

*This article was published on-line on January 17, 2018
Final version June 13, 2018*


Essays in
**ECONOMIC &
BUSINESS
HISTORY**

The Journal of the Economic & Business History Society



Editor

Jason E. Taylor
Central Michigan University

Copyright © 2018, The Economic and Business History Society. This is an open access journal. Users are allowed to read, download, copy, distribute, print, search, or link to the full texts of the articles in this journal without asking prior permission from the publisher or the author.  <http://creativecommons.org/licenses/by/4.0/>

ISSN 0896-226X
LCC 79-91616
HC12.E2

GLOBAL TRADE AND DEVELOPMENT: THE GOOD, BAD, AND UNANTICIPATED 1600-1800

Ann Carlos
Department of Economics
University of Colorado Boulder
ann.carlos@colorado.edu

This paper focuses on two aspects of global trade. First, I explore how the growth of long-distance trade affected consumers in different parts of the world—I place particular emphasis upon indigenous consumers in sub-arctic Canada. The expansion of long-distance trade in the aftermath of the voyages of discovery made a large array of new goods available to indigenous peoples in the Americas, thus reducing labor expended in home production. The second aspect discussed is the positive impact of using transferable, limited-liability shares to finance companies and the growth of the capital market

Introduction

Last year (2017) I was honored to be invited to be the keynote speaker at the 12th Annual Appalachian Spring Conference in World History and Economics. The theme of the conference was Global Trade and Development. As a scholar who has spent most of my career working on various aspects of global trade in the early modern world, this invitation provided me with the opportunity to pull together aspects of my work within this very general overarching framework. This paper, which is an outgrowth of that talk, does not reflect a review of the broad literature of global trade, but rather, offers reflections on certain aspects of that literature.

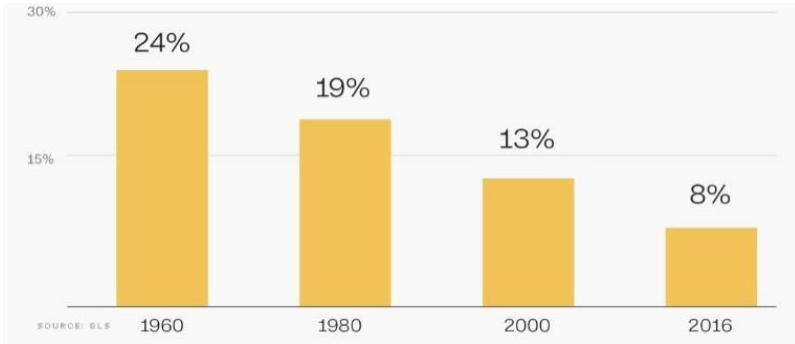
Global trade is not a new phenomenon. Merchants have been moving commodities for millennia from areas of surplus to areas of deficit, from areas of production to areas of consumption. Often these commodities moved long distances by passing from region to region through a series of middlemen, each one of which might live in reasonable proximity to one another rather than the good moving directly from sending areas to receiving areas as they do today.

The current public debate sees trade agreements and the growth of the global economy as each having serious and detrimental impacts on the American economy, but what is often missing is whether there are also benefits from enhanced global trade. There is no question that manufacturing jobs have declined in the United States. From 2000 to 2010, about 5.6 million manufacturing jobs disappeared (Bureau of Labor Statistics). During that same decade, trade with China (for example) grew. Thus, it is easy to imply that those two facts are causally related; the second leading to the first. Yet by best estimates, trade accounts for only about 13 per cent of the job losses, which leaves over 85 per cent of job losses to be explained: technology and productivity improvements account for the greater part of these disappearing jobs. One way to think about this is to ask how many manufacturing workers would have been needed to produce the 2010 output using 2000 levels of productivity. The answer is that the economy would have employed 20.9 million manufacturing workers to produce 2010 output with 2000 productivity. In 2010, the US economy employed only 12.1 million workers to produce 2010 output with 2010 productivity.¹

As historians and economic historians, we have to adopt a longer view. When we do so, we see that manufacturing jobs have been shrinking for the last half century. As shown in Figure 1, in 1960, the Bureau of Labor Statistics estimates that 24 per cent of the labor force was employed in manufacturing. That fell to 19 percent in 1980, 13 percent in 2000, and 8 percent in 2016. Yet, as shown in Figure 2, because of productivity and technology changes, manufacturing output grew over this same period. The economy produced more output but used less labor. Labor has been shifting from manufacturing into high and low-end service sectors.

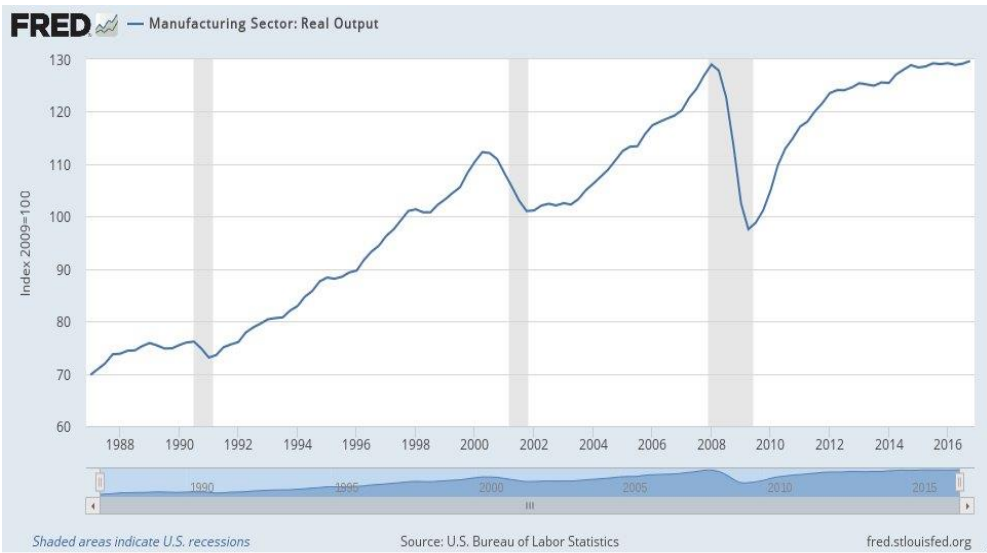
Changes in the sectoral distribution of the labor force in the US have been ongoing not just over the past decade or half century but over the last two centuries. From the beginning of the nineteenth century, American labor has been shifting away out of the then dominant agricultural sector. In 1900, agricultural workers comprised 41 percent of the workforce. The

¹ See: <http://fortune.com/2016/11/08/china-automation-jobs/>. For a more extensive discussion on the measurement of productivity, see the OECD Manual, 23-25 and 43-51, available online: <https://www.oecd.org/std/productivity-stats/2352458.pdf>.



