

# CHAPTER Eg

## Colonial Statistics

*Editor: John J. McCusker*

### COLONIAL STATISTICS

John J. McCusker

This chapter tells a story in numbers. The data in the tables that follow were derived from and depict a polity, society, and economy that functioned well enough over the period from the early seventeenth century to nearly the end of the eighteenth century that its economy grew at the fastest rate of all known contemporary economies and that, by the end of that period, afforded its citizens on average the highest standard of living in the world. It is a story of success – a successful establishment of a new nation, a new life by European settlers on the eastern fringe of the continent of North America, and a new economy that was strong and grew stronger over time. What unfolds here is the first half of the history of a country that in the following two centuries went on to become the nation it is today, the United States of America.<sup>1</sup>

Yet all was not perfect. The history of the Thirteen Continental Colonies and the early United States partly recounted by the data presented here is not one of continuing, unmitigated triumphs. Even though polity, society, and economy surely progressed over these two centuries, they did so only very slowly, very haltingly.

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Government had its flaws and failings – and then there was a revolution. Periods of advance in the economy alternated with periods of decline. Among the settlers of European origin, some fared better, some worse, and some not at all. The European Americans who prospered most did so at the expense, economically and humanly, of their African brothers and sisters whom they kidnapped, enslaved, denigrated, and exploited. Nevertheless, for most inhabitants of the Thirteen Continental Colonies, life was better there than it was elsewhere, better later than it was earlier, and as full of promise for them then as it is for Americans today. Three and four centuries ago, the Thirteen Continental Colonies were, just as the modern United States is now, the land of hope, a magnet attracting immigrants. The tale told in this chapter's tables is one of good people struggling, achieving some success, and making

<sup>1</sup> For much that follows, there is a fuller exposition of the basic elements in McCusker and Menard (1991). References found there are generally not repeated here. See also the papers presented at the conference on "The Economy of Early British America: The Domestic Sector" held at the Huntington Library, San Marino, California, in October 1995 and published as a special issue of the *William and Mary Quarterly*, 3rd series, 56 (January 1999), and McCusker (2001b) and Menard (2001).

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some mistakes to fashion out of their constrained circumstances lives of dignity and worth for themselves and their progeny.<sup>2</sup>

Contemporary observers and modern scholars almost universally concur that those who inhabited early British America benefited from the efforts of their predecessors. In each successive age, their lives were better in almost every way than the lives of those who preceded them. Such blanket pronouncements beg for definition, for nuance, for explanation, but the general proposition holds nonetheless: The generation that joined the American Revolution was considerably better off than the generation that had established the colonies of Virginia and Massachusetts. The data in the tables that follow this introductory summary support these propositions, but such notions gain from confirmation from other sources, additional evidence that rests less on “hard” data and more on anecdote and inference. Much more so than the second half of the history of the United States, the history of the first two centuries of the nation is in the hands of those who, like historians of medieval Europe, work with insight and imagination as well as documents and data. As Jacob Price (1976, p. 701) reminds us: “Little quantitative evidence from the seventeenth or eighteenth century comes down to us in the form we would wish. We must, for all that, build our historical edifices with the bricks at hand.”

The people about whom all of our evidence speaks were residents of the Thirteen Continental Colonies, entities that shared many important similarities and a common destiny. For the most part, the settlers came from Great Britain, although they included a significant sprinkling of others from Northern and Western Europe.<sup>3</sup> All quickly took on the garb and gait of English women and men. Thus, the English language, law, religion, fashions, and manners, as well as English attitudes early and rapidly became the norm, even as everything began to take on a certain local, American flavor. The largest exception to this rule was found among those of African origin, although they, too, educated themselves in the ways of their masters, sometimes all too smartly for the taste of those who believed they controlled them body and soul. Sharing a thin but rapidly expanding sliver of settlement in the Atlantic coastal plain of the middle portion of the continent of North America, the colonists cherished their common characteristics even as they

differentiated themselves from others in the neighboring colonies – and, to a much larger extent, from others on the continent immediately to their north, south, and west (see Map Eg-A).<sup>4</sup> They were English – not French, not Spanish, certainly not Native American – just as those people knew they were not English and did not want to be. This was especially the case for the Native Americans who were forced by the ever-advancing march of colonial expansion to keep moving westward and die.<sup>5</sup>

The polities, societies, and economies created in each of the Thirteen Continental Colonies that later became the United States of America were founded in ideas and attitudes that tied them together much more than separated them. The residents of Massachusetts and Virginia may have wished to maintain their distance, even their distinctiveness, from each other, but they quickly identified their considerable strength in a recognizable commonality that in time of severe trial coalesced into a political unity. Their mutual ideas and attitudes, having in fact given rise to remarkably similar governments, economies, and societies, allowed them to create a new nation based on those commonly shared notions. The collective threads that helped bind these people together aid historians who seek to explain aspects of their economic and social history. However many individual parts there may have been, even in the colonial period, they can be treated in many ways as one society, one economy. *E pluribus unum* is not a hollow motto.

None of this denies the differences among them any more than the history of the United States after the American Revolution is diminished by attention to the parts as well as to the whole. Historians have regularly and profitably talked about regional differences that separate out New England, the Middle Colonies, the Upper South, and the Lower South based on political groupings and geographical borders. By the end of the colonial period, the colonists themselves were well aware of a division within most colonies between the coastal plain and the piedmont or “back country,” marked in each of them by where eastward running rivers broke over rapids and waterfalls as they tumbled down to the plain and ran to the sea. This “fall line,” above which seagoing vessels could not sail, also

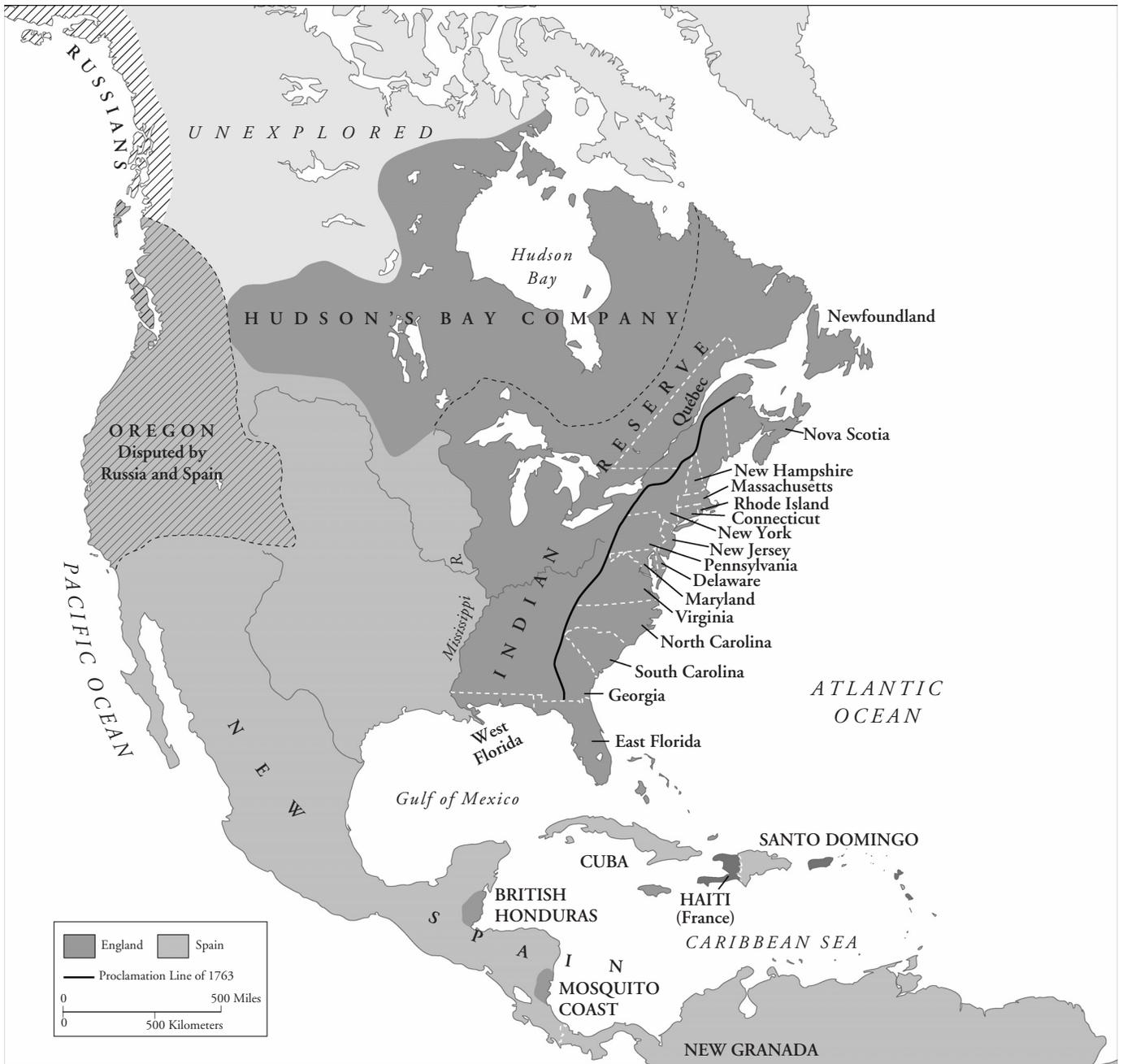
<sup>2</sup> One is reminded of the words of Karl Marx (1869, p. 1): “Die Menschen machen ihre eigene Geschichte, aber sie machen sie nicht aus freien Stücken, nicht unter selbstgewählten, sondern unter unmittelbar vorgefundenen, gegebenen und überlieferten Umständen” – “Humans make their own histories, yet they do not choose freely, entirely on their own, but constrained by circumstances that are powerfully determining, pervasive, and freighted with tradition” [translation by the author].

