The limits of globalization in the early modern world.[1]

Jan de Vries

Departments of History and Economics
University of California at Berkeley

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Summary

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 paper 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 Dennis Flynn and Arturo 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."[2]

This definition is, in my view, less specific than it should be by its failure to emphasize that the trade that advances globalization (rather than merely the long-distance movement of goods) is (relatively) unmediated. Goods and information have traveled over long distances, crossing cultural and political as well as physical barriers, since prehistoric times. These movements required the passage of goods through multiple nodal points, relays of international trade involving the sale of goods from one merchant community to another, raising costs and

restricting flows of information, and even more so, flows of people. So long as this regime remained in place, the world's many regional economies had only indirect contact with each other and this contact lacked the intensity that could justify the term globalization.[3] The sort of global trade that could justify use of the term "globalization" emerged only with the mastery of trade routes that brought the continents and cultures of the world into direct contact with each other. Such contact was a precondition for a significant reduction of the transaction costs that could permit a major expansion of the volume of long distance trade, but it was also a precondition for a major increase in the flows of information among the world's cultures.[4]

The "soft" use of the term globalization focuses on increases in contact, interaction, and exchange that reduce previously existing barriers. Manfred Steger defines globalization in this spirit 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."[5] What does it mean that the world is becoming "compressed" and "intensified"? To the exponents of soft globalization this is none other than, as Flynn and Giráldez put it, "the deep and lasting impact" of the enlarged flows of goods, capital, people, and information.

Adam Smith might be viewed as an adherent of this position when he pronounced that:

> "The discovery of America, and that of a passage to the East Indies by the Cape of Good Hope, are the two greatest and most important events in the history of mankind…"[6]

Great and important events presumably are events full of "impact." Less than a century after Smith wrote these lines, Karl Marx echoed Smith's assessment and addressed the nature of this impact for Europe:

> There is no doubt that the great revolution which took place in commerce in the sixteenth and seventeenth centuries, concurrently with the geographical discovering, and which stimulated the development of commercial capital, were among the principal factors in the transition from feudal to capitalist production.[7]

Elsewhere in Capital Marx spelled out the role played by the new intercontinental trades in the support of "primitive accumulation," the formation of the stocks of capital that formed, as it were, the seed corn of capitalism.[8]

This is by now a conventional view, no longer embraced by advanced thinkers except in a somewhat altered form. One such evolved variant emphasizes the intermediate role of institutions: intercontinental trade concentrated capital in the hands of urban merchants. These merchants, forming a commercial bourgeoisie concentrated geographically in Atlantic Europe, grew in power, demanding and obtaining 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."[9]

The rapid growth of port cities with direct access to the Atlantic Ocean is, at least, 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 nearly 40 percent of the total urban growth in all of Europe.[10]

The argument that intercontinental trade, by concentrating merchants in a few places, forced changes in political institutions that were favorable to 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, since this requires discriminating among rival small events, all of which 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. It is not necessarily wrong, but how can we actually demonstrate the strength of this causal relationship?

Of course, to some the causal relationship sketched above 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 centerpiece and driving force of Europe's early modern development, but world systems theorists specifically 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 the world system and, thus, incapable of altering the functional character of economic relations. The 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.[11]

While world system adherents hold the trade with Asia to be impotent to account for the divergent growth of Europe, a literature that has come to be called the "California School" regards the question itself to be badly put: there was no divergent growth to be explained in the early modern era.[12] From this perspective, neither the living standards nor the technologies of the leading Asian cultures were 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 does not play a prominent role in this story for either continent.[13]

Most of the participants in the debates about "soft globalization" are historians and sociologists. Economists are no less susceptible than other scholars to the grand generalization and the sweeping claim, but they are more inclined than others to seek some way to cast their arguments in a testable, measurable form (however specious the data and dubious the model's specifications). Thus, they seek a measurable "impact." Economists approach globalization less as a process than as an outcome, and tend, therefore, to deploy a "hard" definition of globalization.[14]