Source: US Bureau of Labor Statistics.

Figure 1
Trend in U.S. Manufacturing Jobs, 1960-2016



Source: US Bureau of Labor Statistics.

Figure 2
Manufacturing Real Output, 1985-2016

corresponding number in 2016 was about two percent; at the same time, US agriculture produced a surplus for export. So rather than almost everybody working in agriculture as two centuries ago, today about 81

percent of the workforce is in high and low-end services. Therefore, taking a longer view shows us that transformation and change have been an on-going process. Innovation, technology and trade are all part of those changes. But here I want to talk about the role of trade and especially the larger changes in our trading environment.

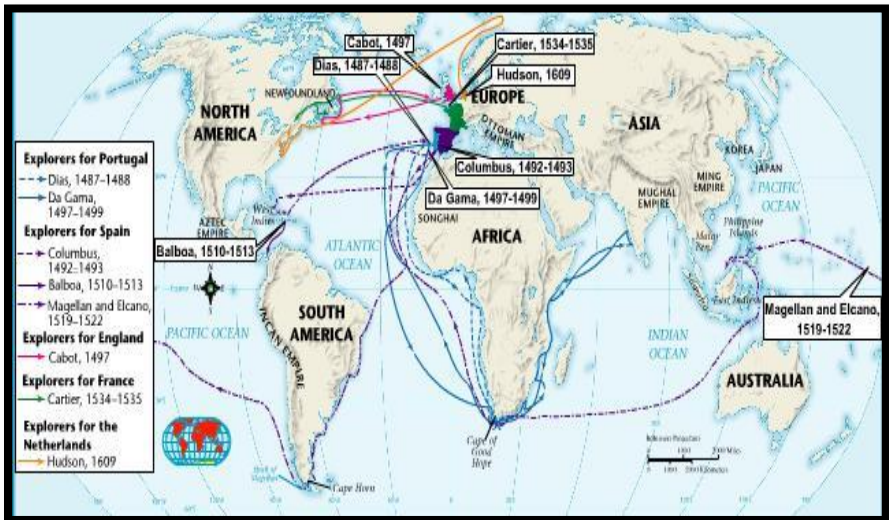
Trade and Globalization

Trade itself is ubiquitous. We are all engaged in trade. While we might not think of it in these terms, there is trade within families when some specialize in some tasks and some in others; or trade between households in a local community with one household specializing in nails or shoes for sale or barter (Christopher Dyer 2002, 2005). More often what we often have in mind when we talk about trade is the movement of goods between regions or between countries. The evidence for long-distance trades goes back millennia. We even find confirmation of long distance trade in pre-Columbian archaeological records with the movement of precious metals, minerals, marine shells from the very north of the continent to the south of the continent, remembering that the archaeological record leaves only traces of commodities that do not disintegrate or disappear over time (Cole Harris 1987, plate 14).

Of course, the volume and extent of trade depends on relative supplies and demands shown by relative prices and transportation costs involved in moving goods from regions of lower prices to regions of higher prices. In a world where the movement of goods depends on people, canoes, camels, or horses and wagons, the high unit costs of such transportation will limit trade to commodities with a high market value in the more distant market. To provide an out of sample snapshot of the differential costs of transportation, consider the US in the first half of the nineteenth century. In 1815, the cost of wagon haulage was 30 cents per ton-mile. By the eve of the Civil war, that cost had fallen to 15 cents per ton-mile, which means that for the same market prices and costs of production you could haul your goods to a market twice as far away. Relative to land transportation, transportation by water had the lowest cost per ton-mile. The corresponding ocean freight rates were 1 cent per ton-mile in 1815 and 0.05 cents per ton-mile by 1860. (Jeremy Atack and Peter Passell 1994,

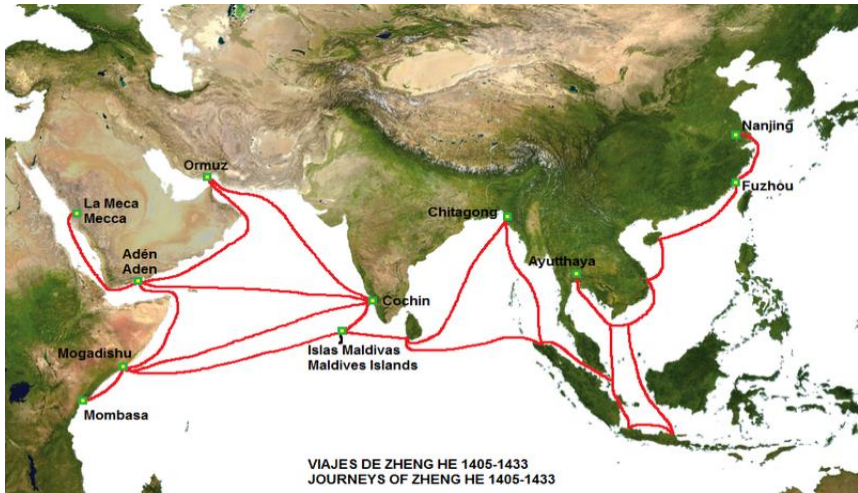
148) Shipping by water wherever possible is the least costly per ton mile option.

Global trade and globalization, as we currently conceive of them, began with the ocean voyages of the Age of Exploration. Starting at the end of the fifteenth century, explorers both European and Chinese, as shown in Figures 3a and 3b, made amazing voyages of discovery into what was then considered the unknown. These voyages not only created sea routes between regions previously connected by land, but brought new lands into the mercantile, and ultimately, colonial arena. At the same time, they also dramatically changed the cost of trade between distant areas relative to land routes. The changes wrought by these voyages realigned not only the relative costs of trade via land and sea, but also ultimately affected the states themselves, perhaps ultimately leading to what has been termed the great divergence (Kenneth Pomeranz 2000) or to the rise of Europe (Phillip Hoffman 2015). Here, I am only considering changes relating to trade as they played out for consumers and capital markets roughly over the century and half from 1600.



Source: <http://francinemassue.weebly.com/explorer-route-maps.html>.

Figure 3a
European Voyages of Discovery



Source: https://simple.wikipedia.org/wiki/Zheng_He.

