	49
1511–20	96	38,688	59	25,760	67
1521–30	81	37,722	53	27,020	72
1531–40	80	44,664	57	36,410	82
1541–50	68	40,800	52	30,550	75
1551–60	58	39,602	35	25,750	65
1561–70	50	37,030	40	32,150	87
1571–80	50	42,900	39	35,150	82
1581–90	70	60,479	50	43,085	71
1591–00	111	80,481	73	48,575	60
1601–10	166	121,547	87	58,200	48
1611–20	275	166,451	108	79,185	48
1621–30	269	136,881	129	75,980	56
1631–40	263	122,169	123	68,583	56
1641–50	287	160,540	170	112,905	70
1651–60	328	177,760	176	121,465	68
1661–70	376	191,934	210	125,143	65
1671–80	423	235,402	296	172,105	73
1681–90	400	211,878	281	171,540	81
1691–00	400	220,756	249	150,168	68
1701–10	479	266,909	338	198,677	74
1711–20	531	318,951	433	261,399	82
1721–30	638	405,002	541	348,024	86
1731–40	706	435,841	576	367,367	84
1741–50	700	470,674	528	340,012	72
1751–60	696	520,662	564	417,359	80
1761–70	694	526,146	550	433,827	82
1771–80	770	582,281	619	461,719	79
1781–90	1,034	673,940	805	501,300	74
1791–95*	531	320,877	422	261,804	82

Note: * Totals for five-year period.

Source: Data from de Vries, 'Connecting Europe and Asia', tables. 2.2 and 2.4, pp. 46–49, 56–61, where a full discussion is provided of sources and estimation procedures.

definition, requires a study of Eurasia. I will make comparisons with the Atlantic trades, but the focus here will be on European trade with Asia.

A reasonably detailed and accurate measurement of the Europe–Asia trade in the early modern period is possible because it was almost entirely in the hands of a small number of state-chartered trading organizations, all of which kept extensive records. Although some have been lost (most notably those of the Portuguese *Casa da India*, in the Lisbon earthquake of 1755), enough survive to permit the reconstruction of the composite *volume* of all European Cape-route trade with Asia in the period 1497–1795. The data reported here are drawn from my article 'Connecting Europe and Asia: a quantitative analysis of the Cape-route trade, 1497–1795', where the sources and estimation procedures are described in detail.²⁶

Table 1 displays a summary of the composite trade of all European–Asian trading companies in decadal averages over the period 1501–1795. Over the entire

²⁶ de Vries, 'Connecting Europe and Asia'.

period, nearly 11,000 European ships set out on the Cape route to Asia, while I estimate that something under 8,000 of them returned from Asia to put into European ports.²⁷ The difference of 3,000 is only partially accounted for by shipwrecks and other losses. Most of the difference represents a European investment in the intra-Asian trade: these were ships that lived out their days in Asian waters, trading among the ports of the Indian Ocean and South China Sea.

Given that ships destined for Asia in all periods sailed in ballast, laden with few goods and much silver, the measurement most relevant to economic performance is the return tonnage that safely reaches a European port. These ships, laden to the gills with company payloads of Asian commodities and manufactured goods and the private trading stocks of officers and seamen, determined the financial fortunes of the companies, which until the late eighteenth century depended overwhelmingly on the revenue generated by the sale at auction of Asian goods.

The carrying capacity of the returning Portuguese fleets in the first decade of the sixteenth century averaged slightly over 2,000 tons per year. This grew steadily over the following 30 years, but stagnated thereafter as the pre-existing overland routes from Asia regained a substantial share of the market in supplying Europe with pepper, spices, and silks. The entry into Asian waters of English and, in particular, Dutch traders in the 1580s and 1590s broke the Portuguese monopoly over the Cape route and by 1620 brought the overland route's competition to an end.²⁸ The very rapid growth of shipping volume during this period, in which the northern powers established dominance over Europe's trade with Asia, reflects the 'trade creation' of the newcomers, but is also in part the product of 'trade diversion'. Thus, if the total flow of goods to Europe (via both the Cape route and overland) could be measured, it would probably reveal a steadier, more gradual, expansion than is shown in table 1. Overall, Cape route trade volume grew at 1.07 per cent per annum between 1500–10 and 1610–20; perhaps a third of this growth represented trade diversion.²⁹

The 1620s and 1630s experienced a setback in this growth, but it resumed thereafter, pausing in the 1690s (a decline accounted for entirely by a crisis in the affairs of the English East India Company) and, briefly, in the 1740s (a reversal

²⁷ This can be compared with the volume of shipping crossing the Pacific. From Magellan's pioneering crossing of the Pacific in 1521 until 1769 approximately 450 European ships crossed the Pacific, the vast majority being the annual Spanish sailing between Acapulco and Manila, begun in 1571. In 1769, when Captain James Cook began his Pacific reconnoitring, Europeans still knew very little of the geography and peoples of the Pacific region despite 250 years of regular trans-Pacific navigation.

²⁸ The truce concluded in 1609 between Spain and the Dutch Republic gave Dutch ships access to the Mediterranean Sea for the first time since they began trade with Asia. Their shipments to Livorno, Venice, and Smyrna dramatically reduced the trade in Asian goods from Alexandria. However, it did not end 'overland' trade to the Levant altogether. Indian traders and European companies alike supplied Persia, Basra, and Mocha with spices, pepper, and cotton textiles in exchange, primarily, for precious metals. These commodity flows remained substantial. Indeed, the return flows of silver and gold from 'west Asia' may have exceeded the total of Asian-bound silver shipments via the Cape through most of the seventeenth century. But after 1620 this trade served markets in the Ottoman Empire and Persia. The trading companies were alert to the danger of oversupplying these markets and thereby re-activating trade routes from the Levant to Europe. Israel, 'The phases of the Dutch *straatvaart*'; van Santen, *De Vereenigde Oost-Indische Compagnie*, pp. 69–78.

²⁹ In the case of pepper and fine spices, which dominated the sixteenth-century trade in Asian commodities, the pre-Cape route shipments are estimated to about 1,300–1,500 tons per year (1,100–1,300 tons of pepper and 200 tons of spices). The volume of these commodities circa 1620, now shipped entirely via the Cape route, amounted to about 4,500 tons. Thus, one-third of this volume represented trade diversion. For estimates on pre-1497 tonnage, see: Reid, *Southeast Asia in the age of commerce*, vol. 2, pp. 20–1; Wake, 'Changing pattern'.

attributable to war in Europe). These two brief episodes excepted, the return tonnages of the participants in the Cape route trade rose in every decade from the 1630s to the end of the eighteenth century.

In aggregated tonnage, Europe–Asia trade was remarkably stable, growing at an annual rate of 1.1 per cent across the three early modern centuries, and growing at very nearly that rate in each of the three centuries separately. Although the period 1580–1620 witnessed a particularly rapid growth (nearly 2.0 per cent per year), nearly every other period of 40–50 years recorded a growth rate close to the long-term average. No other major trade route I know of (the Danish Sound trade, the Atlantic routes, western trade to the Mediterranean) displayed anything like this constancy.