The fullest discussions of "hard globalization" are found in the recent writings of Jeffrey G. Williamson and co-authors.[15] In these articles 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 does not necessarily result in commodity price convergence, since 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. Such trade expansion, following Heckscher and Ohlin, may nonetheless bring about factor price convergence, but commodity price convergence is primarily the product of a growth in trade volume driven by reduced transport and communication costs (technological) and/or reduced barriers to trade (political and organizational).[16]

According to O'Rourke and Williamson, Europe's trade with Asia in the early modern period grew significantly – they characterize it as a "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 Asian 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."[17]

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 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."[18] For wealthy Europeans the trade was of real significance, since 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 collaborators 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."[19]

We may summarize this "hard globalization" position as follows: a Euro-Asian 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, and the chief reason for this is the maintenance of monopoly power by the European trading companies. Even as the volume of trade boomed, large price markups were preserved by these monopolists, thereby denying the benefits implicit in the sixteenth-century establishment of global trade, when (as Flynn and Giraldez would have it) all major zones of world exchange products "continuously and on a scale that generates deep and lasting impacts on all trading partners."[20]

II

In the second section of this essay I will explore the claims about early modern globalization summarized in the preceding paragraph: 1. Did the trade between Europe and Asia "boom" in the early modern era? 2. Were price markups maintained, preventing commodity price convergence? Indeed, is price convergence really the best measure of "hard globalization"? 3. Can the monopoly power of Europe's "monopoly trading companies" account for a lack of price convergence? 4. If large price markups 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. My focus here is on the latter.

A reasonably detailed and accurate measurement of the Europe-Asia trade in the early modern period is possible because of the fact that this trade was almost entirely in the hands of a small number of state-sponsored trading organizations, all of which kept extensive records. While 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.[21]

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 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.[22] 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.

Since 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 manufactures and the private trading stocks of officers and seamen, determined the financial fortunes of the companies, which depended until the late eighteenth century 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 2000 tons per year. It grew steadily in 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 in Asian waters of English and, and especially, Dutch traders in the 1580s and 90s breaks the Portuguese monopoly over the Cape route and by 1620 brings the overland route's competition to an end. The very rapid growth of shipping volume in this period, in which the northern powers establish 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 revealed in Table 1. Overall, Cape route trade volume grew at an annual rate of [1.07 % p.a.] between the 1500-10 and 1610-20 period; perhaps a third of this growth represented trade diversion.[23]

[Table 1 about here]

The 1620s and 30s 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 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 the aggregate, the Europe-Asia trade was remarkably stable, growing at an annual rate of 1.10 percent across the three early modern centuries, and growing at very nearly that rate in each of the three centuries separately. While the period 1580-1620 witnessed a particularly rapid growth (nearly 2.0 percent 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 1.10 percent 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 the annual shipments averaged 160,000 kg (about 15 million guilders in value), or 0.32 grams (0.03 guilders) per inhabitant of Asia.

Of course, the Asian goods were not distributed equally among Europe's inhabitants, nor were they produced 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 sharp fluctuations, and of boom and bust cycles of Asian commodity exports, centered on widely scattered Asian locations. Until the 1620s, the attention of European traders was focused on the fabled Spice (Molukken) Islands and the South Indian centers 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 in the 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 should be compared to the other major branch of intercontinental trade, the Atlantic economy. By the 1770s the volume of American 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 percent per annum between the 1660s and 1750s, while Chesapeake tobacco exports grew at over 5 percent per annum from 1622 to the 1750s. A lower-bound estimate of New World commodity exports may be derived from the rate of growth of African slave transportation to the Western Hemisphere, which averaged 2.1 percent per annum over the entire period 1525-1790.[24] In sum, Atlantic trade, while highly volatile, grew at least twice the long-term rate of the Cape route trade.[25] 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, and compares it to a simple approximation of the tonnage of trans-Atlantic shipping, which may have grown at nearly double the rate of Eurasian shipping. This sketch assumes that there was no net growth during the turbulent first half of the seventeenth century, but 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?