Figure 3b

Zheng He's Five Voyages of Discovery

Global Trade - 1600-1750

The voyages of discovery inexorably led to mercantile sea routes between Europe, Africa, the Americas, and Asia, to colonialization, and to empire. But this era of enhanced global trade and globalization can, I think, be fruitfully broken into two large albeit rough time blocks: 1600-1750 and 1750-1900, with the former experiencing the growth of global trade and the latter what we might better refer to as the age of globalization during which time the movement of goods, people, capital, culture, technology and information lead to a convergence of economies. Much energy has been spent trying to define the first age of globalization (Dennis Flynn and Arturo Giraldez 2004, Jeffrey Williamson and Kevin O'Rourke 2002, Jan de Vries 2010). Often the metric is the extent to which we see equalization of market prices across regions or across time, or in the convergence of prices between different markets. These measures are important and inform us about the efficiency of markets and about how the underlying institutional and political constraints are changing. In what follows, I do not want to talk about the convergence of market prices but rather to talk about some of the ways in which the new age of global trade affected development writ large. First, I will discuss the impact of global

trade on consumers and second the impact on capital markets. In essence, I want to talk about what de Vries (2010) has labelled ‘soft’ globalization.

Consumers, Consumption and Global Trade

It is well understood that global trade changed the array and range of goods available to European consumers. Goods from Asia and Africa, which had previously been transported over the Silk Road or up through the Mediterranean, now arrived in Europe via the Indian Ocean and Atlantic routes. Goods came through the southern ports of Lisbon and Seville and to the northern ports of England, France, and the Netherlands. The volume of Asian goods expanded and goods from the Americas were introduced. We have to be careful to recognize that the volume of Asian imports were, in fact, a small component of total imports into any one country measured by volume and by value. Yet, while the percentages may have been low, the commodities themselves—tea, coffee, spices, sugar, silks, cotton, porcelain—originally products for the elites, began to be consumed throughout the social strata. Tea, sugar, spices from Asia, along with tobacco and pelts and hides from the Americas, inexorably changed the consumption habits of Europeans. Demand for these products led in turn to the production of cheap(er) substitutes and to new production sites. In contrast to the habits of European consumers, European trade to Asia had much less impact on the consumption habits of Asian consumers in this period.

I want, however, to discuss in more detail the impact of this trade with Europe on Native American consumers, especially those in what is now Canada. Prior to European contact, aboriginal/indigenous groups in North America used stone, bone and wood to craft tools and implements (Kathryn Braund 1993). Contact would bring Jared Diamond’s (1997) trilogy of guns, germs, and steel, and additionally alcohol. Yet this focus on guns, germs, and alcohol obscures the positive impact of other trade goods such iron, beads, textiles, and blankets. While recognizing that I can do no more than draw broad brush strokes, I want to argue that in the seventeenth and eighteenth centuries trade with Europeans was much less negative than suggested by the popular narrative. In keeping with the popular narrative, I will begin with a discussion of guns, germs, and

alcohol before discussing the vast array of other commodities that were brought to sub-arctic Canada during this time period.

Guns

Trade brought guns to the Americas. Implicitly sometimes equating guns with war and violence but people did not need guns for violence. Nor should we necessarily believe that guns created more violence. If one group had guns before another, then they likely had some advantage. But in the period, 1600-1750, guns were very primitive. Muskets were awkward to handle at three or four feet long and time consuming to reload with powder and shot which had to be carried along with the gun. More problematically, powder had to be kept dry and keeping things dry in sub-arctic winters could be difficult at times.

A very serious problem was frost wedging which occurs when water or melting snow finds its way into cracks or minor faults in metal products. This water when frozen would lead to frost wedging. The combination of frost wedging and the fact that metal can be more brittle at low temperatures meant that gun barrels might explode upon firing or hatches might shatter when used. Native traders quickly realized that any fault in metal product could cause it to fail in the sub-arctic cold (Arthur Ray 1980, Ann Carlos and Frank Lewis 2010). What native traders perceived correctly as a fatal flaw took time to be understood by the producers in Europe with its less severe winter climate. Native technology of bows, arrows and spears continued to be deadlier long after the introduction of the gun. The introduction of the horse had a larger impact on violence and reorganization of resources (Terry Anderson and Fred McChesney 1994).

Alcohol

Much has been written about what Peter Mancall (1995) has termed ‘deadly medicine.’ There is no doubt that alcohol has been a hugely destructive force within native communities and continues to be so in some. But we need to be attentive to the fact that alcohol was not always and everywhere a deadly scourge leading aboriginal traders to trade only for alcohol. Based on the superb historical records of the Hudson’s Bay Company (HBC), chartered in 1670, we know exactly how much alcohol was traded in sub-arctic Canada. The act of trading comprised two parts:

the first was a gift giving ceremony and the second the actual trading of furs for commodities. Each HBC trading post kept detailed records (discussed more below) documenting how much of each commodity was traded and how many furs were purchased. This includes the amount of alcohol. To take one year as a representative example, we know from the records that in 1740 at York Factory, 412 gallons of alcohol were purchased in trade and 82 gallons expended in the gift giving ceremony. While 494 gallons of alcohol seems a large amount, we have to ask how much might this be in terms of the population in the hinterland served by York Factory for whom there were no other sources of supply.

In Carlos and Lewis (2010, Chapter 3), we conservatively estimate that the native population of the York Factory hinterland (of 400,000 square miles) was around 8,600 people. Given this population and the amount of alcohol purchased, we estimate the amount imbibed in 1740 at 0.06 gallons per person or 4 two-ounce drinks per year. Obviously, children were not drinking and perhaps women also were not consuming alcohol, but the arithmetic still comes to perhaps ten two-ounce drinks per year for each adult male or twenty ounces of alcohol per year. In England in the same year, alcohol consumption was 1.4 gallons per person where an imperial gallon has roughly 154 ounces. In 1770, the average colonist drank 4.2 gallons per capita (John McCusker 2000). Native groups were drinking much less than American colonists or the population in England and, as I discuss below, this was a choice being made by native traders.

Germes

The arrival of Europeans in the Americas opened the way for the transmission of diseases such as measles, chickenpox, influenza and smallpox, against which native populations had no immunity. Coming as they did into a virgin soil environment, each of these diseases had the capacity to cause a pandemic. While we know that there were epidemics, the impact of these outbreaks is harder to ascertain, in the main because we do not have data on the size of the aboriginal population pre-contact. Estimating populations for regions with no written records is difficult. As a result, population estimates for the area from north of urban Mexico to the Arctic Ocean range from less than two million to upwards of eighteen million. Even if we take twelve million as the aggregate population, North

America was very sparsely populated at the time of contact and sub-arctic Canada especially so. There is, however, no doubting the fact that populations declined on contact and continued to decline for centuries, but the orders of magnitude are very different depending on the contact population size. One interpretation sees the small nineteenth-century populations due in part to an initially low population; whereas those who believe there was a larger initial population sees contact as catastrophic with the collapse caused by European disease (Douglas Ubelaker 1988, William Borah 1992 Henry Dobyns 1983, Carlos and Lewis 2012).