A 1.1 per cent annual rate of growth sustained over 300 years yields an impressive total increase in the volume of trade: 25-fold. But does this deserve to be called a ‘boom’? At the end of this long era, the total volume of goods sent annually from all of Asia to all of Europe measured approximately 50,000 tons—the carrying capacity of one large container ship of today. These 50,000 tons could have supplied each inhabitant of late eighteenth-century Europe (western and central Europe, west of Russia and the Balkans) with about one pound (0.5 kg) of Asian goods each year. In the other direction the cargoes were mostly silver: from 1725 to 1800 annual shipments averaged 160,000 kg (about 16 million guilders, or £1.5 million in value), or 0.32 g (0.03 guilders, or 0.77 English pence) per inhabitant of Asia.³⁰

Of course, the Asian goods were not distributed equally among Europe’s inhabitants, nor was their production spread equally over the vast expanse of Asia. A curious feature of the slow, steady growth in the volume of the Cape route trade is that it is the composite result of vigorous competition among European trading companies, whose market shares were subject to substantial fluctuations, and of boom and bust cycles of specific Asian commodity exports, centred on geographically scattered Asian locations. Until the 1620s, European traders focused on the fabled Spice (Molukken) Islands and the South Indian centres of pepper production; thereafter, the cotton textiles of Bengal led Asian export growth, followed in the eighteenth century by Canton’s tea. Thus, at the level usually studied—by European nation and/or Asian commodity—the trade exhibited distinct cycles and much instability, but as an aggregate, Asian exports grew slowly and steadily. Any discussion of the supply elasticity of ‘Asian exports’ needs to take into account the highly dispersed and varied nature of this composite entity.

Finally, the rate of growth of Asian exports to Europe can be compared with the other major branch of intercontinental trade, the Atlantic economy. By the 1770s the volume of New World sugar shipments to Europe alone measured over four times the volume of *all* Asian goods shipped to Europe. Total sugar exports to Europe grew at 2.2 per cent per annum between the 1660s and 1750s, while Chesapeake tobacco exports grew at over 5 per cent per annum from 1622 to the 1750s. Earlier, the shipping volume of Spain’s colonial fleet grew at an annualized rate of 2.2 percent from 1511–15 to 1606–10, before beginning its long decline.³¹ A lower-bound estimate of New World commodity exports may be derived from

³⁰ de Vries, ‘Connecting Europe and Asia’, pp. 78, 91.

³¹ Phillips, ‘Growth and composition of trade’, pp. 40–6; Mola, ‘Spanish colonial fleet’, p. 373.

the rate of growth of African slave transportation to the Western Hemisphere, which averaged 2.1 per cent per annum over the entire period 1525–1790.³² In summary, Atlantic trade, although highly volatile, grew at least twice the long-term rate of the Cape route trade.³³ Consequently, by the late eighteenth century the volume of American exports to Europe was a large multiple of the volume of Asian exports. Figure 1 displays the long-term trend of Asian exports to Europe (data from table 1), and compares it against a rough approximation of the tonnage of trans-Atlantic shipping based on the evidence just reviewed. This sketch assumes a long-term annual growth of 2.2 per cent, with the exception of the ‘age of crisis’ in the first half of the seventeenth century. Even with this hiatus, the cumulative difference in volume becomes very large by the eighteenth century. Perhaps the question to be asked of Europe’s trade with Asia is not why did it boom, but why was its growth retarded?

Did price convergence occur?³⁴ Williamson and O’Rourke, defining convergence as the ratio of European sale price to Asian purchase price, examined available price data for four commodities. They found ‘precious little evidence of commodity-price convergence’ for Dutch cloves, pepper and coffee, or for English textiles.³⁵ These measurements depend on internal records of the trading companies. As most commodities sent to Europe were also sent to markets within Asia, comparison over time of market prices for, say, pepper, in Canton or Surat with prices in Amsterdam or Lisbon would be a more illuminating test of global price convergence. As it is, we must focus on the ratio of the f.o.b. (free on board) and c.i.f. (costs, insurance, freight) prices of Asian goods transported to Europe, and few of them reveal convergence.³⁶

But most of these commodities *do* reveal substantial long-term declines in European price relative to indicators of broader European price levels.³⁷ Pepper, by far the most important import until well into the seventeenth century, declined, in

³² Curtin, *Atlantic slave trade*, passim. This is a lower bound estimate in that it assumes the labour force producing export commodities consisted only of slaves, the slave population exhibited zero net natural increase, and experienced no productivity growth over the period.

³³ The initial sailing capacities active in the Atlantic and Asian trades, in the first 50 years of the sixteenth century, were broadly similar: Spain sent 2,645 ships across the Atlantic in the period 1504–50. The average size of these vessels was very small, 120 tons, so that the total outbound shipping volume over the 50 years was 322,000 tons. Over the same period, the Portuguese send only 476 ships to Asia, but these were much larger, totaling 205,000 tons. For Spanish shipping data, see: Mola, ‘Spanish colonial fleet’.

³⁴ Here, we examine price convergence for Asian goods sold in Europe. Until late in the eighteenth century European goods sold in Asia were of minor significance. Of course, silver was sent to Asia in large quantities, and the lack of substantial and lasting convergence between European and Asian silver prices has long attracted the attention of economic historians. For more on this convergence failure see de Vries, ‘Connecting Europe and Asia’, pp. 75–82, 94–7, and sources cited therein.

³⁵ Williamson and O’Rourke, ‘After Columbus’, p. 425. Findlay and O’Rourke, ‘Commodity market integration’, surveying the same data, spoke of ‘absolutely no evidence’ for convergence (p. 26).

³⁶ They rarely do. Tests for price convergence in the twentieth century are few and inconclusive. Findlay and O’Rourke, ‘Commodity market integration’, p. 55. The nineteenth century offers the most celebrated examples of commodity and factor price convergence, but most convergence is limited to areas brought within colonial and imperial trading structures. Since this was also the century of *divergence* between industrial/temperate and tropical economies, it might be best to say that nineteenth century convergence was limited to the convergers. It was not a global phenomenon.

³⁷ Williamson and O’Rourke, ‘After Columbus’, app. tab. 1, describes the broad trends of import prices relative to European grain prices. They show substantial declines in the sixteenth century and again in the eighteenth century. In the seventeenth century, grain prices decline sharply (by 30–40% between 1650 and 1700); import prices mostly rise relative to this daunting standard, but they fall absolutely and relative to broader price indicators and wage rates.