[Figure 1 about here]

Did price convergence occur? Price convergence in the Cape route trades can be understood as a reduction in the difference between the f.o.b. and c.i.f. prices of the Asian goods

transported to Europe and sold there. European goods traveling in the opposite direction were, until the late-eighteenth century, of minor significance. The Asian goods were, at least originally, non-competing luxuries: the pepper and fine spices had no direct counterparts in Europe. When, in the seventeenth century, cotton textiles, porcelain and silk grow in importance, matters are different. These Asian products substituted for European cloth and earthenware. Moreover, over time the revealed demand for Asian manufactures encouraged the development European imitations: European porcelain, silk, and, most famously, cotton textiles. Similarly, in the eighteenth century Asian coffee quickly found itself competing in the European market with cheaper coffee produced in the West Indies.[26] The existence of alternatives and the rise of import substitution affected the prices at which many Asian goods could be sold in Europe, but a major factor in determining the European price of Asian goods, usually the major factor, always remained the cost of acquiring Asian goods (the purchase prices in Asia and the transaction costs of doing business there) and of transporting them to Europe.

O'Rouke and Williamson investigate the Asian purchase and European sale price data for several commodities. They found evidence for price convergence in the sixteenth century (and attributed it to highly elastic Asian supplies), but thereafter pronounced the convergence trend to be stopped in its tracks.[27]

The sixteenth century trade, dominated by the Portuguese, consisted largely of pepper and spices. The growth in the volume of shipments definitely caused prices in Europe to decline: pepper at Lisbon sold for 22 ducats per quintal at the beginning of the sixteenth century and 35-38 ducats per quintal at the end. This 60% increase in nominal price fell far short of the 4 to 6-fold increase in the general price level across the sixteenth century, the era of the "price revolution". Lisbon pepper prices expressed in guilders, fell from 2.42 guilders per kg. in 1580 to 1.65 guilders in 1607. By then, when the VOC had became the dominant importer, the Amsterdam wholesale price stood at 1.89 guilders, declining to 1.44 guilders by 1610 and further to a range of 0.6-0.7 guilders in 1628-48, and further still to 0.4 guilders by the 1680s.[28]

Pepper, the single most important Asian import until well into the seventeenth century, exhibited a price history quite consistent with the concept of price convergence: between the early 1580s, when Portugal imported annually approximately 1.0 million kg., and the 1620s, when Portugal, the Dutch and the English together imported some 3.5 million kg, the nominal price fell by two-thirds. Yet it would go too far to proclaim this major article of trade as typical. The fine spices exhibited no such convergence, for reasons to which we will return shortly, and cotton textiles tended, if anything, to rise in price in Europe between the 1660s and 1720s, the period in which the volume of imports rose most rapidly. The European price of Chinese tea declined substantially as the volume of imports rose in the course of the eighteenth century, although the falling purchase prices at Canton accounted for a significant part of that trend. Overall, the price trends of the varied goods that entered into Asia-Europe trade do not form a single clear pattern. Given the current state of our knowledge, the dictum of "no price convergence" appears too sweeping and preemptory to serve as a fair generalization of the historical reality.

Moreover, despite the importance of price convergence to a macroeconomic assessment of globalization, it is not obvious that it is the measure of greatest importance to the 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 only a matter of concern to elite consumers. This charge, valid enough in the sixteenth century, is not compelling thereafter as cotton textiles, tea, and coffee come to dominate the return cargos from Asia. These goods reached broad European markets. The impact of intercontinental trade on European consumers should be measured not by the convergence of prices between the distant markets but by the effective augmentation of consumer choice that it made possible.[29]

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 (the markup) of their overall portfolio of traded goods. Over the centuries supply and demand conditions changed continually. Consequently, the company

merchants were always shifting the locus of their buying activities within Asia and the mix of goods they shipped to Europe. The relative strength of Asian vs. European markets also affected the mix.

Happily, company records often provide the information needed to calculate the overall, composite, gross margins: the ratio of sales prices in Europe to purchase prices in Asia. Table 2 displays these margins for the Dutch and English East India Companies. While the decadal averages bounce around, 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 1660. The seventeenth century margins were under the severe pressure of Dutch competition, especially in the 1680s, when the English company, anxious to increase its market share, embarked on a ruinous price war in pepper. Margins were restored under the reorganized EIC, but again tended downward throughout the first half of the eighteenth century. The growing importance of the Canton tea trade contributed to this trend. This highly competitive trade was open to all European trading companies on broadly equal terms, and markups were lower than in any other major commodity trade.