Two features of any epidemic are key to assessing its impact on mortality. The first is the *case fatality rate*, which is the death rate among those who have the disease. Some diseases have a very high case fatality rate such as Ebola while others are much lower. The second feature is the *incidence*, which is the proportion of the population who will come down with the disease, or a measure of the ease with which the disease is transmitted, such as influenza. For a pandemic, one needs both a high case fatality rate and a high incidence. Ebola is a very good example in that it is easily transmitted and has a high case fatality. The influenza epidemic of 1918-1919 or the Spanish flu is another example. It is this combination which makes both so deadly. Despite all that has been written about smallpox in the American context, the best available information is that the case fatality rates, although high, are below 40 per cent and certainly nowhere near the 90 per cent often postulated. In addition, smallpox is relatively difficult to spread because it requires close contact in the period immediately before and after the appearance of the rash (Carlos and Lewis 2012).² There is, however, no doubt that European disease caused death and social disruption among native communities. During the seventeenth and eighteenth centuries, however, native communities were also

² It is the fact that people are only contagious once the first sores appear that made it amenable to elimination because health professionals could successfully quarantine those with contact in the immediate period preceding the emergence of the rash. Measles in contrast is highly contagious and can spread for four days before to four days after the rash appears. Measles can live for up to two hours in an airspace where an infected person may have coughed or sneezed. See: <https://www.cdc.gov/smallpox/about/index.html>;
<https://www.cdc.gov/measles/about/transmission.html>.

protected by distance because disease must have vectors of transmission. For there to be an outbreak in North America, someone getting on the ship in Europe had to be carrying the disease and someone had to leave the ship in North America with the disease and meet someone to pass it into the community. Smallpox and measles can only be spread by human-to-human contact. For much of the period I am writing about, ship voyages were sufficiently long that in most cases diseases had run their course before the ship arrived in the Americas (Paul Hackett 2002, 2006). Improvements in the speed of ocean transportation not only reduced freight rates but also allowed disease vectors to travel from one continent to another as concerns over the speed of air travel reflect today.

Guns, germs, and alcohol came to North America with European contact and while many argue for devastation wrought by their presence, we have to be aware that for some regions of the continent the impact might have been minimal. At the same time, European traders brought with them a range of commodities completely unknown to native communities. In the next section, I explore the commodities that were purchased and consumed by aboriginal groups.

Indigenous Consumption in Sub-Arctic Canada

Throughout the eighteenth century, from the coast of Hudson Bay to the Rocky Mountains, native communities acquired European goods through trade. Native traders chose to visit English and French posts and trading camps where they freely sold pelts and furs for commodities that could not be produced or acquired locally. Quite simply, European contact gave native consumers access to a range of goods previously unavailable. Trade brought iron to the new world, not just in the form of guns, but also as pots, knives, awls, thimbles, needles and hatchets. What these tools did was to change the nature of household production for both men and women. Whereas women had to use wooden pots heating food or water with stones heated in a fire pit, they could now put the iron pot directly on the fire. Awls for punching holes and needles and thimbles for sewing clothing must have made the process much easier. Men could use knives and hatchets for butchering or cutting timber.

The commercial fur trade provided natives with access to what should be considered a department store with a huge range of items. Each trade

Global Trade and Development: 1600-1800

item had a price. For the Hudson's Bay Company that price was delimited in the company unit of account, the made beaver. Every fur and trade good was equivalently priced. These prices were known, and while there were negotiations, they occurred around the price list.

Table 1
Prices and Quantities of Trade Goods Purchased in 1740 at York Factory

<i>Purchased in trade</i>	<i>Price mb/unit</i>	<i>Value mb</i>	<i>Purchased in trade</i>	<i>Price mb/unit</i>	<i>Value mb</i>
<i>Producer goods</i>			<i>Other luxuries</i>		
Files	1	308	Bayonets	1	150
Fishhooks	0.071		Beads (lb)	2	318
Flints	0.083	192	Cloth (yd)	3.5	3,454
Guns	14	3,500	Combs	1	346
Hatchets	1	762	Egg boxes	0.333	47
Ice chizzles	1	472	Flannel (yd)	1.5	29
Knives	0.25	828	Gartering (yd)	0.667	244
Net lines	1	218	Hats	4	140
Powder horns	1	181	Hawkbells (pair)	0.083	42
Powder (lb)	1	3,360	Lace (yd)	0.667	123
Scrapers	0.5	108	Looking glasses	1	108
Shot (lb)	0.25	1,847	Needles	0.083	34
Twine (skein)	1	114	Pistols	7	182
Total		11,974	Rings	.12-.33	106
<i>Household goods</i>			<i>Sashes</i>		
Blankets	7	1,323	Scissors	0.5	28
Kettles	1.5	1,018	Shirts	2.5	226
Total		2,540	Stockings	2.5	64
<i>Tobacco and alcohol</i>			<i>Thimbles, thread</i>		
Brandy (gal.)	4	1,514	Trunks	4	148
Rundlets	1	350	Vermillion (lb)	16	296
Tobacco (lb)	2	4,543	Worsted (yd)	.5.67	59
Tobacco boxes	1	162	Total		6,418
Water, strong (gal.)	4	132	Total received in trade		27,633
Total		6,701	Total received as gifts		2,024
			Grand total		29,657

Source: Carlos and Lewis (2010, Chapter 3).

As shown in Table 1 again for 1740 at York Factory, one gun cost 14 made beaver or 14 beaver pelts. In that year native traders purchased 250 guns for a price of 3,500 beaver. In contrast shot cost a quarter of a made beaver per pound and as Table 1 reports native traders purchased 7,388 pounds of shot. So native traders were making choices about what and how much they would buy when they came to the HBC posts. Indeed, the records show that a wide array of goods purchased and not just guns and alcohol. Many of the commodities listed here show up in the probate inventories of English and Colonial households. What are absent are china ware and food products.

Worth noting is that the commercial fur trade is often disparaged as just a beads and baubles trade. Yet, those often disparaged beads were themselves very expensive trade items, having been purchased from the East India Company as part of its China trade, or were high quality glass beads imported from Murano Italy. In 1740, native traders (who were male) purchased 159 pounds of beads at York Factory and transported them back into central Canada. While we can conjecture that the pots and awls and thread reduced the time and labor needed for household tasks of food preparation and making clothes, those beads allows for an expansion of the decorative arts shown, by way of example, in the extraordinary beaded purses, moccasins, and jackets, represented here by the beaded purse shown in Figure 4.³



Figure 4

19th Century Cree Metis Beaded Pocket Watch Holder

³ Decorative arts did not emerge with the commercial fur trade; rather, beads provided a range of color and shapes that could not be obtained from local materials. Source of Figure 3 is a google images search of “beaded purses native american” (searched January 15, 2018).