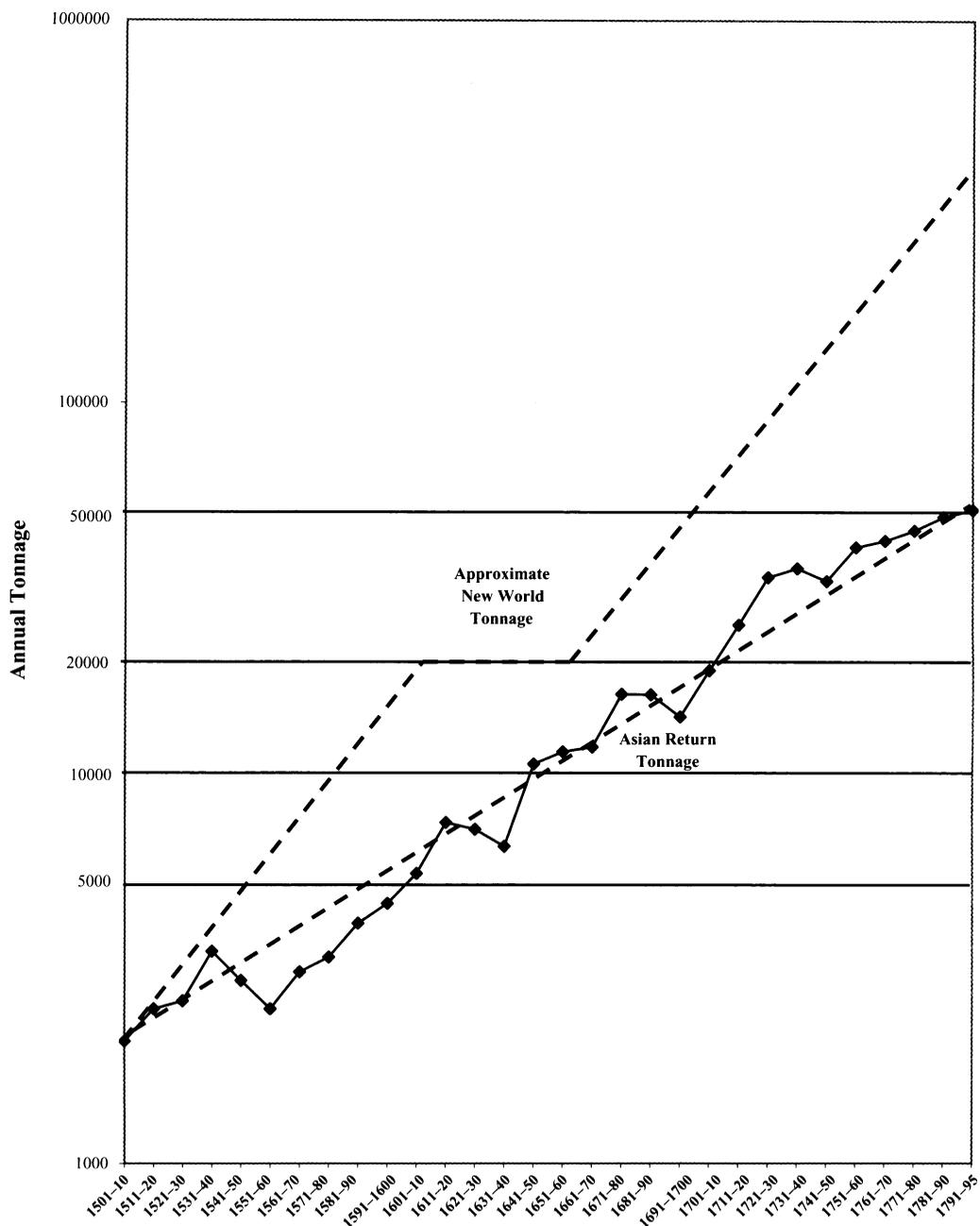


Figure 1. *Intercontinental trade, 1501–1795*

Source: de Vries, 'Connecting Europe and Asia,' pp. 46–49, 56–61.

real terms, substantially over the sixteenth century as Portugal and Venice competed to supply Europe. At the Antwerp market, the price of black pepper, expressed in silver, rose by 62 per cent between 1491–1510 and 1591–97; but in terms of the daily wages of building craftsmen it fell by 40 per cent, and in terms

of the price of rye grain it fell by 56 per cent.³⁸ With the entry of English and Dutch traders in the 1590s the growth of supply accelerated and pepper prices in Amsterdam and London declined further, falling by half of the 1590s level by the 1620s, and by half again in the 1670s.³⁹ If *relative* price convergence did not occur, *absolute* convergence certainly did, and the companies' search for lower cost suppliers was relentless.⁴⁰ English companies had doubts that the pepper trade was profitable, but persisted in it because pepper was an essential ballast to stabilize returning vessels.⁴¹

Coffee prices in Europe declined substantially across the eighteenth century, from an average of 1.36 guilders per pond in 1710–19 to less than 0.50 guilders by the 1770s (1 pond = 494 grams). Gross margins (the difference between sale and purchase prices) appear not to have declined significantly, but this is because the VOC (Verenigde Oost-Indische Compagnie), followed shortly by the French East India Company (Compagnie des Indes), encouraged coffee production on territories under their direct control (Java and Reunion, respectively) to circumvent the inelastic supplies and high prices at Mocha, which had been the unique source of coffee beans.⁴² The VOC made this switch between 1722 and 1726 and restored its deteriorating gross margins through the establishment of administered prices for Javan growers. By the 1730s some six million pounds of coffee reached Europe from Asia, only one-quarter of which came from Mocha. Coffee prices in Europe continued to fall thereafter as Caribbean production, especially in Suriname and Saint-Domingue, provided low-cost supply. By the 1750s Asia accounted for only one-quarter of Europe's coffee supply, and by the 1770s less than 10 per cent of a total supply approaching 100 thousand pounds annually. With little influence over European coffee prices, the French and Dutch companies could do little to protect their trading margins but to reduce supplies and seek (with little success) alternative Asian markets.⁴³

The history of tea prices is more straightforward. Once the port of Canton was opened on equal terms to all European traders after 1701, tea shipments to Europe grew rapidly. By 1718 1.6 million pounds of tea were sent to Europe; by 1784, when the English gained a privileged position in Canton, shipments had reached 20 million pounds annually. The price of Bohea (black) tea in Amsterdam fell from

³⁸ All data from van der Wee, *Growth of the Antwerp market*, vol. I, pp. 128–9.

³⁹ Amsterdam price data from Wake, 'Changing pattern', p. 389; Posthumus, *Nederlandsche prijsgeschiedenis*, pp. 174–6.

⁴⁰ Relations with local rulers sensitively affected the acquisition price of pepper. Sumatra tended to offer better terms than the traditional sources of India's Malabar Coast. The decline of Portuguese pepper shipments in the early seventeenth century was not caused only by the commercial competition from the Dutch and English; it was also affected by the repeated increase in supply prices imposed by the ruler of Kanara, Portugal's traditional supplier. By 1630 the Portuguese abandoned the trade as unprofitable. van Veen, 'De Portugees-Nederlandse concurrentie', p. 9.

⁴¹ Chaudhuri, *Trading world of Asia*, p. 313.

⁴² Coffee is one Asian commodity for which inelastic pricing had a prominent effect in limiting the growth in trade volume. Coffee also reached Europe via the Levantine trade routes, and the Ottoman and Arab merchants had little interest in letting the European trading companies become the dominant suppliers. See: Schneider, 'Produktion, Handel und Konsum von Kaffee', pp. 122–40; Glamann, *Dutch-Asiatic trade*, pp. 183–211; Bulbeck, Reid, Tan, and Wu, *Southeast Asian exports*, pp. 142–9, 159–69; Haudrère, *La Compagnie française*, vol. 1, p. 287; vol. 2, p. 658; Posthumus, *Nederlandsche prijsgeschiedenis*, pp. 181–7.

⁴³ The Haitian revolution of 1790, by suddenly removing from international markets some 60 million pounds of coffee, changed the world coffee trade profoundly. By 1793 Java shipped 13 million pounds to Europe in response to sharply higher prices.

6.95 guilders per pond in 1715–18 to 0.66 guilders per pond in 1785–89. The purchase prices at Canton also declined, but by much less (from 0.86 to 0.33 guilders per pond). The ratio of sale to purchase prices fell from eight to below two guilders, a clear example of convergence.⁴⁴

The price history of South Asian cotton textiles is a very different one. In large part because of shifts toward higher quality, London prices of Indian piece goods rose substantially, from an average of £0.70 per piece in the 1670s to £1.82 in the 1750s. Purchase prices rose similarly, resulting in no significant change in the ratio of sale to purchase prices.

As noted earlier, Asian goods sent to Europe were typically non-competing: the pepper and fine spices of the sixteenth century had no direct European counterparts. When, in the seventeenth century, the trading companies shifted their attention increasingly to cotton textiles, porcelain, and silk, matters were different. These Asian products substituted for European cloth and ceramics. Moreover, the demand revealed for these Asian manufactured goods encouraged, over time, the development of European imitations: European porcelain and ceramics, silk, and, most famously, cotton textiles. Similarly, in the eighteenth century Asian coffee found itself in head-to-head competition in the European market with coffee produced in the West Indies. The existence of alternatives and the rise of import substitution influenced the prices at which many Asian goods could be sold in Europe, limiting the ‘pricing power’ of the trading companies.