The history of colonies advancing from strength to strength is contrary to an older, now discarded account of a people held under constant check by a British government intent on holding them subservient for its own purposes. The latter recounted a teleological saga of a repressed people who struggled against all odds from their earliest days of settlement to overcome a politically and economically tyrannical and usurping mother country, a struggle for freedom at its most thrilling, a triumph of good over evil. The best exemplar of this outmoded version of U.S. history is Bancroft (1876).

<sup>3</sup> Writing in the pre-Revolutionary War period, Crèvecoeur remarked on the fusion in the colonies of diverse European national groups into the American type: “I could point out to you a family whose grandfather was an Englishman, whose wife was Dutch, whose son married a French woman, and whose present four sons have now four wives of different nations. *He* is an American.” St. John [de Crèvecoeur] (1782), p. 51 (emphasis as in the original); compare p. 48. For the composition of the population of the United States in 1790, see Table Eg65–84.

<sup>4</sup> Accurate comparisons with other times and places require careful definitions of the limits of one’s study. For present purposes, the unit of analysis over the period before 1775 is “the colonies that became the United States” and, after 1775, those United States. Gallman (1999), pp. 23–4 (quotation on p. 24). Compare Engerman and Gallman (1983). Note especially Gallman’s reference to Kuznets (1951), which establishes the absolute necessity of such distinctions. Compare, generally, the principles set out in Kuznets (1953). Allen (2003) is a recent and persuasive demonstration of the value for comparative analysis within countries and among countries over time of the nation as a unit of analysis.

<sup>5</sup> As has just been said, this chapter focuses on the Thirteen Continental Colonies, “the colonies that became the United States.” Limiting this chapter to the Thirteen Continental Colonies in no way suggests that other peoples or other places are not worthy of study. There can be no argument that the economies of the Native American Indians deserve careful analysis. Such a study is simply not part of a discussion of the economy of the Thirteen Continental Colonies because the Native American Indians were not part of the Thirteen Continental Colonies – and clearly did not want to be. Anyone interested in pursuing the subject must begin with Salisbury’s superb essay (1996). Other recent works of particular interest to economic historians include Murphy (1999). See the very positive comments on this work by Weiss (1999). An example of a very insightful approach that offers an explanation of American Indian economic behavior carefully grounded in the context of Indian institutions is Mann (1999). By contrast, see Mancall, Rosenbloom, and Weiss (2002). They equate “British North America” with the entirety of the eastern half of the Continent from New Orleans to Newfoundland, and include in their study all Indians living in that territory, all lumped together.



**MAP Eg-A Map of North America: 1763**

**Source**

Neal Salisbury, "The History of Native Americans from before the Arrival of the Europeans and Africans until the American Civil War," in Stanley L.

Engerman and Robert E. Gallman, editors, *The Cambridge Economic History of the United States* (Cambridge University Press, 1996–2001), volume 1, p. xi.

created an opportunity recurrent across the colonies where enterprising settlers established ports, mills, and mill towns, the mills relying on the waterpower generated at the falls. Pawtucket, Rhode Island; Wilmington, Delaware; Georgetown, Maryland (later part of the District of Columbia); and Richmond, Virginia, are only four in a string of such places all with similar early histories – and the same evocative resonance to their names (Semple 1903).

More recently, encouraged again by historical geographers, economic historians have learned to group settlements by social and economic characteristics that were shared across rivers and bays, appreciating what the colonists themselves knew, that bodies of

water served more to link people than separate them. Historians have undertaken to redraw their mental maps and to talk fruitfully, for instance, about the economy and society of the Piscataqua River basin – and thereby avoid many of the difficulties of pointlessly trying to sort out what people who lived in the area all knew they held in common even if they belonged politically to New Hampshire or Massachusetts (the part that later came to be Maine). Long Island Sound, the Hudson River valley, the Delaware River valley, and famously the Chesapeake Bay, all connected people of similar economic concerns and social attitudes much more than they separated them – just as did the notion "American" when times

turned tough and revolution moved from broadsides and boycotts to bayonets and bullets.

Founded mostly in the seventeenth century, the English colonies created parallel political structures out of the same set of shared ideas and attitudes that forged similar societies and economies. Even though there were certain differences, they all had local and colonial governments that individual voters had some voice in determining. The franchise was limited to adult, free, white males who had a stake in society measured largely by the property they owned and the taxes they paid. The prosperous few spoke for the many dependent on them in ways fully compatible with the ideas of John Locke, no matter how different they may have been from voting and office holding practices in more enlightened, later times. The number of participants in the society and the economy was certainly greater than that of those who practiced politics. For many, indeed, their entrée into the practice of politics was success in the economy and a place in society. Upward economic and social mobility offered a means to advancement, if not for oneself, then for one's children. Many identified instantly a threat to property as a threat to the established order and thus a threat to their liberty and their ability to lead the good life, to pursue happiness.

The data presented in the tables of this chapter attest to the advances in society and economy, under the aegis of government – local, colonial, and imperial – that were the results of such pursuits and that provoked those who, discovering the status quo threatened, rose to defend it. We can find evidence of this advancement in many things, some of it testified to in the data series presented herein, some of it apparent only from other, related materials gathered in the works of historians whose emphasis is more the society than the economy. Nevertheless, data and narrative, analysis and description unite to testify to that good and happy life, attained, shared, enjoyed, and defended.

## Economic Growth

There seems general agreement on several aspects of the economy of early British America:<sup>6</sup>

The economy of the Thirteen Continental Colonies developed as it grew between 1607 and 1775 – and grew as it developed.

Over the seventeenth and eighteenth centuries, the long-term rate of growth exceeded, perhaps even doubled, the rate of growth of Great Britain.

Growth was not constant. The usual, shorter sequential cycles of expansion and contraction resolved themselves into five longer periods of advance and retreat.

The dominant sector of the economy was agriculture, and the driving force of the colonial economy was its overseas trade, a trade grounded in the export of surplus agricultural commodities.

The colonists learned over time to diversify their economy both by exploring new sectors outside agriculture (commerce; industry) and by exploring variations within sectors (new agricultural crops; new ways to conduct trade).

Over the eighteenth century, the expanding demand for foodstuffs in the Atlantic World tended to drive upward the prices

of agricultural produce, while increasing industrialization in the Atlantic World tended to push downward the prices of manufactured goods. The result was a shift in the commodity terms of trade in favor of the Thirteen Continental Colonies.

On the eve of the American Revolution, real per capita gross domestic product in the Thirteen Continental Colonies was

- higher by far than it had been a century or a century and a half earlier,
- higher than that of any other nation in the world at the time, and
- higher than it would be again in the United States for a while.

Surely the most significant thing to say about the economy of early British America is that it continued to grow over time to the benefit of almost all, rich and poor. By just about every measure we can determine, the economic performance of the colonies was far better at the end of the colonial era than it had been at the beginning. There is no question that it grew extensively. Table Eg1–59 shows that the population of the colonies grew at an annual average compound rate of 5.6 percent between 1610 and 1770 or at a rate of 3.2 percent between 1650 and 1770.<sup>7</sup>

More significant – and harder to measure – is the rate at which the economy grew intensively.<sup>8</sup> The usual measure of intensive economic performance is the gross domestic product (GDP), the total value of goods and services produced by an economy. To allow for comparisons, it is usually expressed per person and adjusted for inflation or deflation; this is called real per capita GDP.<sup>9</sup> In a survey of recent contributions to the subject, Lance Davis and Stanley Engerman (1999, p. 21) concluded that there was “slow, but positive, growth in per capita income and wealth in most parts of the colonies between original settlement and the time of the American Revolution. Slow as it was, growth was probably higher

<sup>7</sup> For some details of colonial population growth, see Tables Eg85–109 and Eg117–193. See also Table Eg194–200. In comparison, between 1651 and 1771 the population of England grew by only 0.17 percent annually (Wrigley and Schofield 1981, pp. 528–9).