[Table 2 here]

It is possible that mark ups for most commodities deteriorated little if at all (as O'Rourke and Williamson claim), yet the overall gross margins faced by the trading companies did tend to decline because of the compositional 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 possess 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 only briefly enjoyed the monopoly power conferred upon the "first mover," since they only briefly interrupted the overland trade routes that long had supplied pepper and spices to Europe. Thereafter, with the celebrated exception of the Dutch hold over the sources of the fine spices (cloves, nutmeg and mace from the Molukken islands; cinnamon from Ceylon), all other commodities were bought in usually competitive markets.

These markets were competitive in the sense that rival European companies vied 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 in European markets. As Niels 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.[30]

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 here, too, they were sole suppliers in only a limited sense. They sold their goods, usually at auction, to merchants foreign and domestic, who distributed the pepper, silk, cotton piece goods, tea, coffee, etc. to markets throughout Europe, where, inevitably they came into competition with each other. Rarely were the companies able fully to control their gross margins. Most commonly they engaged in a form of oligopolistic competition.[31]

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: it also insured that the Asian luxuries would always remain "out of reach of the vast majority of each trading country's population" which, in turn, insured that "these commodities had only a trivial impact on living standards of anyone but the very rich."[32] 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 the price markups to decline. The decline in margins was, to be sure, 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.[33] 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 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.[34] Revenue per ton of Asian goods delivered to Europe, even in nominal terms, declined over the period 1621-30 through 1741-50. Tons returned over this period rose slightly faster than the average over the entire three centuries, 1.22 percent per annum, but over the 120 year period, revenues appear to have risen at 1.03 percent per annum. The cost of providing the shipping service certainly did not

decline by 0.20 percent per year over this period. The 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.[35] 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 ever achieved and the logistics of the Cape route always remained a formidable challenge.

Overall, then, 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 vise squeezing their 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 achieve 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 bewindhebbers (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.[36]

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 Asian, scores of ships and nearly seven million guilders 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 IPO in 1602 and held the shares to 1650 was among the most fortunate investors of that or any age. "Total dividend payments by 1650 exceeded eight times the initial investment while the VOC's share prices rose from 100 to a high of 539 in 1648 and an average level of 450 in the years around 1650. The total return for this investor in 1648 averaged 27 percent per annum (over 46 years!)."[37]

An investor of 1648, or almost any date thereafter, is unlikely to have profited from his/her VOC shares (that is, 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) will have lost substantially. Once the conditions supporting a profitable intra Asian trade were removed, the factors highlighted in the simple model reasserted their hold over the VOC's finances. Those conditions were several, but most important were the VOC's unique trading relationship with Japan and its access (from its fort on Taiwan) to China. When the Japanese Shogun restricted the terms of its trade and the consolidation of Ch'ing control over China led to the removal of the Dutch from Fort Zeelandia, the intra-Asian trade ceased to contribute significantly to the VOC's bottom line.[38]

The second means of escape for the European trading company was to supplement – even substitute -- 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 percent of its Asian revenue (the total revenues flowing to Batavia, not the total revenues of the Chambers in the Netherlands) in the seventeenth century. However, they grew thereafter, most notably in the 1760s when they increased from 28 to 44 percent of Asian revenues.[39]

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 state in the nineteenth century): the costs of protecting and administering its territories appear to have exceeded the revenues. The English East India Company (EIC) was, of course, much more fortunate in its pursuit of this strategy. Its conquests subsequent to the Battle of Plassy in 1757 generated both large tax revenues and a secure hold on trade goods for the China tea trade – cotton goods and opium.[40] From 1760 until 1784 it could dispense with specie shipments from Europe and company fortunes took on some of the luster that had characterized the VOC some 150 years earlier.[41]

These events of the second half of the eighteenth century prefigure the "modern" colonialism of the nineteenth-century imperial European nations and begin to take us away from the era of the trading companies that is the chief focus of the paper. If this distinction is conceded, I believe I can conclude this discussion with the claim that the European trade with Asia was generally not highly profitable, and became less so 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 1770s the trading companies landed in Europe about 0.5 kg (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 about 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 to 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 taking the measure of 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 11.5 percent of their aggregate imports. As shown in Table 3, imports to these three countries from the Western Hemisphere then accounted for over 30 percent of total imports.[42] 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, the multiple in favor of the New World over Asia would be well above three. By volume, the difference must have been greater still, since the per-ton value of Asian goods in the 1770s was probably double that of the plantation products from the Americas.[43]