The relevance of price convergence to a macroeconomic assessment of globalization notwithstanding, it is not obvious that it is the measure of greatest importance to all participants in global trade. Globalization affected European consumers in this period primarily by increasing consumer choice. This is sometimes dismissed, by Williamson and O’Rourke among others, as a matter of concern only to elite consumers. This charge, valid enough in the sixteenth century, is not compelling thereafter as cotton textiles, tea, and coffee came to dominate the return cargos from Asia. These goods reached broad European markets and encouraged new patterns of consumption as novel products were integrated into daily patterns of life. If the price was right to the consumer, the issue of price convergence would have been distinctly of secondary consideration. The impact of intercontinental trade on European consumers should be measured not by the convergence of prices for non-competing goods but by relative prices and the effective augmentation of consumer choice.⁴⁵

The European trading companies had their eyes on yet another metric. Their profitability, and hence their ability and motivation to expand the volume of intercontinental trade, depended on the gross margin (mark-up) of their *overall portfolio of traded goods*. Over the centuries supply and demand conditions changed continually. Consequently, company merchants repeatedly shifted the

⁴⁴ Dermigny, *La Chine et l’occident*, vol. 2, pp. 546–8.

⁴⁵ An emphasis on choice rather than prices may appear as a move from the measurable to the subjective, from hard to soft globalization. But the impact of choice appears as an eminently measurable phenomenon when one ponders the divergent outcomes in the measurement of purchasing power that result from using Paasch (end-period weighted) rather than Laspeyres (base-period weighted) price indexes. The greater the divergence in these alternative measurements over a given time period, the greater has been the intervening shift in the bundle of consumed goods. Much of the substantial shift in consumption patterns in the early modern period, especially in the century following 1650, is attributable to the direct (import) and indirect (import substitution) effects of intercontinental trade.

Table 2. *Gross margins (ratio of sales prices in Europe to purchase prices in Asia) of the Dutch (VOC), English (EIC), and French (C de I) East India Companies, 1641–1828*

Period	VOC	VOC	EIC	EIC	C de I
	China trade		Tea trade		
1641–50	3.97				
1651–60	3.43				
1661–70	3.32		2.71		
1671–80	2.89		2.40		
1681–90	2.59		2.08		
1691–1700	2.77		3.35		
1701–10	2.63		2.73		
1711–20	2.66		2.75		
1721–30	2.25		2.60		2.16
1731–40	2.44		1.96		1.90
1741–50	2.46	2.07	2.26		1.76
1751–60	2.19	1.88			1.80
1761–70	2.37	1.51			1.80
1788–96				1.86	
1814–28				2.03	

Sources: VOC: de Korte, *De jaarlijkse verantwoording*, Bijlagen (appendices) 9A–9E. VOC China trade: Jörg, *Porselein als handelswaar*. EIC: Steensgaard, 'Growth and composition', pp. 110, 112. Steensgaard's data are derived from: Chaudhuri, *Trading world of Asia*, tables A.24 and C; EIC tea trade: Mui and Mui, *Management of monopoly*, p. 152; Compagnie des Indes: Haudrère, *La Compagnie française*, vol. 2, p. 842.

locus of their buying activities within Asia and altered the mix of goods they shipped to Europe. That is, most Asian goods had markets within Asia as well as Europe, and the companies sought to direct them to the markets offering the highest returns, or to Asian markets where they were essential to barter for goods in demand in Europe. It stands to reason that the intra-Asian trading activities of European trading companies brought about a measure of global-level price convergence in consumer markets, but this is a topic that remains to be studied.

Happily, company records often provide the information needed to calculate the overall, composite, gross margins: the ratio of sales revenue in Europe to acquisition costs in Asia. Table 2 displays these margins for the Dutch, English, and French East India Companies. Although the decadal averages fluctuate, the long-term trend is clear: gross margins deteriorated. Until the 1660s, the VOC's gross margins were always well above 3:1; they declined thereafter, reaching a level below 2.5:1 after 1720. Similar data for the English company are available only after 1664. Their seventeenth-century margins were under severe pressure from Dutch competition, especially in the 1680s, when the English East India Company, anxious to increase its market share, embarked on a ruinous price war in pepper. Margins were restored under the reorganized East India Company (EIC), but again tended downward throughout the first half of the eighteenth century. Supply disruptions and sharpened competition, especially from the French, eroded the profitability of the company's trade in western India and

Bengal.⁴⁶ In partial compensation, the EIC cultivated the new Canton tea trade, but so did its European rivals. This highly competitive trade was open to all European trading companies on broadly equal terms—they all had to deal with the Hong merchants, who served as exclusive agents to foreign merchants—and mark-ups were lower than in any other major commodity trade.⁴⁷ Data for gross margins for the *Compagnie des Indes*, available only from 1725, reveal the French company's weakness relative to its rivals: most of its trade was in goods with relatively low margins—textiles and tea—and downward pressure was persistent.

It is possible that mark-ups for most commodities deteriorated little if at all (as Williamson and O'Rourke claim), yet the overall gross margins faced by the trading companies tended to decline nonetheless because of an additional effect of a continually changing mix of goods. As the companies sought out trades with growth potential, they changed their mix of goods in a direction that involved them in progressively more competition, both in Asia and at home.

Did the trading companies have monopoly power? If the European trading companies were monopolies, why do I speak here of competition? With one famous but limited exception, the European trading companies did not, in fact, enjoy monopoly power on a long-term basis. Even the sixteenth-century Portuguese enjoyed only briefly the monopoly power conferred by their status as 'first movers', as they only briefly interrupted the overland trade routes that long had supplied pepper and spices to Europe. Thereafter, with the exception of the Dutch hold over the sources of fine spices (cloves, nutmeg, and mace from the Molukken islands; cinnamon from Ceylon), all other commodities were bought in competitive markets.⁴⁸

These markets were competitive in the sense that rival European companies vied with each other to acquire the Asian goods, but also, and more importantly, in the sense that the European companies vied with Asian traders for these goods. Indeed, most European companies were active participants in *intra-Asian* trade, which was itself a source of profit as well as a necessity to assemble the range of goods desired by European markets. As Steensgaard put it:

[T]he Europeans were obliged if they were to profit from these ventures, to act as participants in the Asian game. The long-term viability of the Portuguese and later the Dutch, English, French, and Danish trading companies was determined by their ability to engage in intra-Asian trade.⁴⁹

In Europe, each company had exclusive access to its own national wholesale market. It is in this sense that they go by the name 'monopoly companies'. But

⁴⁶ Cain and Hopkins, *British imperialism*, p. 92.

⁴⁷ Parmentier, *Thee van overzee*, p. 110; Dermigny, *La Chine et l'occident*, vol. II, pp. 539–42.

⁴⁸ From their establishment of monopoly control over the production of fine spices in the 1640–50s, the VOC limited production, imposed delivery prices on producers, and controlled European supply to maintain stable prices. In the case of cloves, this resulted in a handsome gross margin. But the price paid to producers was not their only acquisition cost, as the defence and management of monopsonist positions imposed many additional expenses. Despite all this, the Amsterdam price of cloves during the monopoly period, expressed in silver terms, was lower than it had been during most of the sixteenth century. Relative to wages or grain prices it was significantly lower. Knaap notes that the trade in fine spices had never been truly competitive, having always been prey to rent seeking among local elites and a long chain of intermediate, monopolistic merchants. The VOC monopoly short-circuited and 'rationalized' this high-cost commercial world. Knaap, *Kruidnagaelen en Christenen*, p. 324.

⁴⁹ Steensgaard, *Asian trade revolution*, p. 407.

here, too, they were sole suppliers in only a limited sense. They sold their goods, usually at auction, to foreign and domestic merchants, who distributed the pepper, silk, cotton piece goods, tea, coffee, etc., to markets throughout Europe, where they inevitably came into competition with each other.