<sup>8</sup> See the prescient comments on “the rate of growth of ‘national’ income” during the colonial period and the reasons for it offered by Somers and Williamson (1951), pp. 83–4.

<sup>9</sup> In 1991, the U.S. Department of Commerce switched from gross national product (GNP) to gross domestic product as its preferred measure of aggregate economic activity. GNP is the total value of final goods and services produced during a given period of time by the citizens of a nation no matter where they are resident. GDP is the total value of final goods and services produced within a nation's borders during a given period of time regardless of the nationality or residence of the owners of productive resources. GDP estimates stretching back to 1790 are available in Chapter Ca on national income and product; see the discussion there for more details. Colonial economic historians have begun to address the issue. Some, while noting that “for most of American history” the difference between GDP and GNP “has not been very large,” “for the colonial era the differences are likely to have been larger” (Mancall, Rosenbloom, and Weiss, 2004, pp. 414–15 n. 15). As a point of reference the difference between GNP and GDP is negligible for the modern United States – less than three tenths of 1 percent at the end of the twentieth century. See U.S. Department of Commerce, Bureau of Economic Analysis (1998), volume 1, pp. M-1/M-2, 38 (see especially Table 1.9 [1990–1994], pp. 37–44). See also Inter-Secretariat Working Group on National Accounts (1993), p. 41 and elsewhere. Given that it may well prove impossible to measure for earlier times, the distinction will be ignored in what follows.

<sup>6</sup> As discussed in McCusker and Menard (1991), pp. 51–70, and McCusker (2000b). See Table Eg217–222.

than in most of the world at that time.”<sup>10</sup> The estimates in Table Eg217–222 indicate that, by 1774, per capita GDP in the Thirteen Continental Colonies averaged approximately \$1,430 (in 2003 dollars; compare Table Eg223–246). That figure is about twice the GDP of France and Great Britain for 1775 as estimated by Patrick O’Brien and Peter Mathias (1976, pp. 611–12).<sup>11</sup> Projected back in time at an annual average compound rate of 0.6 percent, the data in Table Eg217–222 track an economy that between 1650 and 1774 grew at a rate twice that of the mother country itself and, it should be noted, higher than it was to be again in the United States for the next two decades. Recent work by Angus Maddison supports all these propositions.<sup>12</sup>

However fast or slow, the rate of growth in the colonial economy was not steady across the years. Just as in the nineteenth and twentieth centuries, there were cycles in the performance of the colonial economy. Good times, periods of expansion, alternated with bad times, periods of contraction. Between 1668 and 1789, the economy of early British America experienced thirty short-term cycles of contraction and expansion. The length of an entire cycle

<sup>10</sup> Compare Galenson (1996), pp. 189–207; Engerman (2000), especially pp. 245–6. See also Egnal (1975); Egnal (1996), pp. 3–7. See also Egnal (1998), p. vi and elsewhere, where he proclaims as the “central argument” of his book that “the pace of economic development in the colonies reflected the rate of growth in the mother country.” Walton and Shepherd (1969), p. 141, thought that “growth rates in the colonies were probably roughly similar to those in England,” that is, 0.3 percent.

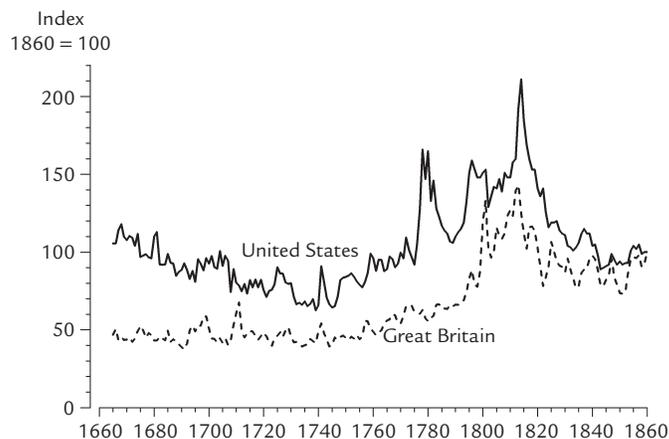
Casting their study more broadly, Mancall and Weiss (1999) came to a determination different from everyone else’s. One reason why is that they account as the territory occupied by the “denizens of the British mainland colonies” (p. 19) the entirety of the North American continent east of the Mississippi River from the Gulf of Mexico to well into modern Canada from Ontario through to Newfoundland, and thus include French and Spanish territories as well as all the lands and peoples of the Native American Indians. Compare Mancall, Rosenbloom, and Weiss (2004).

<sup>11</sup> According to their estimates, in 1775 French GDP was \$780 per capita and British GDP was \$890 per capita (in 2003 dollars). Compare Braudel (1979), volume 3, pp. 328–30. Data developed by Clark (2001a), pp. 403–36, with reference to Clark (2001b), suggest a much higher figure for Great Britain, about twice the O’Brien and Mathias estimate.

<sup>12</sup> See his estimates of real, per capita GDP for the United States in 1600, 1700, and 1820 in Maddison (2001), p. 264. According to Maddison’s data, the annual average compound rate of growth for the seventeenth century was 0.28 percent and for the extended eighteenth century, 0.73 percent. One can argue that 1650 would be a better date than 1600 for his first estimate; then the rate for the seventeenth century is 0.55 percent. Over the years 1650–1829, the rate is 0.68 percent. Note, too, that for the whole period 1500–1820 (Maddison 2001, p. 265), the rate of growth for the United States is the highest in the world.

For the origins of such estimates for Great Britain, see Deane and Cole (1967). Compare Crouzet (1990), pp. 12–43. Deane and Cole’s estimates have been revised downwards by Harley (1982); Crafts (1985); and Crafts and Harley (1992). Maddison (2001), pp. 264–5, shows the British economy growing at an annual average compound rate of 0.27 percent between 1500 and 1820. Compare Bairoch (1976), p. 277.

For estimates for England for an earlier period, see Mayhew (1995). Compare Eltis (1995). Not only does Eltis provide estimates of total and per capita product for this one English colony for the mid-1660s and the end of the seventeenth century, but he also establishes comparisons with the Thirteen Continental Colonies and with the Mother Country. In real terms (1700–1702 = 100), he estimates “Barbados income . . . at £16.0 in 1665 and 1666, and £21.3 in the years 1699 to 1701” (p. 330). This suggests an annual average rate of increase in real, per capita GDP of something more than eight tenths of 1 percent (0.845 percent). This is well above the long-term estimates for either England or the Thirteen Continental Colonies at any time before the end of the eighteenth century. See also Eltis (1997).



**FIGURE Eg-B Commodity price indexes, United States and Great Britain: 1665–1860**

**Source**

John J. McCusker, *How Much Is That in Real Money? A Historical Commodity Price Index for Use as a Deflator of Money Values in the Economy of the United States*, 2nd edition (American Antiquarian Society, 2001), p. 30.

**Documentation**

The values for the United States can be found in series Cc1 and Eg247.

including both phases varied considerably but averaged about four years (McCusker 2001a, pp. 107–10).<sup>13</sup> As Figure Eg-B suggests, one could argue that the entire British-American economy shared these cycles.

The short-term ups and downs in the business cycle resolved themselves into somewhat longer periods of expansion and contraction. Between the early years of the seventeenth century and the American Revolution, there were five such long-term periods of growth and decline:

Period One: An expansion that lasted into the 1660s.

Period Two: A contraction, into the 1690s.

Period Three: A slower expansion, until about 1720.

Period Four: A contraction, until the late 1730s–early 1740s.

Period Five: A long, powerful expansion that persisted until the beginning of the American Revolutionary War.

A chart of the last four parts of this five-part periodization resembles the letter “W” in its configuration, with the peak at the center lower than the two arms. The expansion that ended about 1720 was weak enough that Periods Two through Four can simply be viewed as one long decline. Thus, the time from 1660 through 1775 can be portrayed graphically as a “V” with the nadir near 1740. Once again, it appears as if the course of these periods of expansion and contraction found parallels in the other Atlantic economies.<sup>14</sup>

The years of the Revolutionary War and after were a near disaster for the new national economy. We are only beginning to appreciate the dimensions of that disaster; our data are still somewhat

<sup>13</sup> Between 1668 and November 2001, the economy of the United States experienced seventy-three cycles that averaged, peak to peak, about fifty-five months in duration.