[Table 3 about here]

Asian imports were by no means trivial to the European economy of the mid-eighteenth century, although the growth rate had never been impressive and the overall scope of the trade

was overshadowed by the much more dynamic Atlantic trade. It is likely that the greatest impact of this trade was to stimulate new European consumer wants. But, it is striking how the growth of demand for almost every Asian commodity, gave rise to the development of alternate sources of supply outside Asia. While spices and tea always remained Asian specialties (although by the nineteenth century, tea produced outside China came to dominate the market), Caribbean coffee and sugar and European silk, porcelain, and, most famously, cotton textiles all arose to reduce or eliminate the competing Asian product from European markets. If Asia was vastly superior to Europe in the production of manufactures (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 percent rate actually achieved over the early modern era. What held it back?[44]

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.

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 gram of silver (0.03 guilders) per annum.

If we focus our attention exclusively on China, the chief destination for silver and the major source of trade goods in the eighteenth century, the volume of total Asian trade grew at about 1.0 percent per year throughout the eighteenth century while the Chinese population grew at 0.8 percent 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. It is little wonder that the purchasing power of silver in China remained higher than in Europe, even after centuries of silver shipments to China.

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 Southeast 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."[45] This vast theater of trade, with, in the eighteenth century, an expansive China giving shape to its commercial possibilities, must have seemed a world of limitless oportunities to European, and especially Dutch, traders. At home, the domestic market was small, population was stagnant 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 could exploit these new opportunities only very partially. Trade grew slowly, monopoly power was elusive, and

sustained profits were hard to come by. Ultimately, 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 set the European economy on an altered course, but substantial commodity price convergence was not yet a possibility. This was an age of soft globalization, but not of hard globalization.

But why did transaction costs remain "stubbornly high"? It appears that the response of the major European companies to the vise-like pressure on their long-term profits was shaped by their privileged, monopoly character and the quasi-sovereign powers with which they conducted affairs in Asia. They might have focused their attention directly on the stubbornly high transaction costs. A liberalization of trade – the abandonment of monopoly controls – could have done much to reduce costs, as the experience of interlopers, especially the American China traders late in the eighteenth century, suggests. Instead, the companies focused on a course more congenial to their character: seeking greater control over their trading environment. Step by step, beginning with the English in 1757 and continuing into the nineteenth century, the European trading companies were transformed into territorial states. What began as an age of globalization ended as an age of colonialism.

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

Decade	Departing Europe for Asia		Arriving in Europe from Asia		
	Ships	Tonnage	Ships	Tonnage	Returned as % of outbound 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	1034	673,940	805	501,300	74
1791-95*	531	320,877	422	261,804	82

- Totals for five-year period.

Source: Data from tables 2.2 and 2.4, De Vries, “Connecting Europe and Asia,” where a full discussion is provided of sources and estimation procedures.

Table 2. Gross Margins (Ratio of sales prices in Europe to purchase prices in Asia) of the English East India Company and the Dutch East India Company, 1640-1770

Period	VOC	VOC China trade	EIC
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		3.51
1701-10	2.63		2.73
1711-20	2.66		2.75
1721-30	2.25		2.60
1731-40	2.44		1.96
1741-50	2.46	2.07	2.26
1751-60	2.19	1.88	
1761-70	2.37	1.51	

Sources: VOC: The sales revenues divided by the invoice value of imports, de Korte, De jaarlijkse verantwoording, Bijlagen 9A-9E. VOC China Trade: Jörg, Porselein als handelswaar. EIC: Steensgaard, "The Seventeenth-Century Crisis", pp. 110,112. Steensgaard's data are derived from: Chaudhuri, The Trading World of Asia, Tables A.24 and C.2