In their efforts to exercise pricing power at wholesale auctions, the companies often practised a form of oligopolistic competition, usually by regulating the quantities supplied in anticipation of the actions of their rivals (approximating a Cournot-type oligopolistic competition). All the companies appear to have been acutely aware of the price elasticities of demand in European markets for their Asian goods. The flow of goods to Europe was subject to unpredictable short-term fluctuations, the result of political disturbances in Asia, shipwrecks, and harvest results, among others. To smooth the flow of goods sold at auction, inventories held back in company warehouses sometimes accumulated to equal the normal demand for several years. In addition, the intra-Asian trade in which the major companies engaged allowed them to distribute their supplies between European and Asian markets so as to optimize total revenues worldwide.⁵⁰ Through such measures the companies sought to lift prices above competitive levels. However, execution of these policies often failed: the number of suppliers of many commodities was large, managing information about prices in markets worldwide was difficult, and keeping information about inventories and shipments underway from rivals and auction buyers often failed. Rarely were the companies able fully to control their gross margins.

Were the European trading companies highly profitable? The conventional wisdom is clear: the companies that conveyed 'the riches of the Indies' to Europe themselves became rich. Enjoying monopoly control over goods highly prized by elite consumers, the trading companies maintained 'huge price markups between exporting and importing ports . . . even in the face of improving transport technology'. The textbook restrictive policy of the monopolist led not only to high profits for the companies and their shareholders, but also ensured that the Asian luxuries would always remain 'out of reach of the vast majority of each trading country's population', which, in turn, ensured that 'these commodities had only a trivial impact on living standards of anyone but the very rich'.⁵¹ These conventional assertions, made recently in the quotes above by Williamson and Lindert, are almost certainly false. They are valid for relatively brief periods of trade in a few commodities, but they cannot serve as a generalization for the Cape route trade as a whole.

We have already observed the long-term tendency for price mark-ups to decline. The decline in margins was certainly not revolutionary, but it sufficed, together with the expanded volume of trade, to open large markets that extended well beyond the rarified material world of the very rich. Asian cotton textiles, coffee, and tea became items of everyday use among the 'middling sorts' and even among the poor of eighteenth-century western Europe.⁵² Because Asian goods were distributed from a limited number of Atlantic ports, per-capita consumption in central and eastern Europe was highly uneven, but this had more to do with the

⁵⁰ VOC supply-management policies are described in: de Vries and van der Woude, *First modern economy*, pp. 434–44.

⁵¹ Williamson and Lindert, 'Does globalization make the world more unequal?', p. 232.

⁵² Some evidence of per-capita consumption levels of Asian (and American) imports is provided in: de Vries, *Industrial revolution*, pp. 154–64, 181–5.

costs of European distribution than the monopolistic practices of the trading companies.

If margins were high and stable while transport costs were falling, the profits of the companies would almost certainly have grown over time, but the opposite appears to have been the case: margins were gradually but persistently falling while there was, at best, only a small reduction in per-ton transportation costs over the early modern centuries.⁵³ Revenue per ton of Asian goods delivered to Europe, even in nominal terms, declined over the period 1621–30 to 1741–50. Tons returned over this period rose slightly faster than the average over the entire three centuries, 1.22 per cent per annum, but over the 120-year period revenues appear to have risen at 1.03 per cent per annum. The cost of providing the shipping service certainly did not decline by 0.20 per cent per year over this period. Manning rates for most European companies hovered around 20 per 100 tons after 1620 (before then, the Portuguese carracks required much larger crews). In the eighteenth century, the Danish and Swedish companies (heavily focused on the Canton tea trade) achieved further efficiencies, manning their vessels at 15–16 per 100 tons, but this was not the case for the Dutch, English, or French.⁵⁴ The efficiencies achieved in the eighteenth century Atlantic trades, where European traders controlled their political and commercial environments, could not be applied to the trades in Asia, where no such control was achieved and the logistics of the Cape route always remained a formidable challenge.

Overall, it appears likely that the European companies conducting trade with Asia via the Cape route faced a long-term deterioration of their profitability *as trading operations*. Their gross margins were under long-term pressure while transaction costs as a whole were stubbornly resistant to reduction.

There were two significant ways in which a company could hope to escape this squeeze on profitability. The first, achieved most fully by the VOC in the first 60–70 years of its operation, was to conduct a profitable intra-Asian trade. By investing in Asian trade (sending ships, personnel, and capital, and establishing trading factories) a company could hope to earn profits that could then be repatriated by reducing the need for imported silver in the acquisition of Asian goods for shipment to Europe. The founder of the VOC's intra-Asian trading system, Jan Pieterszoon Coen, famously described this strategy in a letter to the VOC's *bevindhebbers* (directors):

Piece goods from Gujarat we can barter for pepper and gold on the coast of Sumatra, rials and cotton from the [Coromandel] coast for the pepper of Bantem; sandalwood, pepper and rials we can barter for Chinese goods and Chinese gold; we can extract silver from Japan with Chinese goods (. . .) and rials from Arabia for spices and various other trifles (. . .) One thing leads to another.⁵⁵

The VOC's very substantial profitability in the period 1630–70 reflected the success of this strategy. Between 1613 and 1630 the company transferred to Batavia, its headquarters in Asia, scores of ships and nearly seven million guilders

⁵³ Williamson and Lindert, 'Does globalization make the world more unequal?', p. 232, state, in passing, that transport technology improved. Williamson and O'Rourke, 'After Columbus', p. 424, conclude: 'As far as we can tell, there is no evidence of any transport revolution along Euro-Asian trade routes during the Age of Commerce'.

⁵⁴ de Vries, 'Connecting Europe and Asia,' pp. 72, 86–7, and sources cited there.

⁵⁵ The translation is from Steensgaard, *Asian trade revolution*, p. 407.

of working capital. Put to work in intra-Asian trading, these assets bore fruit as large Asian profits, which, in turn, sufficed to finance the continued expansion of the company's Asian capital stock and be partially 'repatriated' in the form of Asian commodities for sale in Europe. Thus, the VOC's six chambers in the Republic became the recipients, year after year, of ships laden with goods for which they had not been obliged to pay the full acquisition costs.

The hypothetical VOC shareholder who bought the company's initial public offering in 1602 and held the shares to 1648 was among the most fortunate investors of that or any age, enjoying average annual returns from dividends and capital gains of 27 per cent.⁵⁶ An investor of 1648, or almost any date thereafter, is unlikely to have profited from his/her VOC shares (i.e. government bonds would have paid as well), and one who held the shares to the bitter end (the VOC's dissolution in bankruptcy in 1799) would have lost substantial amounts. Once the conditions supporting a profitable intra-Asian trade were removed (in particular, large-scale trade with Japan), the factors highlighted in the simple model reasserted their hold over the VOC's finances.⁵⁷

The second means of escape for the European trading company was to supplement its trading revenue with political revenue. By assuming direct control over Asian territory and assuming the functions of an Asian Prince, a company could add tolls and taxes to its commercial revenues. The VOC, which over the course of time assumed control over portions of Java and coastal Ceylon (plus, of course, the fabled Spice Islands), worked at increasing its tax revenues, although these never accounted for more than 10 per cent of its *Asian revenue* (the total revenues flowing to its headquarters at Batavia) in the seventeenth century. However, they grew thereafter, most notably in the 1760s when they jumped from 28 to 44 per cent of Asian revenues.⁵⁸

In the case of the VOC, its role as an Asian Prince proved not to be a royal road to riches (although it would be this for the Dutch colonial state in the nineteenth century): the costs of protecting and administering its territories appear always to have exceeded revenues. The EIC was much more fortunate in its pursuit of this strategy. Its conquests subsequent to the Battle of Plassey in 1757 generated both large tax revenues and a secure hold on trade goods for the China tea trade—cotton goods and opium.⁵⁹ From 1760 until 1784 it was able to dispense with specie shipments from Europe and company fortunes took on some of the lustre that had characterized the VOC some 150 years earlier.⁶⁰ EIC dividends averaged some 17 per cent per year during this golden period.