<sup>14</sup> See McCusker and Menard (1991), pp. 66–8. Compare Gibson and Smout (1995), pp. 164–7.

uncertain, and our analyses are therefore subject to revision.<sup>15</sup> Be all that as it may, current estimates of GDP show a decline between 1774 and 1781 of nearly 15 percent. In other words, during the American Revolutionary War, the economy of the country declined at an annual average compound rate of 2.2 percent per year. Even in 1793, a decade after the war had ended, the economy still had not been restored to its pre-Revolutionary vigor (Shepherd 1980). Brought down on one knee during the Revolutionary War, if not onto both as happened during the Great Depression (when it declined 32.6 percent), the American economy took twice as long to rise again after 1774 as it did after 1929 – with the help of a world war both times (McCusker 2000b, pp. 158–9).

### Income and Wealth Distribution

Just as economic growth was not spread evenly across the years, so also were the benefits of that growth not spread evenly across the society. Some people benefited more, others much less. One fifth of the population of early British America in 1770, slave labor subservient to the other four fifths, benefited hardly at all from economic growth. In the seventeenth and eighteenth centuries, just as in the Cotton South of the nineteenth-century United States, no higher rates of return on average were possible than those to be earned from slave-based plantation agriculture.<sup>16</sup> But none of that return accrued to enslaved workers. Under the law and in any contemporary accounting of the economy, slaves occupied a status similar to that of horses and cattle. They were categorized as property owned by their masters. As a consequence, economic historians regularly treat them as part of the wealth of their owners, as in Table Eg-C (compare Table Eg223–246). Their labor was expropriated by their owners, and their income credited as the income of the owners; the data presented herein reflect that sad reality.<sup>17</sup> Slaves shared little if at all in the economic growth that they helped produce.<sup>18</sup>

Even among just the white population of the British colonies, income and wealth were unevenly distributed both by region and by rank in society. There were considerable regional differences. As Table Eg-C shows, on the eve of the American Revolutionary War, residents in the southern colonies had higher levels of income

**TABLE Eg-C Private physical wealth in the British Empire: 1774**

Location	Physical wealth (in £ sterling)		
	Total	Per free white person	Per capita
Thirteen Continental Colonies	109,570,000	60.20	46.50
New England Colonies	22,238,000	38.20	36.60
Middle Colonies	26,814,000	45.80	41.90
Southern Colonies	60,518,000	92.70	54.70
British West Indies	51,926,000	1,042.50	114.10
British America	161,496,000	89.60	57.50
England and Wales	278,000,000	42.10	42.30

#### Source

T[revor] G. Burnard, “‘Prodigious Riches’: The Wealth of Jamaica before the American Revolution,” *Economic History Review*, 2nd series, 54 (August 2001): 506–24.

and wealth than those farther north (Burnard 2001, p. 506–24).<sup>19</sup> Free whites in the southern Continental Colonies were twice as wealthy as their cousins in the Middle Colonies and almost three times richer than those in the New England colonies. People of European origin living in British America held twice the wealth of residents of the British Isles.

In a similar way, within each of those areas there were also differences in wealth, income, and spending among the white population. Those differences appear to have grown over time as increasingly larger percentages of both income and wealth went to families and individuals in the upper ranks. Among the white colonists, it seems that while the rich got richer, the poor prospered, too, but at a slower rate.<sup>20</sup> Obviously this does not mean that those at the bottom failed completely to benefit from the advancing economy. They did so, but to a lesser degree than those at the top. The colonies experienced little if any of the abject poverty found in contemporary Europe or in the United States during the nineteenth century.<sup>21</sup> The “predicament of poverty,” in Hannah Arendt’s phrase, “was absent from the American scene” (Arendt 1965, p. 62). Or, perhaps more precisely, “what were absent from the American scene were misery and want rather than poverty” (Arendt 1965, p. 63).<sup>22</sup>

<sup>15</sup> See Buel (1998). Compare McCusker and Menard (1991), pp. 365–7. See also Doerflinger (1986), pp. 197–250.

<sup>16</sup> “Investments in new cotton lands and slaves brought higher returns than any of the possible alternatives.” Kenneth M. Stamp in Blum, McFeely, et al. (1993), p. 215.

<sup>17</sup> For the sake of continuity in comparisons with GDP estimates for later periods, the data in Table Eg217–222 include black Americans as part of the producing population. Compare Weiss (1992). Had GDP been measured only against the free population, the annual average rate in increase of GDP, 1650–1774, would be reported at 0.8 percent.

<sup>18</sup> Despite their deplorable treatment, there is a hint of some benefit from economic growth for the enslaved people of the Thirteen Continental Colonies in their attainment of increasingly faster rates of natural increase through reproduction. Perhaps this was a consequence of marginally better food, perhaps better housing or better clothing, perhaps better medical care: we are only guessing. See McCusker and Menard (1991), pp. 230–4. Compare Higman (1984), pp. 307–14. Walsh (1997), p. 200, identifies some “small improvements in livings standards” for slaves across the eighteenth century but credits such improvements to “their own initiative.” Perhaps the developing, growing colonial economy simply permitted even slaves some opportunity, some incentive, some examples for them, too, to be innovative in dealing with their circumstances.

<sup>19</sup> For earlier estimates, see McCusker and Menard (1991), p. 61, and Coclanis (1990).

<sup>20</sup> McCusker (1972b), as revised and updated in McCusker (1997), pp. 245–57, especially p. 256 n. 34. Compare Main (2001), p. 210: the “rich got a good deal richer, but the poor of rural New England were not becoming poorer. The growing economy, like the incoming tide, was lifting all boats.”

<sup>21</sup> Stephen Innes has recently put such work into better perspective: “early Americanists [who] are . . . preoccupied with oppression” fixate on “inequality in colonial and revolutionary America without once acknowledging this society as the only one of its time to afford work-based mobility to the mass of its free inhabitants.” After all, as he points out, “two-thirds of its householders owned and worked their own land by the mid-eighteenth century.” Innes (2001), pp. 468–9. Compare Bushman (1998).

<sup>22</sup> One reason for the relative absence of misery and want was that citizens of various colonial communities taxed themselves for poor relief. On the eve of the American Revolution, Philadelphians and New Yorkers did so at a rate of approximately 2s. 6d. sterling each; Bostonians 3s. each. Jacob Price notes that this was not simply a reflection of the increase in the numbers of the poor “but also . . . the growth of wealth and civic consciousness that made communities more willing to take care of the unfortunate” (Price 1976, p. 708). His observation was provoked by Nash (1976), especially p. 557, who looked at the same evidence and spied oppression. Price cautioned: “I only want to suggest that . . . [Nash’s] evidence is not as clear as his rhetoric” (p. 706).

In 1751, the governor of South Carolina, James Glen, sought to sort out what these differences meant for his colony in response to an inquiry from the Board of Trade.<sup>23</sup> He divided the white population of the colony into four groups and then estimated what each group spent per day and per year “for Food and Raiment and all other Necessarys whatsoever.” Although initially he suggested that such expenditures totaled £500,000 sterling per year, he decided to use a more conservative figure, £400,000, for his detailed estimates. In the first group, five thousand people, he placed those “who have plenty of the good things of Life, and spend at the rate of two Shillings per day, [which] is £182500 a year.” The second group, five thousand people more, were those “who have some of the Conveniencys of Life, and spend at the rate of one Shilling per day, [which] is £91250.” The largest group was the third one, ten thousand people, “who have the Necessarys of Life, and spend at the rate of Six pence per day” to a total of £91,250 per year. At the bottom of Glen’s ranking were five thousand more people “who have a bare subsistence and spend about a Groat per day which is £35000 a Year” (a groat was four pennies).<sup>24</sup> One is tempted to apply modern, conventional labels to his categories – upper class, upper middle class, lower middle class, lower class – though Glen did not use those terms. He did share Arendt’s sense about the least well-to-do of these groups: “our poor or middling sort of people, if there are any who may be called so, live better than those in England.”<sup>25</sup> The top 20 percent of South Carolinians accounted for 46 percent of consumption; the bottom 20 percent, less than 9 percent; these percentages sound quite familiar to twenty-first-century ears.<sup>26</sup> At whatever level, all were producers and consumers in a thriving economy, even if, as a group, those at the bottom produced and consumed at a rate only one sixth of their much better-off neighbors. The point here is that – just as Glen observed – rich and poor prospered in the economy, varying only in the level of their participation, even as it changed over time.