The commercial fur trade provided native peoples in sub-arctic Canada access to a large array of goods and technologies not otherwise available. Goods, such as pots, needles, and knives, simplified many household tasks from food preparation to making clothes to trapping and hunting. They also provided more variety. It must also be stressed that the choice and types of goods provided at the Hudson's Bay Company posts were determined by the tastes and preferences of native traders, who often just refused to buy certain commodities which had either to be sent back to England or left to rot at the post. In Carlos and Lewis (2010), we demonstrate that, even without these trade goods, in the middle of the eighteenth century, the overall standard of living for native communities was as high as that of English wage workers, who themselves were the highest paid in the world (Robert Allen 2000). While English workers had better housing, in the sense that it was more permanent, the food/protein and clothing enjoyed by native groups was superior. But this equivalence was not to last. Fundamentally, the fur trade provided few avenues for development or structural change. Once the underlying stock of furs was depleted or the demand for pelts in Europe declined, access to this source of trade goods declined. In contrast, the onset of the Industrial Revolution in England and then other countries caused per capita incomes to pull away from those of native groups.

In the late nineteenth century many native communities were threatened by increased European migration into Central Canada as thousands of White settlers arrived in Saskatchewan and Alberta. Indeed, Central Canada was permanently changed by the 'Wheat Boom' immigration for 1896-1913 and the agricultural opening of the Canadian prairies and the contraction of native lands and the creation of reservations (Kenneth Norrie 1975).

Global Trade and Capital Markets in London and Amsterdam

The Hudson's Bay Company trade and that to French Canada, as did all these long-distance trade, required ships, cargo and crew. Thus, from a discussion of the impact of the long-distance trades on consumers, I want to change focus not to the companies who organized this trade, but to how those companies came to organize themselves, recognizing that some of these companies were very long lived. Indeed, the Hudson's Bay

Company has been in continuous existence as a joint-stock company from 1670 to the present day, known to many as the department store, The Bay or La Baie.

Maritime trade is ubiquitous, with ships and boats sailing along the coast from one bay or harbor to another. We can think about trade across the Mediterranean, through the Baltic and the Bosphorus going back millennia. Trade, however, ties up capital while goods are being moved from one market to another. What made the long-distance sea trades different were not the goods, men, or ships per se, but rather the length of time a person's capital would be tied up. A trading journey to Asia and back to Europe could take close to three years. Voyages down the coast of Africa or to the Caribbean, to Mexico or America, were shorter but still running months and sometime longer. Despite the wide array of partnership arrangements used in the maritime trade, the length of these voyages does seem to have been problematic especially when an individual had an unanticipated call on his or her capital. It was difficult to extract one's capital from the voyage. Selling one's share in the ship/voyage was selling an asset with an uncertain payout; one whose value would not be known until the ship returned and the cargo sold or until the ship did not return and the owners claimed any insurance they might have taken out on the ship. An example from the first ten years of the operation of the East India Company is illustrative of this point because in some of those years, the company was unable to find sufficient investors in a voyage with the result that no ships were sent out (William Scott 1951).

One feature of the growth of overseas trade in the late sixteenth and seventeenth centuries was the range of institutional experimentation. Institutional forms include private traders, partnerships, the regulated company, and the joint-stock company. By the end of the seventeenth century, the joint-stock company emerged as the form which mitigated many of the issues faced by those interested in the long-distance trade. In essence, the joint-stock company sold transferable shares in a perpetually-lived company rather than a share in a ship/voyage. Because it was perpetually-lived, the company did not have to disband on the death of a partner and an individual could sell the share.

In looking at the joint-stock company as a business arrangement, it is possible to trace elements from the medieval *commenda* and *societas* and from the medieval guilds (Carlos 2003). From the former comes the concept of distribution of shares among those involved in the overseas trade, and from the medieval guilds the concept of perpetual life for the organization itself. One can contrast the joint-stock company to the regulated company, of which the Merchant Adventurers and the Company of the Merchants of the Staple or Merchant Staplers are classic examples. The regulated company had a perpetual life, but rather than organize the actual trade, it provided infrastructure (such as a space on a ship) and services (such as warehousing in other ports) to independent merchants who belonged to the group. Distance and time in the long-distance trades made the regulated company structure less than the ideal institutional arrangement, again because an individual trader's capital was tied up for long periods of time. Of course, owning a transferable share in a company (rather than a share in a voyage or a space in a cargo hold) was not a major innovation. There are many examples of people owning shares in enterprises, but many were more akin to partnerships. Rather, it was the combination of the transferable share in conjunction with limited liability given with a charter from crown or parliament that would have large and powerful effects on global development.

Limited liability was a right granted only by crown or parliament in the form of a charter which also specified the capital stock and the face value of the share.⁴ The company constitution/charter also laid out rules regarding the transferability of a share and the organization of the company. Thus prior to buying a share, a potential shareholder knew the size of the investment, the personal liability and the opportunity to resell the asset. These protections were laid out in courts cases through the first half of the seventeenth century and embodied in the English East India Company by 1612, the Company of Royal Adventurers Trading to Africa (1660), the Hudson's Bay Company (1670) the Royal African Company (1672) each of which was chartered prior to the Glorious Revolution in

⁴ In England, the Joint Stock Companies Act of 1844 allowed for easier incorporation but it was not until the Limited Liability Act of 1855 that limited liability was available to companies by application

1689. The rights and responsibilities were carried over into those joint stock companies subsequently chartered by parliament (Scott 1951).