⁵⁶ de Vries and van der Woude, *First modern economy*, p. 396. Note that this investor needed to be patient, because the company paid hardly any dividends in its first 10 years. The VOC's English rival, not yet a joint stock company, paid returns of some 15% per annum to investors in its first 12 voyages, but after 1612 returns fell, and after 1621 they averaged near zero until the company's reorganization in 1657. Chaudhuri, *English East India Company*, pp. 22, 217–23.

⁵⁷ For a fuller account, see: de Vries and van der Woude, *First modern economy*, pp. 433–6.

⁵⁸ *Ibid.*, pp. 449–50.

⁵⁹ Cain and Hopkins, *British imperialism*, p. 92. China had imported opium from several Asian sources since the Ming period. In the first half of the eighteenth century Chinese imports are estimated at 200 piculs per year, or 12,000 kg. Chinese demand grew rapidly in the second half of the century, reaching 60,000 kg per annum by 1770 and 210,000 kg by 1800–20. This is as nothing compared with the annual level of opium imports reached by the 1850s, and sustained through the rest of the nineteenth century: 4.2 million kg. Lin, 'World recession, Indian opium, and China's Opium War,' pp. 387–9.

⁶⁰ Prakash, *European commercial enterprise*, pp. 346–47.

The French were unable to establish a viable trading company until the 1724 reorganization of the *Compagnie des Indes*. Although its trade volume then grew considerably, it never succeeded in drawing substantial profit from either intra-Asian trade or direct rule. Its most recent historian summarizes its financial results, before its 1769 dissolution in financial distress, as ‘mediocre’, less than the prevailing interest rate of the time.⁶¹ In summary, European trade with Asia (as opposed to European rule in Asia) was profitable only under specific conditions, and tended to become less profitable over time.

III

Early modern globalization faced distinct limits. After nearly three centuries of direct trade between Europe and Asia via the Cape route, the volume and value of this trade remained limited, especially in Asia. In the 1780s the trading companies landed in Europe about a pound of Asian goods for every European. This composite bundle of Asian goods then had a wholesale value (realized at first sale by the trading companies) of about 0.625 guilders (or just over one English shilling). Per household, the average consumption of Asian commodities would have stood at between 2.5 and 3.0 guilders (wholesale); actual retail expenditures per European household may well have exceeded 5–6 guilders (9–11 shillings). It is, of course, unrealistic to suppose that all Europeans participated equally in the consumption of Asian goods, but if they did, the annual expenditures of a manual worker in England or Holland would have taken up at least a week’s earnings. Another approach to measuring the significance in Europe of the Asian trade is to express Asian imports as a percentage of total imports in the major trading nations. In the 1770s the cumulative value of British, French, and Dutch imports from Asia was about 11 per cent of their combined total imports. As shown in table 3, imports to these three countries from the Western Hemisphere then accounted for nearly one-third of their total imports.⁶² By value, New World imports exceeded those from Asia by nearly a factor of three; if the imports of other European countries, especially the Iberian empires, could be included, this New World bias would be larger. By volume, the difference must have been greater still, as the per-ton value of Asian goods in the 1770s was probably double that of the plantation products from the Americas.⁶³

Nevertheless, Asian imports were by no means marginal to the European economy of the mid-eighteenth century, even though the growth rate had never been impressive and the overall scope of the trade was overshadowed by the far more dynamic Atlantic trade. It is likely that the greatest impact of this trade was to stimulate new European consumer wants. However, it is striking how almost every Asian commodity for which European demand was elastic gave rise to the

⁶¹ Haudrère, *La Compagnie française*, vol. 1, p. 323.

⁶² de Vries, ‘Connecting Europe and Asia,’ pp. 92–3.

⁶³ It would be illuminating to extend this analysis into the first half of the nineteenth century. The Cape route era did not end until the opening of the Suez Canal in 1869, although the institutional organization of European trade with Asia was substantially altered in the 1795–1814 period. Directly comparable data are not available, but it is interesting to note that Bairoch’s estimates of nineteenth-century European commodity imports set the Asian share at 12–13% in 1830–60, and less thereafter. Western Hemisphere imports hovered at about 21–22% in this period, but the Caribbean and South America accounted for a steadily declining portion of the total. Bairoch, ‘Geographic structure’, pp. 582–6.

Table 3. *Geographical structure of imports to Britain, France, and the Dutch Republic in the 1770s*

<i>Source of imports</i>	<i>Britain</i>	<i>France</i>	<i>Netherlands</i>		
	1772–3 (%)	1772–6 (%)	1770–9 (%)		
Europe	45	53	71		
Western Hemisphere	38	42	15		
Asia	16	5	14		
Total value (in millions)	£13.6	l.t. 369.6	fl. 147.4		

Total value of imports to Britain, France, and the Dutch Republic in the 1770s (millions of guilders)

<i>Source of imports</i>	<i>Britain</i>	<i>France</i>	<i>Netherlands</i>	<i>Total</i>	<i>% of total imports</i>
Western Hemisphere	57.4	71.9	22.4	151.7	32.3
Asia	24.2	8.6	20.0	52.8	11.2
Total	151.1	171.1	147.4		

Note: Exchange rates: one guilder (or florin (fl.)) = 11.11 pounds sterling and 2.16 livres tournois (l.t.).

Sources: Britain: Mitchell and Dean, *Abstract of British historical statistics*, p. 310. France: Butel, 'France, the Antilles, and Europe in the seventeenth and eighteenth centuries', pp. 163, 170. Netherlands: de Vries and van der Woude, *First modern economy*, p. 497, with corrections based on Kloosters, *Illicit riches*, p. 176.

development of alternative sources of supply outside Asia. While spices and tea always remained Asian specialties (although by the nineteenth century, tea produced outside China would come to dominate the market), Caribbean coffee and sugar and European silk, porcelain, and, most famously, cotton textiles all arose to limit or eliminate the competing Asian product from European markets. If Asia was vastly superior to Europe in the production of manufactured goods (a claim often made on the evidence of the inability of Europeans to find Asian markets for their products), why did the European demand for goods that had originally come from Asia time and again come to be satisfied by imitations and substitutes from elsewhere? To the extent that European demand determined the rate of growth of trade with Asia it would appear that the volume of trade via the Cape had the potential to grow much faster than the 1.1 per cent rate actually achieved over the early modern era. What held it back?⁶⁴

If we now turn to the Asian side of this trade relationship, the first point that needs to be made is that Asia is large and populous, and the various goods exported to Europe came from specific locations usually far removed from each other. 'Asia' in this analysis is something of an abstraction; even more than in Europe, the impact of intercontinental trade was regional, and the regions most affected varied over the course of time. Moreover, nearly every Asian product sent to Europe also enjoyed large markets within Asia. European demand affected these industries at the margin, but it did not call them into being.⁶⁵ Therefore, inelastic supplies seem unlikely to have played a large role in this story of limited growth.

⁶⁴ The analysis of Williamson and O'Rourke accounts for the increased pace of Europe–Asian trade, in part, by the growth of European income/demand. Although such measures are necessarily speculative, the direct evidence that European demand for goods originally from Asia was satisfied by other suppliers appears to be a more satisfactory indicator that either Asian supply constraints or high transaction costs frustrated the growth of trade volume over most of the seventeenth and eighteenth centuries.

⁶⁵ This is not to say that exactly the same manufactured goods were sent indiscriminately to markets in Asia and Europe. The porcelain designs and printed cotton cloth patterns intended for export to Europe were distinctive, and critical to their acceptance by European consumers. Berg, *Luxury and pleasure*, p. 57.

In the 1770s, the invoice cost of Asian goods shipped to Europe was approximately 22 million guilders, 15 million of which was paid in specie (mainly silver) shipped from Europe. Averaged over all of Asia, with a population then at least five times that of Europe, the annual value of this trade amounted to about 0.05 guilders (roughly, one English pence) per inhabitant of Asia. The specie that reached Asia via the Cape route averaged 160,000 kg of silver per year throughout the period 1725–95. This augmented Asia's per-capita supply of specie at the rate of 0.32 g of silver (0.03 guilders) per annum.