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

Source of imports	Britain 1772-73 (%)	France 1772-76 (%)	Netherlands 1770-79 (%)
Europe	45	53	75
Western Hemisphere	38	42	11
Asia	16	5	14
Total value (in millions)	£ 13.6	l.t. 369.6	fl. 143.0

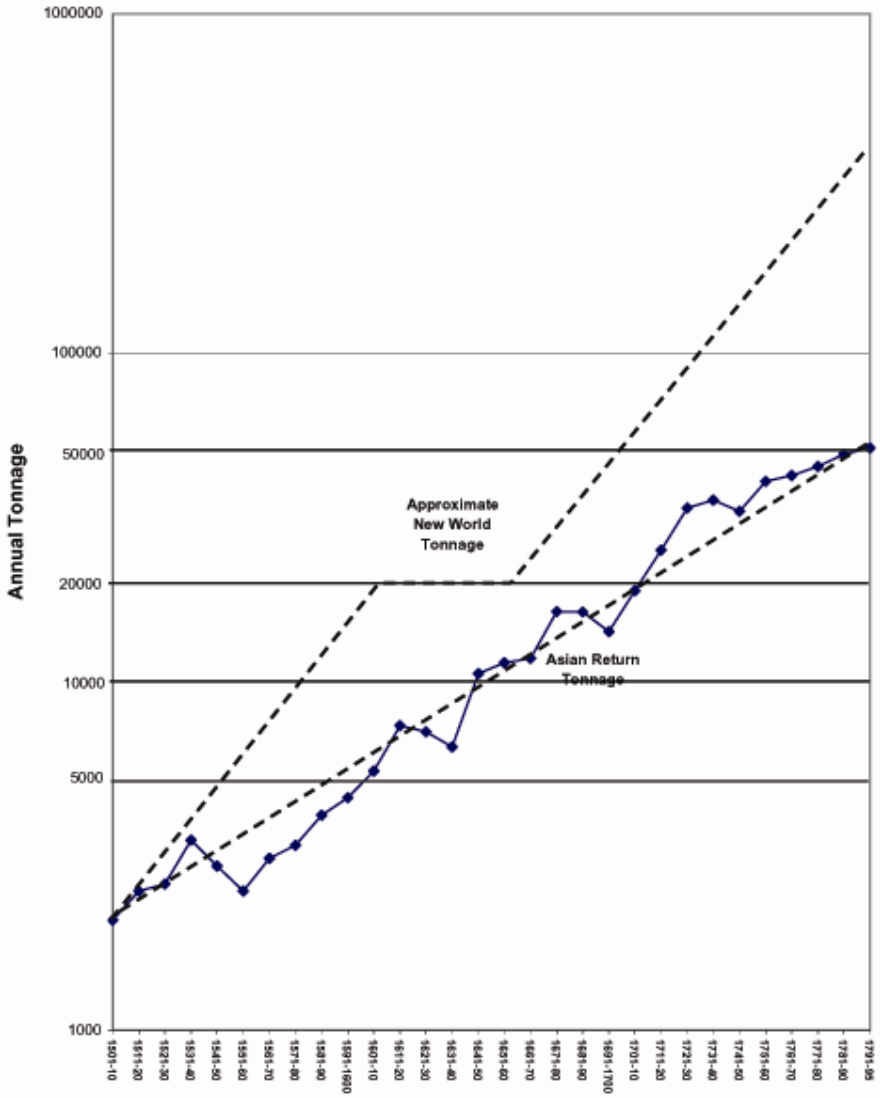
Total value of imports to Britain France and the Dutch Republic in the 1770s
(millions of guilders)

Source of imports	Britain	France	Netherlands	Total	% of Total imports
Western Hemisphere	58.1	74.1	15.7	147.9	31.4
Asia	24.5	9.6	20.0	54.1	11.5
Total	153.0	174.5	143.0		

Note: Exchange rates: one guilder = 11.25 pounds sterling and 2.12 livres tournois.

Sources: Britain: Mitchell and Deane, 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, The First Modern Economy, p. 497.