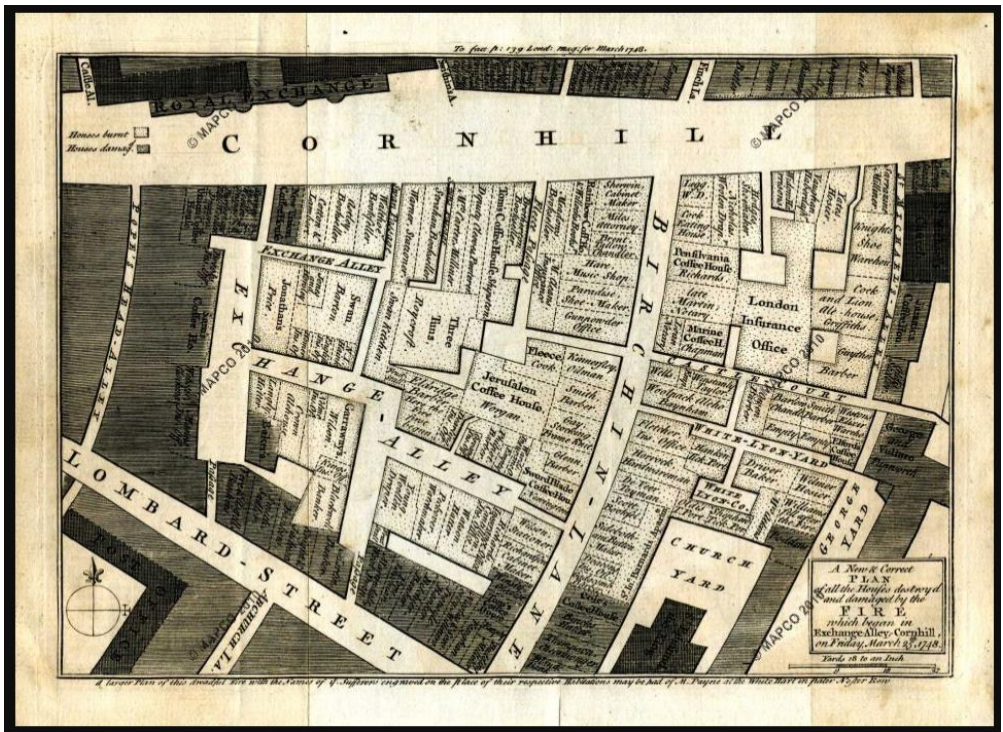
The transferable share provided a range of benefits to the company and to the investor. For the company, it allowed it to access capital from a wide array of unrelated individuals in the primary market. For the investor, the existence of a secondary market allowed individuals the potential to access their capital by selling their share without having to wait for the return of the ship and the sale of the cargo. However, for a secondary market to thrive in late seventeenth and eighteenth century London required place, property right, and information.

In the last quarter of the seventeenth century there were a number of trading locations for shares. One was at the joint stock company office where potential sellers and potential buyers could meet. A second focal point was the coffee houses located in Exchange Alley around Lombard Street and the Royal Exchange as shown in Figure 5 for the mid seventeenth century, just after the Great Fire of 1666. Coffee was itself a product of the long-distance trade with the coffee houses becoming the venue for particular places or companies. Two coffee houses in particular, Jonathan's and Garraways, became focal points for trading shares and, indeed, the London Stock Exchange would be built on the site of Jonathan's coffee house. Listed also in Figure 5 is the Jerusalem coffee house, the Sword Blade coffee house, Lloyds coffee house, amongst others. For those who could not access either the company offices of the coffee shops due to distance, gender, social class, a range of middlemen, brokers and solicitors (formal and informal) and private banks emerged to provide that service (Larry Neal 1990, Anne Murphy 2009). In all cases, the transfer of a share had to be documented at the Company office both to define ownership of the share and the property rights embodied in it, and also to ensure that the company would know who should be receiving a dividend, if one was paid out.

In this period, the book value of a share was generally £100, which we should think of as a benchmark. The number of shares available was the initial public offering (or the capital stock) divided by the book value of the share. So, for example, the initial public offering and capital stock of the Royal African Company was £111,100, which meant there were 1,111 shares available for sale in the market (Scott 1951). Because some

Global Trade and Development: 1600-1800

companies allowed shareholders to own part of a share or for people to come together to own one share jointly, the actual number of investors could be larger than the 1,111 in our example. Of course, one person could also own many shares. The book value of a share is not the market value of a share which could be more or less than £100. The value of a share depended on the profitability of a company. For trading companies, this was measured by the value of the cargos at the company sales which, for shareholders, translated into potential dividend payments. Essentially, the market price of a share is the discounted future income stream of divided that a shareholder could expect (Ann Carlos, Nathalie Moyen and Jonathan Hill 2002).



Source: <http://mapco.net/cornhill/images/cornhill01a.jpg>.

Figure 5

Exchange Alley and its Coffee Shops in Mid-Seventeenth Century London

Markets need with information about prices. Indeed, just as with commodity prices for the same commodity across different markets, the movement of share prices gives us information about the efficacy of the share market. With the loosening of restrictions on the press in the aftermath of the Glorious Revolution, we have the emergence of financial broadsheets, such as John Castaing's *Course of the Exchange* which published the market prices of various financial assets. The *Course of the Exchange* was published on a Tuesday and Friday and gave the price for that day and for the preceding two days with no trading on a Sunday (Larry Neal 1990).⁵ Castaing also notes when the market for a particular share was closed for holidays and when no transfers were taking place, such as when the books were closed to organize the payment of dividends. These financial broadsheets were mailed around the country and overseas, in particular to Amsterdam (Peter Koudjis 2016). Prices were also listed on boards in the various coffee houses along Exchange Alley and at the company house. What all of this meant was that current price information was available to buyers and sellers.

Figure 6 shows a sheet from the *Course of the Exchange* for January 4, 1698.⁶ Share prices for the listed joint stock companies are in the middle of the page with only the Hudson's Bay Company shares selling above par. Also worth noting is that the location of John Castaing's office is given as Jonathan's Coffee House in Exchange Alley.

The confluence of tradable shares, locations, price information, financial newsletters, legal structures and limited liability made it possible for the long-distance trading companies to acquire the capital necessary to pursue these journeys also had important implications for English growth and development. The existence of the chartered joint-stock form created a mechanism that could pull together large amounts of capital from many different and potentially small(er) investors. The liquidity embedded in a tradeable share created the market in shares. The strength of this effect is most clearly seen in 1694. With the defeat of English forces by the French in 1690, the Crown/government needed funds to rebuild the navy but trust

⁵ For data from the *Course of the Exchange*, see: <http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/1008>.

⁶ The date listed refers to the Julian calendar which was then in use in England. The start of the year was not January 1, but rather the end of March.

Global Trade and Development: 1600-1800

in the government was such that borrowing at any reasonable interest rate was infeasible. Rather, the limited liability, joint stock company structure was used as the vehicle by which funds were channeled to the government.

(1)
The Course of the Exchange, and other things.

London, Tuesday 4th January, 1698.

Amsterdam	35	9a 10
Rotterdam	35	11a 35
Antwerp	35	9a 10
Hainburgh	35	2a 13
Paris	47	4
Lyons	47	4
Cadiz	51	4a 51
Madrid	51	4
Leghorn	52	4
Genoua	51	4
Venice	49	4
Lisbon	5	7 3/4
Porto	5	6 3/4
Dublin	16	3/4
Gold	4 l. 00 s. 6 d.	
Ditto Ducats	4 . 5 6	
Silver Sta.	5 s. 1 d. 2 a 2 d.	
Foreign Bars	5 3	
Pieces of Eight	5 3	
Bank Stock	86 1/2 a 3/4	86 1/2 a 1/4
India	53 3/4	53 3/4
African	11 1/4	11 1/4
Hudson Bay	110	110
Orphans Chamb.	53	53
Blank Tick.M.L.	6 15	6 15

No Transfer of the Bank till January 7.