If we focus our attention exclusively on China, the chief destination for silver and a major source of trade goods in the eighteenth century, the volume of total Asian trade grew at about 1.0 per cent per year throughout the eighteenth century while the Chinese population grew at 0.8 per cent per year. Neither trade volume nor the shipment to Asia of specie grew at a rate far in excess of the dramatic growth of China's population.

All of these quantitative measures are crude, but they suffice to establish orders of magnitude and relative rates of growth. They lead inexorably to the conclusion that the Cape route trade could have had only local or regional importance to Asia and that, even at its apogee, the trade in silver could have done little to bring the existing stock of monetary metal into equilibrium with the desired stock. The purchasing power of silver in China long remained higher than in Europe, continual silver shipments to China notwithstanding. When the price premium of silver (relative to gold) diminished—temporarily after 1640 and, for a longer period, after 1750—it was a collapse of demand that appears to have done most of the damage.⁶⁶

IV

During what in retrospect were the waning days of the Dutch colonial empire in Asia, a colonial civil servant at Batavia, J. C. van Leur, wrote a study of south-east Asian history that emphasized the profoundly polycentric character of the early modern world. In his view, when the VOC's ships rounded the Cape of Good Hope they entered another world, with possibilities and limitations that the Dutch merchants and seafarers had no choice but to adapt to. As he put it, 'two equal civilizations were developing separately from each other, the Asian in every way superior quantitatively'.⁶⁷ This vast theatre of trade, with, in the eighteenth century, an expansive China giving shape to its commercial possibilities, must have seemed a world of limitless opportunities to European, and especially Dutch, traders. At home, the domestic market was small, population grew slowly, and European mercantilism raised trade barriers everywhere one turned; once in Asian waters, one lived by different rules and faced new opportunities.

Yet the message of this essay is that the European trading companies were able to exploit these new opportunities only very partially. Trade grew slowly, monopoly power was elusive, and sustained profits were hard to come by. Ulti-

⁶⁶ von Glahn, 'Money use in China', pp. 195–6. In the 1640s, a sharp population fall, and after 1750, a shift to bronze as the preferred payment medium in the rural economy were the major factors causing the silver–gold price ratio to approach European levels. In both periods, the inflow of silver changed little.

⁶⁷ van Leur, *Indonesian trade and society*, pp. 284–5.

mately, the European markets for most Asian goods were taken over by sources of supply nearer to home. The chief reason for this frustrated development is that the transactions costs in this trade remained stubbornly high, limiting the European market for Asian-produced goods. The downward pressure on company profits limited their motivation and ability to expand the volume of trade, and these profits remained low so long as the European companies could exert only a limited influence over the Asian commercial world in which they did business. Much was learned in this polycentric era that altered the course of development in polities throughout Eurasia, even though substantial commodity price convergence was not yet a possibility. This was an age of soft globalization, not of hard globalization.

But why did transaction costs remain ‘stubbornly high’? The response of the major European companies to the vice-like pressure on their long-term profits was shaped by their privileged character, their exclusive national charters and the quasi-sovereign powers with whom they conducted their commercial affairs in Asia. They might have focused their attention directly on the stubbornly high shipping costs and overhead costs attendant to their bureaucratic organizations. These steps had been taken in the Atlantic world much earlier. In Asia, the French followed this path, reluctantly, in 1770 when faced by the financial collapse of the *Compagnie des Indes*. Private French traders, paying licence fees, became very active in Asian trade, although European political rivalries prevented sustained development of this model.⁶⁸ American private merchants began trade with China immediately after independence and quickly acquired a major share of the Canton tea and silk trade. Detailed financial information is lacking for these and other ‘interlopers’ in Asia, but the elastic supply of independently financed ventures suggests that they could have been highly profitable.⁶⁹ More correctly, they could have been profitable when conditions were favourable. The trading companies were designed actively to secure such favourable conditions and, hence, they tended to focus on the other dimension of transaction costs: the political terms of access to markets and protection of their trading environment.⁷⁰ Step by step, beginning with the English in 1757 and continuing into the nineteenth century, the European trading companies were transformed into colonial rulers and/or replaced by their national states. What began as an age of globalization—soft and limited, but real—ended as an age of colonialism, something completely different.

⁶⁸ Haudrère, *La Compagnie française*, vol. 2, pp. 810–15.

⁶⁹ The first American ship sailed for China in 1784, and by 1801–10 an average of 25 ships per year returned to US ports with tea, silk, and other Chinese goods. This trade was conducted by rival partnerships and private trading houses. Besides flexibility, the American traders had the benefit of war-related disruptions to the tea trade of continental Europeans, as well as disruptions to the flows of silver. Hao, ‘Chinese teas to America’, pp. 14–15.

⁷⁰ Williamson and O’Rourke, ‘Once more’, p. 111, claim that intercontinental trade boomed in the 1500–1800 period ‘in spite of barriers to trade and anti-global mercantilist sentiment [as embodied in the monopolist trading companies]. There would have been a bigger trade boom without them’ (emphasis added). This is a claim that never found support among the officials sent to Asia by the trading companies, who believed the political and institutional infrastructure of the companies to be essential to developing and sustaining large-scale trade. Were the judgments of these generations of ‘old Asia hands’ systematically biased by the peculiar institutions to which they had grown accustomed?