A widening gap between the rich and the poor suggests an explanation for the growth of domestic capital in the Thirteen Continental Colonies. Economists recognize that the well-to-do regularly have a higher propensity to save marginal income than to spend

it.<sup>27</sup> This means that the better off people are, the more likely they are to put aside any increase in income rather than to use it to buy something. Just the opposite is also true: Those relatively less well off are more likely to spend any additional income than to save it. Although poorer colonists most likely spent that extra dollar on more food, more clothing, and better shelter, richer colonists were more likely to have saved it than to have spent it just because they already had enough food, clothing, and shelter. One consequence of this for the increasingly prosperous colonial economy was that the better off among the white colonists, in saving their marginal dollars, added to the supply of domestically generated investment capital. It grew at a rate faster than the economy itself (McCusker (1972b), as revised and updated in McCusker (1997), pp. 245–57).<sup>28</sup> Domestic savings mobilized became money capital available for investment purposes. Such locally generated investment capital was extremely important to the growing economy of early British America; it helped to fuel colonial economic development, a topic that we will return to later.

A leading role in the realization of the social and economic benefits of the developing, prosperous economy for the lives of ordinary people, most particularly farm families, was taken by the farm wife. It has always been clear that the entire farm family contributed its energy to the successful operation of the enterprise. But the questions of what special place, if any, the farm wife occupied, and how, if at all, her role changed under the circumstances of an expanding economy and generally higher levels of income and wealth can now be answered more completely given much recent research (see, for instance, Carr and Walsh 1977, pp. 542–71).

Significant in all such discussions of changing living standards in the Thirteen Continental Colonies are the ideas connected with the ethic of gentility (Bushman 1992). Genteel ideals and standards are most properly ascribed to the English gentry of the eighteenth century, but, by the middle of the eighteenth century, the ethic of gentility had come to be fashionable in the colonies. As Governor James Glen put it in 1751, concerning the people of Charleston, “in proportion as they thrive they delight to have good things from England.”<sup>29</sup> Genteel ideals began to influence the lifestyles of many colonists, in their homes and in their dress, in what they ate and how they behaved, from the richest to the poorest. In their material aspect at least, the attitudes of gentility reached down into even the lowest orders of society; certainly they reached into the homes of farmers. Perhaps poorer people were not fully able to act out the

For taxation in the colonies, see Tables Eg420–428. Compare estimates of taxes collected in Boston, 1692–1775, in Warden (1976), p. 591.

<sup>23</sup> “An Attempt towards an Estimate of the Value of So. Carolina,” March 1750/51, enclosure in Governor James Glen, at Charleston, to Board of Trade, June 24, 1751, Colonial Office Records, CO 5/373, folio 139r–v, Public Record Office, National Archives, London (PRO/TNA).

<sup>24</sup> Glen wrote “five or six thousand more.” Five thousand makes his total population 25,000 but his total spending only £30,417; six thousand makes his total population 26,000 and his total spending £36,500. “An Attempt towards an Estimate of the Value of So. Carolina,” CO 5/373, folio 139v. Compare Glen’s distinctions with Benjamin Franklin’s sorting of the colonists’ imports from Great Britain into “necessaries, mere conveniences, or superfluities.” Great Britain, Parliament, 1766, House of Commons 1767, p. 23.

<sup>25</sup> “An Attempt towards an Estimate of the Value of So. Carolina,” CO 5/373, folio 140r, PRO/TNA.

<sup>26</sup> According to the estimates assembled by Massie (1760) as recompiled by Mathias (1957), in the year 1759, the top 25.7 percent of the families of Great Britain in terms of “annual income or expenses” accounted for 47.5 percent of the total, but the bottom 15 percent of families account for 4.8 percent of the total. More recently, the revisionist calculations of per capita expenditure distribution for 1990–1995 calculated by Slesnick (2001), p. 136, indicate that the bottom one fifth of people accounted for about 7 percent of expenditures while the top one fifth accounted for about 42 percent of expenditures. Compare Table Be1–18.

<sup>27</sup> This is a corollary of “Engel’s Law,” propounded by Ernst Engel, which says simply that the proportion of income spent on food declines as income rises. He based his conclusions on a statistical analysis of the household budgets of some two hundred Belgian workers. (Engel 1857; revised and expanded as Engel 1895). See also Houthakker (1987).

<sup>28</sup> Data developed there indicate an increase in capital formation at 1.6 percent annually between 1730 and 1770. Table Eg217–222 shows GDP growing during the same period at 0.6 percent.

<sup>29</sup> The full quotation reads: “There are besides in other parts of the Town many Houses that cost a thousand and twelve hundred pounds Sterling. The Furniture in these Houses must be very considerable and Plate begins to shine upon their side Boards, and in proportion as they thrive they delight to have good things from England.” “An Attempt towards an Estimate of the Value of So. Carolina,” in Governor Glen to Board of Trade, 24 June 1751, CO 5/373, folio 131r–v, PRO/TNA. As far as influences on colonial consumption were concerned, “London was the metropolitan center” (Carr and Walsh 1988, p. 139).

genteel ideal, but they as well as the rich shaped their lives by it. All the colonists wanted both to drink tea and to do so properly! (Carr and Walsh 1978, 1994).

Gloria Main has suggested that women not only introduced genteel notions into rural households but also worked, quite literally, to facilitate their realization. Main has written of the farm wife as one who, given higher levels of income and wealth, could now afford to remain seated and participate in a conversation while serving her guests because her house had enough chairs. She could now afford to serve her guests properly because she owned the proper tea service. Even more riveting is Main's suggestion that "perhaps it was her [own] money, earned by selling butter and eggs or spun yarn and knitted stocking, which purchased the packets of tea and the pretty new dishes" with which to serve the tea properly (Main 1988, p. 129).<sup>30</sup> This is certainly what one might have expected in the midst of a prospering economy that expanded opportunities for all, rich and poor, farmer and city dweller.

### An Agricultural Economy

The second most significant thing to say about the economy of early British America is that, although it was primarily agricultural, it sidestepped what Mark Elvin (1973, pp. 298–319) has called the "high level equilibrium trap." Obviously, of the three sectors of the colonial economy that contributed to GDP, agriculture was by far the largest throughout the pre-Revolutionary War period.<sup>31</sup> The trap for a closed agricultural economy is that, when everyone or almost everyone is a farmer, once farm families raise sufficient food to feed themselves adequately, producing more fails to accomplish anything. A farmer and his family can only eat so much and, with everyone else a farmer, too, there is no one with whom to exchange any surplus for nonagricultural goods or services. With no one producing more, an economy stops growing or grows only very, very slowly. Any intraregional or interregional exchange of different food crops would equally quickly reach stasis, and the economy would stagnate.

We see the colonists in early British America avoiding this trap in three ways: by developing an export sector as a "vent" for their surplus agricultural produce, by developing their agricultural sector's potential for growth through crop diversification and agricultural innovation, and by developing their economy more broadly by branching out into commerce and industry. Although neither the commercial nor the industrial sectors of the economy were anywhere near fully articulated by 1775, they had come a long way toward supplementing the well-developed agricultural sector. The combination of a dominant agricultural sector produc-

ing a surplus for export with a burgeoning commercial sector and a small but dynamic industrial sector animated real growth in the colonial economy. As John Shepard, the author of *The Artist and Tradesman's Guide*, suggested in 1829: "Agriculture, never arrives at any considerable, much less at its highest degree of perfection, where it is not connected with trade" (Shepard 1829, p. 257). The colonies' existence as part of a closed empire that diminished foreign competition afforded them considerable opportunities within the bounds of the Navigation Acts that contributed to that growth (McCusker forthcoming).

Agriculture developed through diversification and innovation – whence came greater productivity.<sup>32</sup> Roughly speaking, there were two themes in the history of colonial agriculture, one associated with New England and a second associated with the Middle Atlantic and Southern Colonies. Agriculture in New England advanced slowly but steadily across the decades but changed not much if at all. While it did not develop, its growth helped the New England economy to expand "at a healthy long-term rate, that showed little sign of slowing as the American Revolution approached" (Main and Main 1999).<sup>33</sup> The colonies south of New England lived a different experience, usually described in terms of several regions each devoted to the growing of one particular crop: grains (wheat and corn) in the Hudson River and Delaware River valleys; tobacco in the Chesapeake Bay region; rice (and, later, indigo), in the Carolinas and Georgia. Even though all this is true enough in crude outline, it leaves out a transformation of considerable importance that applies to greater or lesser degrees in all these regions but was particularly important for the Chesapeake.