Figure 1: Intercontinental trade, 1501-1795



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[2] Flynn and Giraldez, "Path Dependence, Time Lags and the Birth of Globalisation", p. 83.
[3] The pre-Columbus/Da Gama trade networks are discussed in Abu-Lughod, Before European Hegemony. See also: Eric Wolf, Europe and the people without history.
[4] On the fragmented character of early long-distance trade see: Sugihara, "Oceanic Trade and Global Development", pp. 59-61.
[5] Steger, Globalization. A very short introduction, p. 8.
[6] Smith, Wealth of Nations, pp. 590-91.
[7] Marx, . Capital, Vol. III, p 364.
[8] Marx, Capital, Vol. I, Part VIII, "The So-called Primitive Accumulation," pp. 713-74. 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 blackskins, signalized the rosy dawn of the era of capitalist production. These idyllic proceedings are the chief momenta of primitive accumulation.
[9] Acemoglu, Johnson, and Robinson, "The Rise of Europe";, pp. 546-79; Ibid, "The Colonial Origins of Comparative Development", pp. 1369-1401.
[10] Consider the following:

European population	1500-1600	1600-1750	1750-1800
Net growth total pop.	16,400	16,200	28,500
Net growth urban pop.	2,490	3,000	3,290
Growth of fastest	1,031	2,417	1,856
Of which, Atlantic ports	422	1,137	540
Atlantic as % of urban	16.9%	37.9%	16.4%
Atlantic as % of total	2.6%	7.0%	1.9%

Data from: de Vries, European Urbanization..

In interpreting these data, note that the growth of the Atlantic ports represented, in part, trade diversion from the Mediterranean ports. Note also that many of the Atlantic ports also grew for reasons unrelated to intercontinental trading functions.
[11] Wallerstein, The Modern World-System-I, p. 330. Wallerstein cites Donald Lach 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." Lach, Asia in the Making of Europe, Vol. 1, Book 1, p. xii.

[12] The most important works are: Pomeranz, The Great Divergence; Wong, China Transformed; Goldstone, "The Rise of the West – or Not?", pp. 157-94.
[13] No account of the World Systems 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 tenats 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)
[14] This distinction is made in Baghwati, In Defense of Globalization, passim.
[15] Aghion and Williamson, Growth, Inequality and Globalization; Williamson and Lindert, "Does Globalization make the World more Unequal?," pp. 227-71; O'Rourke and Williamson, "After Columbus"; O'Rouke and Williamson, "When did Globalization Begin?"; Findlay and O'Rourke, "Commodity Market Integration, 1500-2000," pp. 13-14.
[16] O'Rourke and Williamson, "After Columbus," p. 424.
[17] Ibid., p. 426.
[18] Williamson and Lindert, "Does Globalization," p.232.
[19] Ibid., p. 232. O'Rourke and Williamson, "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.
[20] Flynn and Giraldez, "Path Dependence," p. 4
[21] de Vries, "Connecting Europe and Asia".
[22] This can be compared to 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 reconnoitering, Europeans still knew very little of the geography and peoples of the Pacific region despite 250 years of regular trans-Pacific navigation,
[23] 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 1300-1500 tons per year (1100-1300 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 4500 tons. Thus one-third of this volume represented trade diversion. For estimates on pre-1497 tonnage, see: Anthony Reid, Southeast Asia in the Age of Commerce Vol. 2, pp. 20-21; Wake, "Changing Pattern," pp. 361-403.
[24] Curtin, The Atlantic Slave Trade, passim. This is a lower bound estimate in that it assumes the labor force producing export commodities consisted entirely of slaves, the slave population exhibited 0 net natural increase, and experienced no productivity growth over the period.
[25] The initial sailing capacities active in the Atlantic and Asian trades, in the first fifty years of the sixteenth century, were broadly similar: Spain sent 2645 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 fifty 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, "The Spanish Colonial Fleet", pp. 365-74.

[26] Coffee is one Asian commodity where a price-inelastic supply figures prominently in limiting the growth in trade volume. Supplies made available by Arab traders at Mocha to the English and Dutch companies never exceeded a total of two million kilograms. Coffee also reached Europe via Levantine trade routes, and the merchants had little interest making the European trading companies the dominant suppliers. To increase supply, the Dutch transplanted coffee trees to Java, where plantation-based production rose quickly. By 1750 Java sent more coffee to Europe than all of Arabia and at lower prices. But the transplantation of coffee production did not end with Java. By the 1750s the French and Dutch developed plantation-based coffee production in the Caribbean. By the 1780s Saint Domingue (Haiti) alone shipped annually 30 million kilograms of coffee to Europe. Coffee prices were then but a fraction of what they had been early in the century, and Asian supplies, their higher quality notwithstanding, could not compete in the European market. See: Schnieder, "Produktion, Handel und Consum von Kaffee," pp. 122-40.