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Footnote references

- Abu-Lughod, J. L., *Before European hegemony: the world system A.D. 1250–1350* (Oxford, 1989).
- Acemoglu, D., Johnson, S., and Robinson, J., 'The colonial origins of comparative development: an empirical investigation', *American Economic Review*, 91 (2001), pp. 1369–401.
- Acemoglu, D., Johnson, S., and Robinson, J., 'The rise of Europe: Atlantic trade, institutional change, and economic growth', *American Economic Review*, 95 (2005), pp. 546–79.
- Aghion, P. and Williamson, J. G., *Growth, inequality and globalization* (Cambridge, 1998).
- Bairoch, P., 'Geographic structure and trade balance of European foreign trade from 1800 to 1970', *Journal of European Economic History*, 3 (1974), pp. 557–608.
- Bayly, C. A., *The birth of the modern world, 1780–1914* (Oxford, 2004).
- Berg, M., *Luxury and pleasure in eighteenth-century Britain* (Oxford, 2005).
- Bhagwati, J., *In defense of globalization* (Oxford, 2004).
- Bulbeck, D., Reid, A., Tan, L. C., and Wu, Y. Q., *Southeast Asian exports since the 14th century* (Leiden, 1998).
- Butel, P., 'France, the Antilles, and Europe in the seventeenth and eighteenth centuries: renewals of foreign trade', in J. D. Tracy, ed., *The rise of merchant empires* (Cambridge, 1990), pp. 153–73.
- Cain, P. J. and Hopkins, A. G., *British imperialism: innovation and expansion, 1688–1914* (London, 1993).
- Chaudhuri, K. N., *The English East India Company. The study of an early joint-stock company 1600–1640* (London, 1965).
- Chaudhuri, K. N., *The trading world of Asia and the English East India Company* (Cambridge, 1978).
- Curtin, P., *The Atlantic slave trade: a census* (Madison, Wisc., 1969).
- Dermigny, L., *La Chine et l'occident: La commerce à Canton au XVIIIe siècle*, 3 vols. (Paris, 1964).
- Findlay, R., 'Globalization and the European economy: medieval origins to the industrial revolution', in H. Kierzkowski, ed., *Europe and globalization* (2002), pp. 32–63.
- Findlay, R. and O'Rourke, K. H., 'Commodity market integration, 1500–2000', in M. D. Bordo, A. M. Taylor, and J. G. Williamson, eds., *Globalization in historical perspective* (Chicago, 2003), pp. 13–64.
- Flynn, D. O. and Giraldez, A., 'Path dependence, time lags, and the birth of globalization: a critique of O'Rourke and Williamson', *European Review of Economic History*, 8 (2004), pp. 81–108.
- Flynn, D. O. and Giraldez, A., 'Born again: globalization's sixteenth-century origins (Asian/Global versus European Dynamics)', *Pacific Economic Review*, 13 (2008), pp. 359–87.
- Frank, A. G., *ReOrient: global economy in the Asian age* (Berkeley and Los Angeles, 1998).
- Giddens, A., *The consequences of modernity* (Stanford, 1990).
- von Glahn, R., 'Money use in China and changing patterns of global trade in monetary metals, 1500–1800', in D. O. Flynn, A. Giraldez, and R. von Glahn, eds., *Global connections and monetary history, 1470–1800* (Aldershot, 2003), pp. 187–205.
- Glamann, K., *Dutch-Asiatic trade, 1620–1740* (Copenhagen and The Hague, 1958).
- Goldstone, J. A., 'The rise of the west—or not? A revision to socio-economic history', *Sociological Theory*, 18 (2000), pp. 157–94.
- Hao, Y.-P., 'Chinese teas to America—a synopsis', in E. R. May and J. K. Fairbanks, eds., *America's China trade in historical perspective* (Cambridge, Mass., 1986), pp. 11–31.
- Haudrère, P., *La Compagnie française des Indes au XVIIIe siècle*, 2 vols. (Paris, 2005).
- Held, D. L., McGrew, A. G., Goldblatt, D., and Perraton, J., eds., *Global transformations: politics, economics, and culture* (Stanford, Calif., 1999).
- Israel, J. I., 'The phases of the Dutch straatvaart (1590–1713). A chapter in the economic history of the Mediterranean', *Tijdschrift voor geschiedenis*, 99 (1986), pp. 1–30.
- Jones, A., *Dictionary of globalization* (Cambridge, 2006).
- Jörg, C. J. A., *Porselein als handelswaar. De porseleinhandel als onderdeel van de Chinahandel van de VOC, 1729–1794* (Groningen, 1978).
- Kloosters, W., *Illicit riches: Dutch trade in the Caribbean, 1648–1795* (Leiden, 1998).
- Knaap, G., *Kruidnagaelen en Christenen. De VOC en de bevolking van Ambon, 1656–1696* (Leiden, 2004).
- de Korte, J. P., *De jaartijksse verantwoording in de Verenigde Oostindische Compagnie* (Leiden, 1984).
- Lang, M., 'Globalization and its history', *Journal of Modern History*, 78 (2006), pp. 899–931.
- Lasch, D. F., *Asia in the making of Europe*, vol. 1, book 1, *The century of discovery* (Chicago, 1965).
- van Leur, J. C., *Indonesian trade and society: essays in Asian social and economic history* (The Hague and Bandung, 1955).

- Lin, M.-H., 'World recession, Indian opium, and China's Opium War', in K. S. Mathew, ed., *Merchants and oceans: Studies in maritime history* (New Delhi, 1995).
- Marx, K., *Capital* (Moscow, 1961 [1886]), 3 vols.
- Mitchell, B. R. and Dean, P., *Abstract of British historical statistics* (Cambridge, 1962).
- Mola, M. A., 'The Spanish colonial fleet (1492–1828)', in H. Pietschmann, ed., *Atlantic history. History of the Atlantic system, 1580–1830* (Göttingen, 2002), pp. 365–74.
- Mui, H.-C. and Mui, L. H., *The management of monopoly: a study of the English East India Company's conduct of its tea trade, 1784–1833* (Vancouver, 1984).
- Osterhammel, J. and Petersson, N. P., *Globalization. A short history* (Princeton, 2005).
- Parmentier, J., *Thee van overzee. Maritieme relaties tussen Vlaanderen en China tijdens de 18de eeuw* (Ghent, 1996).
- Phillips, C. R., 'The growth and composition of trade in the Iberian empires, 1450–1750', in J. D. Tracy, ed., *The rise of merchant empires* (Cambridge, 1990), pp. 34–101.
- Pomeranz, K., *The great divergence: China, Europe, and the making of the modern world economy* (Princeton, 2000).
- Posthumus, N. W., *Nederlandsche prijsgeschiedenis* (Leiden, 1943).
- Prakash, O., *European commercial enterprise in pre-colonial India* (Cambridge, 1998).
- Reid, A., *Southeast Asia in the age of commerce, 1450–1680*, vol. 2, *Expansion and crisis* (New Haven, 1993).
- Rosenberg, J., 'The problem of globalisation theory', in D. Held and A. McGrew, eds., *The global transformations reader* (Cambridge, 2nd edn. 2003), pp. 92–7.
- van Santen, H. W., *De Verenigde Oost-Indische Compagnie in Gujarat en Hindustan, 1620–1660* (Meppel, 1982).
- Schneider, J., 'Produktion, Handel und Konsum von Kaffee (15. bis ende 18. Jh.)', in H. Pohl, ed., *The European discovery of the world and its economic effects on pre-industrial society, 1500–1800* (Stuttgart, 1990), pp. 122–40.
- Steenstra, N., *The Asian trade revolution of the seventeenth century* (Chicago, 1973).
- Steenstra, N., 'The growth and composition of the long-distance trade of England and the Dutch Republic before 1750', in J. D. Tracy, ed., *The Rise of merchant empires. Long-distance trade in the early modern world, 1350–1750* (Cambridge, 1990), pp. 102–152.
- Steger, M. B., *Globalization. A very short introduction* (Oxford, 2003).
- van Veen, E., 'De Portugees-Nederlandse concurrentie op de vaart naar Indië', *Tijdschrift voor zeegechiedenis*, 22 (2003), pp. 3–15.
- de Vries, J., *European urbanization, 1500–1800* (1984).
- de Vries, J., 'Connecting Europe and Asia: a quantitative analysis of the Cape-route trade, 1497–1795', in D. O. Flynn, A. Giraldez, and R. von Glahn, eds., *Global connections and monetary history, 1470–1800* (Aldershot, 2003), pp. 35–106.
- de Vries, J., *The industrious revolution. Consumer behavior and household economy, 1650 to the present* (Cambridge, 2008).
- de Vries, J. and van der Woude, A. M., *The first modern economy* (Cambridge, 1997).
- Wake, C. H. H., 'The changing pattern of Europe's pepper and spice imports, ca. 1400–1700', *Journal of European Economic History*, 8 (1979), pp. 361–403.
- Wallerstein, I., *The modern world-system*, vol. I (New York, 1974).
- van der Wee, H., *The growth of the Antwerp market and the European economy (fourteenth–sixteenth century)*, 3 vols (The Hague, 1963).
- Williamson, J. G., 'Globalization, convergence, and history', *Journal of Economic History*, 56 (1996), pp. 277–306.
- Williamson, J. G. and Lindert, P. H., 'Does globalization make the world more unequal?' in M. D. Bordo, A. M. Taylor, and J. G. Williamson, eds., *Globalization in historical perspective* (Chicago, 2003), pp. 227–71.
- Williamson, J. G. and O'Rourke, K. H., 'After Columbus: explaining Europe's overseas trade boom, 1500–1800', *Journal of Economic History*, 62 (2002), pp. 417–56.
- Williamson, J. G. and O'Rourke, K. H., 'When did globalisation begin?' *European Review of Economic History*, 6 (2002), pp. 23–50.
- Williamson, J. G. and O'Rourke, K. H., 'Once more. When did globalization begin?', *European Review of Economic History*, 8 (2004), pp. 109–117.
- Wolf, E., *Europe and the people without history* (Berkeley and Los Angeles, 1982).
- Wong, R. B., *China transformed: historical change and the limits of European experience* (Ithaca, New York, 1997).