Agriculture in Maryland and Virginia can be seen to have evolved through three developmental stages, again roughly speaking. In the first stage, planters, having discovered tobacco, committed all of their resources to growing and processing it for export to the exclusion of anything else. Regularly quoted in this regard from the parallel circumstance in Barbados is the declaration of the Barbadian planter Richard Vines in a 1647 letter to John Winthrop: "Men are so intent upon planting sugar that they had rather buy foode at very deare rates than produce it by labour, soe infinite is the profit of sugar workes."<sup>34</sup> Such were the returns from Chesapeake tobacco in its earliest years that planters could afford to buy from off the plantation everything else they required.<sup>35</sup> As yields and profits diminished after the initial rush subsided, some

<sup>30</sup> Concerning the importance of "the tea" as a social event, see Shand (1927), pp. 39–43, and Roth (1961). Compare Mintz (1985), pp. 141–2. Women carried the idea, the ceremony, and the equipment with them as settlement drove westward in the early Republic. See Perkins (1991), p. 489. For tea shipped to the colonies, see Table Eg1152–1159.

<sup>31</sup> In 1787, Benjamin Franklin wrote: "The great business of the continent is agriculture. For every artisan, or merchant, I suppose we have at least a hundred farmers." Franklin (1787), p. 6. One is loath ever to argue with Benjamin Franklin, but McCusker and Menard (1991, p. 248) estimate that the share of the workforce in agriculture on the eve of the American Revolution was more like 80 percent. The occupational distribution of colonial cities in the 1780s and 1790s, based on Boston, New York, and Philadelphia, was 50 percent employed in internal service functions, 24 percent in industrial production, 23 percent in maritime commerce, and 4 percent in administration (civil and ecclesiastical) (Price 1974, pp. 128–37, 177–85).

<sup>32</sup> For a summary of developments in colonial agriculture, see McCusker and Menard (1991), pp. 295–308 and elsewhere (see index, under "Agriculture"). See also Vickers (1996); and Menard (1996). Less useful conceptually but with a valuable bibliography is Kulikoff (2000). Chaplin (1993) notes the success Southern agriculture achieved in its pursuit of greater productivity. Coclanis (1989) is less sanguine. See also Carr, Menard, and Walsh (1991).

<sup>33</sup> Main (2001) argues that even New Englanders were able to farm more productively over time, partly through more efficient modes of farming, partly through greater engagement with markets. See also Table Eg325–328. Compare Rothenberg (1992), who also emphasizes the importance for the New England economy of productivity gains in agriculture. For other recent work that stresses the entrepreneurial character of the New England economy, see Innes (1995) and Newell (1998).

<sup>34</sup> Letter from Vines, at Barbados, to Winthrop, at Boston, July 19, 1647, in Forbes (1947), p. 172. Vines (fl. 1616–1651), a long-time resident of Maine, had only recently emigrated to Barbados. For him, see Noyes, Libby, and Davis (1928–1939), volume 5, pp. 705–6.

<sup>35</sup> For the tobacco trade, see Tables Eg1038–1151. For the cost of shipping tobacco, see Table Eg686–687.

planters began to devote some of their resources to producing on the plantation a few of the things they had been importing from elsewhere. A local trade grew up in goods and services within which planters exchanged small surpluses of one thing or another with planters who had reciprocal needs and surpluses. We can see signs of this activity as early as the 1630s in Virginia.<sup>36</sup> Cost savings and the consequent added profits redounded to all involved and encouraged economic growth. Out of this growth came further incentives to development and the capital to do so. An important element in this transition was the shift away from white indentured servants to enslaved black Africans as the primary source of bound labor. The key was capital (see Rutman and Rutman 1984).<sup>37</sup>

Over the next century, this local trade grew even while settlement in the colony began to move inland from the tidewater and beyond the fall line. By the beginning of the second third of the eighteenth century, Chesapeake planters in the region's backcountry had found their best advantage in producing only foodstuffs – again, corn and wheat, plus some livestock – for sale in the tidewater port towns (Walsh 2000; see also Walsh, Martin, and Bowen 1997; Clemens 1980). Some of the surplus ended up in the hands of merchants recently established there who were prepared to act as middlemen in the sale of such produce, at first locally, then regionally, later up and down the Atlantic coast, and still later across the ocean to feed the growing demand for American grains in a hungry Europe. New York City, Philadelphia, later Baltimore and Norfolk, and in a somewhat different way Charleston: by the late 1760s all had become major export centers for the shipment of foods from the Thirteen Continental Colonies to a transatlantic market.<sup>38</sup> South Carolina marched to a different drummer, yet just as entrepreneurially in its own way, by developing new crops, first rice and then indigo (see Nash 2001, especially p. 97; compare Coclanis 1989 and Chaplin 1993). The increased level of demand internationally for foodstuffs produced in the colonies tended over the long term to push up the prices for grains and other commodities to the benefit of colonial producers and shippers.<sup>39</sup> In the development of colonial agriculture, venting its surplus to export markets became the first and most significant escape from the “high level equilibrium trap.”<sup>40</sup>

<sup>36</sup> See, for example, the testimony by Governor John Harvey that “Virginia is become (like another Sicily to home) the Granary of all his Majesties northernne Collonies.” Letter from Harvey, at Virginia, to [Secretary of State Francis Windebank], at London, July 14, 1634, CO 1/8, folio 74r, PRO/TNA. Compare Earle (1975).

<sup>37</sup> Three important studies that include much information about the African contribution to the economic development of the Thirteen Continental Colonies are Walsh (1997), Berlin (1998), and Morgan (1998).

<sup>38</sup> For the Chesapeake's participation in these developments, see Hardy (1999), pp. 96–135. For the exportation of rice and other commodities from the Lower South, see Tables Eg1027–1037 and Eg1160–1170.

<sup>39</sup> See the analysis of price trends in the colonies by Harris (1996). Given the countervailing tendency for prices of manufactured goods in the Atlantic World to decline, thanks to increasing industrialization, the terms of trade shifted decidedly in favor of the colonists. Compare Egnal (1975), pp. 199–205, and Menard (2001), p. 10 n. 32. This development was all the more potent because agricultural productivity increases made colonial farming ever more profitable (see the discussion that follows).

<sup>40</sup> In addition to agriculture, other forms of colonial extractive enterprise also grew over time. For whaling and fishing, see Tables Eg329–355; for coal, Tables Eg755–810; for furs, Table Eg1013–1026; and for the timber industry, Tables Eg1171–1179.

Commerce developed through diversification and innovation – whence came greater productivity.<sup>41</sup> Merchants in the ports of the Thirteen Continental Colonies were active in the pursuit of the “carrying trade” from the founding of the colonies. For many, the route to success was simply expanding the business available to them in the traditional coastwise trade, the trade with the neighboring colonies that extended from Newfoundland in the north to Barbados in the south. There were many such opportunities, and the growing population in all of the colonies promised that more of the same would always be the case. An important consequence of the ever-expanding coastwise trade was the increasing integration of the colonial economies. This also contributed to advances in productivity by diminishing transaction costs.<sup>42</sup>

Of particular importance was the extraordinarily rapid growth of the trade with the West Indies, a commerce that supplied to the voracious sugar industry the timber products, draft animals, foodstuffs, and almost everything else it required as it expanded mightily from the 1640s onward (McCusker and Menard 2004). Just as Richard Vines suggested in 1647, the “very deare rates” the planters were willing to pay for all they required meant very high returns for all willing to provide them. The Caribbean sugar industry drove much of the Atlantic economy (see McCusker and Menard 1991, pp. 144–68; McCusker 1989). Early in the eighteenth century, in a mere extension of what had been the case before, merchants in the ports of the Thirteen Continental Colonies began to pursue direct trade with the French, the Dutch, and, later, the Danish West Indies. Yet this was nothing really new, only a rerouting of a commerce that had up until then gone by way of British West Indian ports such as Bridgetown, Barbados, and Port Royal, Jamaica. (The best business with the Spanish Main continued to be either through the Dutch West Indian merchants based at St. Eustatius, Curaçao, or Suriname, or through Jamaican merchants located in Kingston

<sup>41</sup> For a summary of developments in colonial commerce, see McCusker and Menard (1991), pp. 71–88, 277–94, and elsewhere. For the value of colonial trade with England and Scotland, see Tables Eg429–460.