[27] O'Rourke and Williamson, "After Columbus," p. 428, 432.

[28] Wake, "The Changing Pattern of Europe's Pepper and Spice Imports", p. 389; Posthumus, Nederlandsche prijsgeschiedenis pp. 174-76. Ernest van Veen, "De Portugees-Nederlandse concurrentie op de vaart naar Indië," Tijdschrift voor Zeegeschiedenis 22 (2003): 3-15.

[29] 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 goods. Much of the substantial shift in consumption patterns in the early modern period, especially in the century after 1650, is attributable to the direct and indirect effects of intercontinental trade.

[30] Steensgaard, The Asian Trade Revolution of the Seventeenth Century, p. 407.

[31] This is not to say that they did not attempt to exercise pricing power. Since many of the goods acquired in Asia also had markets elsewhere in Asia, company merchants always had to consider how much should be sent to Europe and how much to Asian markets. Too much cloves, for example, to Europe, and the price would fall, but its diversion to India or Persia, if excessive, could induce an overland trade to Europe, thereby undercutting the Dutch "monopoly." Likewise, the VOC, long the low-cost supplier of pepper, sought to limit English competition by maintaining a European price high enough for Dutch profit but low enough to discourage the growth of English supplies. All the companies appear to have been acutely aware of the price elasticities of demand for Asian goods. See: de Vries and van der Woude, First Modern Economy , pp. 434-44.

[32] Williamson and Lindert, "Does globalization", p. 232.
[33] Some evidence of per capita consumption levels of Asian (and American) imports is provided in: de Vries, "The Industrious Revolution and Economic Growth", pp. 57-60.
[34] While Williamson and Linder, "Does globalization" state, in passing, that transport technology improved (p. 232), O'Rourke and Williamson, "After Columbus," 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." (p. 424.)
[35] De Vries, "Connecting Europe and Asia," pp. 72, 86-87, and sources cited there.
[36] The translation is from Steensgaard, The Asian Trade Revolution, p. 407.
[37] De Vries and Van der Woude, First Modern Economy, p. 396. Note that this investor also needed to be patient and clever. Patience was needed because the company paid hardly any dividends in its first ten years and cleverness because its dividends until 1630 were primarily distributions in kind (pepper and spices). To achieve the returned cited above the investor had to be capable of selling these stocks at the prices declared by the VOC directors to be their wholesale value.
[38] For a fuller account, see: Ibid., pp. 433-36.
[39] Ibid., pp. 449-50.
[40] 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 60,000 kg by 1800-20. This is as nothing compared to 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. 387-89.
[41] Prakash, European Commercial Enterprise in Pre-Colonial India, pp. 346-47.
[42] De Vries, "Connecting Europe and Asia," pp. 92-93.
[43] It would be illuminating to extend this analysis into the first half of the nineteenth century (to the opening of the Suez Canal, and the true end of the Cape Route era). It appears from data assembled by Hanson, Trade in Transition, that imports from North America between the 1790s and the period 1840-60 grew more slowly than imports from Asia. Political changes in the Americas and, especially, the decline of the Caribbean plantation economies reduced the rate of growth of imports from the New World while those from Asia were much enlarged by colonial ministrations in British India and the Netherlands Indies). Consequently, in the 1840-60 period the total value of New World imports stood at only 2.6 times the value of Asian imports.
[44] The analysis of O'Rourke and Williamson accounts for the growth pace of Europe-Asian trade, in part, by the growth of European income/demand. While such measures are necessarily speculative, the direct evidence that European demand for goods originally from Asia was satisfied by other suppliers appear 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.
[45] van Leur, Indonesian Trade and Society, pp. 284-85. This is a translation of a work written in the 1930s. Van Leur died in 1942.