<i>In the Exchequer Advanced.</i>	<i>Paid off.</i>
1st 4 Shill. Aid--	1895874
3d 4 Shill. Aid--	1800000
4th 4 Shill. Aid--	1800000
3/4 Custom	967985
New Custom	1250000
Tobacco, &c.	1500000
3/4 Excise	999815
Poll-Tax	569293
Paper, &c.	324114
Salt Act	1904519
Low Wines, &c.	69959
Coal Act & Leath.	564700
Births and Marr.	650000
3 Shill. Aid--	1500000
Malt Act	200000
Exchequer Notes, sunk	5850000
<i>Coynd in the Tower, last Week, 00000.</i>	

By John Castaing, Broker, at his Office at Jonathans Coffee-house.

Source: <https://www.pinterest.co.uk/pin/463378249131158197/>

Figure 6

Course of the Exchange, January 4, 1698

The public subscription for the Bank of England, chartered as a joint-stock company in 1694, raised £1.2 million in only twelve days, when the laboring wage was roughly £20 per annum. With the book value at £100,

this meant 12,000 shares available. In simple purchasing power, £1.2 million in 1694 is the equivalent of £160.1 million pounds in 2017.⁷

The £1.2 million share capital raised in the initial IPO was lent in large part to the government to be used to rebuild the Navy. The Government in turn, paid the Bank of England an interest rate considerably lower than if it had had to raise the capital in its own name on the open market. The interest payments by the Government to the Bank of England on this loan were then used to pay dividends to the shareholders who received a steady stream of income and the possibility of capital gains (or losses) (Neal 1990, Chapter 2).

The stock market gave the government access to a pool of capital that would otherwise not have been available. This ability on the part of the government to access the capital market was used repeatedly in the first half of the eighteenth century with the chartering of the new East India Company, the United East India Company, the South Sea Company and the expansion of the South Sea company in 1720, The resolution of the South Sea Bubble in 1749 led to the creation of the CONSOL which would be the paramount government debt instrument for the next century and half. At the same time, the fact a joint-stock company required an initial charter or the reauthorization of a charter in order to access the legal protections for shareholders gave the government/parliament monopoly power to extract rents when a new charter was issued or re-issued (J. Lawrence Broz and Richard Grossman 2004).

Peter Lindert (1985) has shown that the many inhabitants of London were, by the standards of the day, wealthy with long and short-term capital to invest. As a result, the new market for stocks did not merely provide the government with access to previously untapped or unavailable sources of capital. It provided access for a range of productive and less than productive opportunities from trade to finance to mining to fisheries in the seventeenth centuries; to turnpikes and canals and railroads among others in the subsequent century (Scott 1951)

For this new and nascent stock market to be so attractive, it had to provide investors with significant advantages over existing opportunities.⁸

⁷ Calculated with: <https://www.measuringworth.com/ppoweruk>.

⁸ See also Patrick O'Brien (2001).

The existing options available to them were government debt, bonds, mortgages, loan money at interest, buy property or invest in business. One characteristic of these assets was that they tended to be fairly illiquid (Neal 1990). The stock market was a new vehicle for savings; one where investors could earn dividends and possibly enjoy capital gains. But it quickly showed itself to be liquid and transparently priced. Stock could be bought and sold daily at various locations and with individuals standing ready to act as intermediaries. Indeed, evidence of how people responded to this market is the fact that thousands of individuals exchanged pre-existing government debt for equity whether in the Bank of England, New East India Company, or the South Sea Company (Carlos, Erin Fletcher and Neal 2015).

An important feature of the stock market was its anonymity. Individuals could buy and sell while at the same time remaining invisible. This might have been a particularly attractive feature for some groups who for whatever reason had less access to public spaces. Women operated as money lenders and in the mortgage market, but the stock market and the potential dividends allowed for a stream of income especially for those excluded from the workforce through social standing or gender. In recent work we have documented the level of share ownership by women—17.26 per cent in the Bank of England, 30.93 per cent in South Sea Annuities, and 13.38 per cent in the East India Company (Carlos, Fletcher and Neal 2015, 589). These women were not merely passive owners, though of course this is true for some women as it is for some men. But women were actively involved in the market and over the course of the South Sea Bubble event in 1720, women as a group made money, while men as a group did not (Carlos and Neal 2006; Carlos, Maguire and Neal 2008. Anne Laurence (2006, 2008) gives us an in depth examination of Lady Betty Hastings, her sisters and Jane Bonnell's interactions in the early eighteenth century both with the new banking services provided in this case by Hoare's Bank and the share market. Too often women have been ignored because of a presumption that they had either no individual agency or no capital, both of which we know to be untrue for women in the London stock market.

Over the course of the eighteenth century, the London Stock Exchange became the stock exchange for the world. In the century and half prior to

the Joint Stock Companies Act of 1844 which allowed for the formation of corporations by simple registration, the stock market provided access to funds for untold numbers of companies and investors worldwide and even more untold numbers after. Obviously some of these ventures failed, but many succeeded and generated wealth and income for investors.

Back to the Future

The advent of global trade, providing as it did a range of new commodities, new transportation routes, changes in freight rates, and new institutional arrangements, created many winners but also many losers as new commodities pushed out older commodities, and new sources of supply reduced the market share of established producers. Such changes occurred in 1650 just as they are occurring today. However, this is not a zero-sum game—it is not just that what some lose, others gain. Rather we have seen that the gains seem potentially unbounded, pushing the top further from the bottom.

Growing wealth and greater inequality in the income distribution created by access to capital markets, has been compounded by access to the sources of power, the tax code, and off-shore accounts. Reducing globalization in the sense of reducing trade with any one country will not change inequality but it will impose a new set of gains and losses on consumers. Reducing globalization will not bring back manufacturing jobs but rather increase the price of manufactured imports. Reducing globalization will also not change inequality. To do that we have to change some of the institutional features of our economy such as the tax code, the gig culture, and the provision of high quality education from kindergarten to college.

WORKS CITED

- Allen, Robert C. 2000. "The Great Divergence in European Wages and Prices from the Middle Ages to the First World War." *Explorations in Economic History*, 38: 411-47.
- Anderson, Terry L. and Fred McChesney. 1994. "Raid or Trade: An Economic Model of Indian-White Relations." *Journal of Law and Economics*, 37: 39-74.