<sup>42</sup> Rothenberg (1992) chronicles the last stages of the growing synchronicity and congruence, even convergence among colonial markets. It had its beginnings in the earliest days of colonial settlement, as soon as businessmen learned that there were sellers and buyers up and down the North American coast for nearly everything they had to buy and sell. For the development of the coastwise trade in the eighteenth century, see Klingaman (1989). Some of the best evidence we have of these developments is the close parallels to be found in the movements of the prices of goods in the different colonial ports. Intercolonial trade, even more powerfully when more limited colonial economies were linked by waterborne commerce than later when states were connected by road, canal, and railroad, served to facilitate commercial arbitrage and thereby to maintain a certain commonality in the pricing of goods, even over the short haul. Not only would we expect this to have been the case, but it proves to have been so upon investigation. Reductions in the costs of information and transportation go far to explain the increasing integration of markets and the diminution in the difference of prices across such markets. Compare the conclusions drawn from the several studies conducted under the aegis of the International Scientific Committee on Price History as summarized by Cole (1938), volume 1, pp. 94–114 (quotation, pp. 95–6): “All the results . . . indicate increasing agreement among such movements [of the general price indexes] . . . as the decades pass.” This is even more obvious when we reduce prices to their equivalence in sterling. Compare Harris (1996). For prices of the major colonial staples, see Tables Eg248–270 and Eg299–301. Note that some of these are “farm prices” and some are “market prices.” Compare these price series with Table Cc205–266. Table Eg247 compiles a commodity price index for the Thirteen Continental Colonies and the United States, 1665–1790. Compare the discussions in Bushman (1998), p. 355, and McCusker (2001a), pp. 47–8 n. 18.

TABLE Eg-D Export trade of Philadelphia – clearances from Philadelphia to five trading areas: 1750–1774

Destination	1750–1754			1770–1774		
	Average number of vessels per year	Registered tonnage		Average number of vessels per year	Registered tonnage	
		Average per vessel	Total		Average per vessel	Total
Great Britain	16	71.0	1,136	26	116.7	3,034
Ireland	36	69.2	2,491	28	103.6	2,901
Southern Europe	36	48.3	1,739	101	88.7	8,959
West Indies	191	66.4	12,682	340	57.5	19,550
Coastwise	166	43.4	7,204	262	42.1	11,030
Total clearances	445	—	25,252	757	—	45,474

**Sources**

**Vessels clearing Philadelphia.** Taken from the weekly shipping reports in the *Pennsylvania Gazette* (Philadelphia) as compiled in Arthur L. Jensen, *The Maritime Commerce of Colonial Philadelphia* (State Historical Society of Wisconsin for the Department of History, University of Wisconsin, 1963), p. 290.

**Registered tonnage.** Calculated from two sets of sources. For 1750–1754, they are obtained from the Naval Office Shipping Lists (NOSL), Port of Entry (POE) Philadelphia, 1741–1742, which are catalogued as the Register of

Ships Entering Port of Philadelphia, 1741–1742, Collection number 542, and the Ships' Register [of Vessels Clearing Outward from the Port of Philadelphia], 1742, Collection number 1321, Historical Society of Pennsylvania, Philadelphia. Note that, despite the names given to these collections, these two items are not records of the registry of ships at the port but are NOSL showing the ships and their cargoes as they cleared inwards and outwards. For 1770–1774, the average tonnages are from the Ledger of Imports and Exports, British North America, 1768–1772, pp. 3–4, 39–40, 101–2, 167–8, 227–8, Customs 16/1, PRO/TNA.

or, much later, that island's outports.) All earned good profits for the merchants who owned the vessels and organized the trade. All earned the colonial economy credits in the current account of its balance of payments. To quote Thomas Willing, the foremost merchant of pre-Revolutionary War Philadelphia: "Carriage is an amazing Revenue."<sup>43</sup>

Yet the most lucrative trades, the transatlantic trades in the major staple exports, were effectively denied merchants based in the Continental Colonies because such trades were controlled from the first by the dominant tobacco and sugar merchant firms of London, Bristol, and Glasgow. Only with the growing demand in Europe for North American grains did the Atlantic Ocean and its opportunities for a real diversification of the colonial carrying trade become possible – and colonial merchants rushed to take advantage of them, especially merchants based in Philadelphia (see McCusker 1972a). Shipowners in colonial ports instructed colonial shipbuilders to build them larger vessels patterned on a Dutch model – the *fluijt* – designed to maximize their ability to carry bulk cargoes and to minimize their costs, especially in the size of the crew, thereby increasing productivity (McCusker 1981, as revised and updated in McCusker 1997, pp. 60–1). Over the fifty years between 1720 and 1770, the proportion of the ships clearing Philadelphia that were owned in that port expanded steadily, the type and size of these vessels grew from smaller craft fitted to the coastwise trade to larger ocean-going bulk carriers, and their destinations shifted more and more to ports on the other side of the Atlantic Ocean (see Table Eg-D).<sup>44</sup>

We have known for some time that the middle third of the eighteenth century was the period during which Philadelphia merchants began to expand their ownership of the vessels that cleared the Delaware, increasingly for transatlantic destinations. What we have learned more recently is that merchants in the Chesapeake

were doing something similar. They encouraged others in the same locale to support such ventures, organizing voyages based on capital invested by people of all sorts, including the large planters. The Chesapeake story has a second parallel with their neighbors to the north in that such investment in shipping ventures rapidly became an investment in ships, one of which was George Washington's brig, which he named *The Farmer* (Hardy 1999, pp. 136–74).<sup>45</sup> Colonial investment in transatlantic ships and cargoes altered the essential posture of colonial commerce. Soon colonial business owners were opening branch offices in London the better to monitor and expand their European affairs (Johnson 1979, p. xii). Colonial commerce grew through diversification more than it would have otherwise and with linkages to the other sectors of the colonial economy, one of which was manufacturing.

Manufacturing developed through diversification and innovation – whence came greater productivity. The most important manufacturing industries in the Thirteen Continental Colonies were associated with commerce.<sup>46</sup> Business owners engaged in colonial manufacturing were well connected with developments abroad and could utilize their contacts to remain up-to-date with the latest revolutionary breakthroughs in manufacturing happening in Great Britain, the scene of much industrial innovation in the seventeenth and eighteenth centuries.<sup>47</sup>

<sup>45</sup> For Chesapeake planter investment in shipping, see Kamoie (1999), pp. 240–71. Both Virginia and Georgia undertook to promote local investment in shipping by giving tax breaks to ships owned by their citizens. See McCusker (1981), as revised and updated in McCusker (1997), pp. 43–75 (note especially pp. 56–7); and the "Fees taken by His Majestys Searcher at the Port of Savannah in Georgia . . ." signed by William Brown and enclosed "In Govr Wrights Lre," of April 13, 1771. T 1/482, folio 280r, with reference to the fees set by the Council, January 2, 1757, and extended by it, November 3, 1767, CO 5/693, folio 76v–77v, and CO 5/701, folio 251v, PRO/TNA.

<sup>46</sup> For a summary of developments in colonial manufacturing, see McCusker and Menard (1991), pp. 307–30, and elsewhere (see index, under "Manufacturing"). For several different types of businesses, see Table Eg404–419; for the iron industry, see Tables Eg811–1012.

<sup>47</sup> The evidence of the colonists' participation in the early stages of Great Britain's Industrial Revolution is considerable even if sometimes unsystematic.

<sup>43</sup> Willing made the comment in a committee meeting during the Second Continental Congress, October 4, 1775. See John Adams's notes on the debate in Adams (1961), volume 1, pp. 188–92 (quotation on p. 190). For Willing, see Slaski (1971).

<sup>44</sup> Compare the shipping data in Tables Eg461–685.

One developing industry was distilling. It is a classic example of import substitution manufacturing. The colonists early discovered the joys of rum and soon learned that, rather than merely profiting by importing the finished product from the West Indies, they could make even more money by distilling their own rum from Caribbean molasses and domestically available syrup, the latter itself a by-product from the mainland colonists' own sugar refining industry. Begun on a small scale with equipment imported from England, the colonial industry grew in extent and in scale. By the time of the American Revolution, there were some 140 distilleries in cities up and down the coast operating in ways very similar to those in the Mother Country (McCusker 2000a).<sup>48</sup> Much the same thing can be said about another colonial industry that produced locally a commodity that had previously been imported: sugar refining. Colonial-owned and -operated sugar refineries relied heavily on London equipment manufacturers and sugar refiners not only for their physical plants but also for their personnel.