- Atack, Jeremy, and Peter Passell. 1994. *A New Economic View of American History: From Colonial Times to 1940* (second edition), Norton.
- Borah, William. 1992. "The Historical Demography of Aboriginal and Colonial America: An Attempt at Perspective." in *The native Population of The Americas in 1492*, 2nd edition, William Denevan, ed. Madison: University of Wisconsin Press.
- Braund, Kathryn E. Holland. 1993. *Deerskins and Duffels: The Creek Indian Trade with Anglo-America, 1685-1815*. Lincoln: University of Nebraska.
- Broz, Lawrence J. and Richard S. Grossman. 2004. "Paying for Privilege: The Political Economy of Bank of England Charters, 1694-1844," *Explorations in Economic History* 41: 48-72.
- Carlos, Ann M. 2003. "Joint-Stock Trading Companies", *Oxford Encyclopedia of Economic History*, ed. Joel Mokyr, Oxford: Oxford University Press.
- Carlos, Ann M. Nathalie Moyen and Jonathan Hill. 2002. "Royal African Share Prices during the South Sea Bubble, 1720". *Explorations in Economic History* 39: 61-87.
- Carlos, Ann M. Karen Maguire and Larry Neal. 2008. "A Knavish People...': London Jewry and the Stock Market during the South Sea Bubble" *Business History* 50: 728-748.
- Carlos, Ann M. and Frank D. Lewis. 2010. *Commerce by a Frozen Sea: Native Americans and the European Fur Trade*, University of Pennsylvania Press, 2010.
- Carlos, Ann M. and Frank D. Lewis. 2012. "Smallpox and Native American Mortality: the 1780s Epidemic in the Hudson Bay Region," *Explorations in Economic History*, 49:277-380.
- Carlos, Ann M, Erin Fletcher and Larry Neal. 2015. "Share Portfolios in the Early Years of Financial Capitalism: London, 1690-1730," *Economic History Review*, 68: 574-599.
- Carlos, Ann M. and Larry Neal. 2006. "Capital Market Activity During and After the South Sea Bubble: Bank of England Shares 1720-1725". *Economic History Review*, 59: 498-538.
- Diamond, Jared M. 2005. *Guns Germs and Steel: The Fates of Human Societies*, New York: Norton.

- de Vries, Jan. 1993. "Between Purchasing Power and the World of Goods: Understanding the Household Economy in Early Modern Europe." In *Consumption and the World of Goods*, John Brewer and Roy Porter, eds., 85-132. London: Routledge.
- de Vries, Jan. 2010. "The Limits of Globalization in the Early Modern World", *Economic History Review* 63: 710-733.
- Dobyns, Henry F. 1983. *Their Number Become Thinned: Native American Population Dynamics in Eastern North America*. Knoxville: University of Tennessee Press.
- Dyer, Christopher. 2002. *Making a living in the Middle Ages: the people of Britain 850-1520*, New Haven: Yale University Press.
- Dyer, Christopher. 2005. *An age of Transition: economy and society in England in the Later Middle Ages*. Oxford: Oxford University Press.
- Flynn, Dennis and Arturo Giraldez. 2004. "Path Dependence, Time lags, and the Birth of Globalization: A Critique of O'Rourke and Williamson," *European Review of Economic History*, 8: 81-108.
- Hackett, Paul. 2002. *A Very Remarkable Sickness: Epidemics in the Petit Nord, 1670-1846*. Winnipeg: University of Manitoba.
- Hackett, Paul. 2006. "Averting Disaster: The Hudson's Bay Company and Smallpox in Western Canada During the Late Eighteenth and Early Nineteenth Centuries", in *Canadian Environmental History*, D. F. Duke ed. Toronto: Canadian Scholar's Press.
- Harris, R. Cole, ed. 1987. *Historical Atlas of Canada*, Vol. 1. Toronto: University of Toronto Press.
- Hoffman, Philip T. 2015. *Why did Europe Conquer the World?* Princeton: Princeton University Press.
- Koudjis, Peter. 2016. "The boats that did not sail: asset price volatility in a natural experiment," *Journal of Finance* 71: 1185-1226.
- Laurence, Anne. 2006. "Lady Betty Hastings, Her Half-Sisters, and the South Sea Bubble: Family Fortunes and Strategies." *Women's History Review* 15: 533-540.
- Laurence, Anne. 2008. "The Emergence of a Private Clientele for Banks in the Early Eighteenth Century: Hoare's Bank and Some Women Customers." *Economic History Review* 61: 565-586.
- Lindert, Peter H. 1985. "Unequal English Wealth Since 1670," *Journal of Political Economy* 94: 1127-1162.

- McCusker, John J. 2000. "The Business of Distilling in the Old World and the New World during the Seventeenth and Eighteenth Centuries: The Rise of a New Enterprise and its Connection with Colonial America." In *The Early Modern Atlantic Economy*, John J. McCusker and Kenneth Morgan, eds., 186-226. Cambridge: Cambridge University Press.
- Mancall, Peter C. 1995. *Deadly Medicine: Indians and Alcohol in Early America*. Ithaca: Cornell University Press.
- Murphy, Anne. 2009. *The Origins of English Financial Markets: Investment and Speculation before the South Sea Bubble*. Cambridge: Cambridge University Press.
- Neal, Larry. 1990. *The Rise of Financial Capitalism: International Capital Markets in the Age of Reason*, New York: Cambridge University Press.
- Norrie, Kenneth. H. 1975. "The Rate of Settlement of the Canadian Prairies, 1870-1911," *The Journal of Economic History* 35:410-427.
- O'Brien, Patrick ed. 2001. *Urban Achievement in Early Modern Europe: Golden Ages in Antwerp, Amsterdam and London*. Cambridge: Cambridge University Press.
- Pomeranz, Kenneth. 2000. *The Great Divergence: China, Europe, and the Making of the Modern World Economy*. Princeton: Princeton University Press.
- Ray, Arthur J. 1980. "Indians as Consumers in the Eighteenth Century." In *Old Trails and New Directions: Papers of the Third North American Fur Trade Conference*, Carol M. Judd and Arthur J. Ray, eds., 255-71. Toronto: University of Toronto Press.
- Scott, William Robert. 1951. *The Constitution and Finance of English, Scottish and Irish Joint-Stock Companies to 1720*. Three volumes. New York: Peter Smith.
- Ubelaker, Douglass H. 1992. "North American Indian Population Size: Changing Perspectives." In *Disease and Demography in the Americas*, John W. Verano and Douglas H. Ubelaker, eds., 169-76. Washington: Smithsonian Institution.
- Williamson, Jeffrey and Kevin H. O'Rourke. 2002. "When Did Globalization Begin?" *European Review of Economic History*, 6: 109-117.