The "spread" effects of the growing colonial export trade also encouraged colonial industry. One industry that was also closely connected with merchants was milling. The needs to control quality and to ensure supplies were powerful motives for colonial merchants to establish flour mills, merchant-owned flour mills, "merchant mills." The additional profits from the vertical integration of their entire enterprise made the proposition an obvious winner. The availability of waterpower along fast-moving streams and at the falls of the many eastward-flowing rivers provided the energy source, and the towns established at these points provided the ports for shipping. The extension and articulation of milling into the lower Delaware River basin and the concentration there of millers encouraged experimentation and innovation that greatly increased productivity in this major colonial manufacturing industry, initially sawing wood for building and processing grain for export and later much more – including, in the early nineteenth century, gunpowder mills (Welsh 1956, 1957).

There is reason to believe that the large grain mills established by colonial merchants were technically in advance of those back home. The best millstones were thought to be those made in Europe, but the colonists' mode of siting, constructing, organizing, and operating the mills were the subjects of so much curiosity from visiting Englishmen that something must have been going on.<sup>49</sup> Victor S. Clark (1929, volume 1, p. 180) concluded that "techni-

cally colonial mills were abreast of the English, and probably in advance of them." It was only a matter of time before the new technology moved into the Chesapeake, but, well before the American Revolution, upriver ports such as Alexandria, Virginia, and its environs had become places where merchants established flour mills to process grain for export based, almost exclusively, on local investment capital (Kamoie 1999).

The building of ships was the most complex of colonial manufacturing industries, a large-scale enterprise that employed capital and labor and management in the fabrication of the biggest manufactured objects produced in the colonies.<sup>50</sup> Earlier writers have noted the importance of this industry to the New England and Middle Atlantic colonies, but its development in the Chesapeake Bay area, some of it centered at and near Norfolk, has only recently become better known and is still not fully explored (Kelso 1971–1972; Kamoie 1999).<sup>51</sup> Its expansion into Maryland and Virginia contributed to the development of these colonial economies. Much like other colonial industries, shipbuilding patterned itself on European models – like the *fluijt* mentioned previously – but built ships that were recognized universally as distinctively American and preferred. The Bristol merchant Richard Champion (1784, p. 50) wrote that "the most beautiful [ships] are those built in Philadelphia, where this art has attained to the greatest perfection, equal, perhaps superior, to any other ports of the world." About the same time, the Portuguese political economist Manoel Ferreira da Camara (1789, p. 348) urged his countrymen to resist the temptation of buying "os carvalhos da Pensilvania" and build their own, so pervasive was the product of the shipbuilders of the Delaware River (McCusker 1972).

Important innovations in all three sectors contributed to the developing economy by introducing notable productivity gains. Lorena Walsh has demonstrated the extent of productivity gains in colonial agriculture with her work on farming in the Chesapeake Bay region. Between the 1730s and the 1810s, output per worker in corn went up 200 percent; it advanced by 50 percent in the three decades from the 1730s to the 1760s. Both translate into annual average compound rates of growth of more than 1.3 percent. The increases were even greater in wheat production (Walsh 1989, pp. 398–9).<sup>52</sup> A similar argument has been made for rice (Hardy 2001, pp. 112–44; Nash 1992). Total factor productivity gains in shipping between 1675 and 1775 have been estimated to have increased by at least 0.8 percent annually, which one study has argued is much too low because it fails to take into account improvements

Witness, for instance, the apprehensive tone of the report in *Lloyd's Evening Post* (London), August 10, 1764, p. 2. First was the account of the recent importation from Pennsylvania of "some beautiful samples" of cotton goods made in Philadelphia; then the report that "divers artificers in other branches have lately gone over to Pennsylvania." Finally the editor drew his lesson: "by which it would seem, that our American colonies intend to shake off, by degrees, what they have long called a slavish dependence on the mother country." Compare Hood (1972). See also n. 69 in this essay.

<sup>48</sup> Eventually some colonial coppersmiths began manufacturing distilling equipment (Eck 1993).

<sup>49</sup> The royal governor of Virginia, John Murray, Earl of Dunmore, was so taken with the mill owned by James Parker of Norfolk that he asked Parker to oversee the building of a similar one on his own country estate, Porto Bello. Parker ordered some of the materials from London. Letter from Parker, at Norfolk, to Charles Stuart, at London, June 1 and 2, 1773, Charles Stuart Papers, 1758–1798, MS 5028, folios 79–83, National Library of Scotland, Edinburgh. In his memorial to the Loyalist Claims Commission, London, February 25, 1784, Dunmore valued the grist mill at £800 sterling. He also listed a "Saw Mill newly erected" worth £400. AO 13/28, no. 550, PRO/TNA.

<sup>50</sup> For shipbuilding in the Thirteen Continental Colonies, see Tables Eg356–403. For the price of ships built at Philadelphia, 1715–1790, see Table Eg271–274.

<sup>51</sup> When scholars seek to expand on our current understanding of this subject, they will find useful as a source the Henry Fleming Letterbook, 1772–1775, Cumbria Record Office, The Castle, Carlisle, England.

<sup>52</sup> Compare Weiss (1993), where he argues that between 1800 and 1860 the output per worker in agriculture rose at an annual rate 0.30 percent, and between 1860 and 1900 at 0.77 percent.

"Learning by doing," the acquisition and perfection of skills through experience on the job, was – and is – an important means of increasing human capital in agriculture, one that helped expand colonial agricultural productivity. See Foster and Rosenzweig (1995). Russell R. Menard determined that labor productivity in tobacco growing doubled between the 1630s and the 1650s. Menard (1976), p. 404. It seems quite certain that this stemmed from experience gained in the field. Compare Cateau (1995), pp. 1–36.

in shipping technology (McCusker and Menard 1991, p. 266).<sup>53</sup> To the extent that colonial distillers patterned themselves on their London counterparts, which they clearly did, they enjoyed a doubling of output per input between 1705 and 1783, an annual average rate of increase in productivity of 0.9 percent. Improvements in technology, organization, and management were the reasons for this increase.<sup>54</sup> Future research will add to these examples for all sectors of the colonial economy. Such productivity gains fueled the considerable increase in GDP discussed previously.

## Capital

Diversification and newer technologies in all these sectors required investment capital, ideally mobilized locally and therefore more cheaply than that imported from abroad. A third significant theme in the development of the economy of the Thirteen Continental Colonies and one that has become increasingly better articulated over the past several decades is the emergence of colonial capital markets as a complement to and component of the British imperial capital market centered in London.<sup>55</sup> We know very little about how colonial capital markets worked, but we see evidence everywhere that they did work – based, in part, on the growing disparity in the distribution of wealth discussed earlier. Such locally generated investment capital was critical to the developing economy of early British America.<sup>56</sup> Overseas investment capital continued to be important – and its cost dropped over the seventeenth and eighteenth centuries – but domestic capital was even cheaper than imported capital. This meant that those colonists who undertook to start a new business, be it a farm or a store, could do so more easily than if they had had to borrow from abroad. With interest rates falling across the empire, colonial venture capital seems to have sought and found profitable uses increasingly in activities close to home.<sup>57</sup> Investment in “western” lands clearly became more

common and better organized. Land companies were formed and appealed to investors on both sides of the Atlantic. Their activities obviously had great geopolitical consequences.

That is an old story.<sup>58</sup> More recently attention has focused on the mobilization of domestic savings, and we have been able to read about developing investment markets funding agricultural pursuits in New England, South Carolina, and the West Indies (Rothenberg 1988; Menard 1994; Hancock 1994, pp. 61–84; Woods 1998; Pruden 2001; and Flynn 2001). Less clear is the way in which investors sought – and were sought out for – investment opportunities in commerce and manufacturing. As the optimum size of sailing vessels, trading voyages, and industrial enterprises grew, their startup costs expanded beyond the resources of one individual (McCusker 1972b, as revised and updated in McCusker 1997, pp. 245–57). The mobilization of colonial investment capital became something of a business itself.<sup>59</sup> Related to this was the functioning of particular coffeehouses in the colonial ports that operated as mercantile exchanges or bourses, obviously following the example of the likes of Jonathan’s Coffee House in ‘Change Alley in London, out of which was soon to emerge the London Stock Exchange. We know more about the results of such activity than the activity itself but we are learning.<sup>60</sup> For Maryland and Virginia, the quarterly meetings of the colonies’ merchants at Williamsburg and the business at the tobacco warehouses served similar functions (Thomson 1955, pp. 287–98).<sup>61</sup> Tobacco warehouses had been in operation in Virginia (since 1730) and Maryland (since 1747) for a long time when William Tatham proclaimed them “the best banks in the state, and a respectable treasury of the American nation” (Tatham 1800, p. 86; Schweitzer 1980). All

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Baltimore: “I knew . . . Money kept at Interest here would be more beneficial” than invested “in the Funds in England” – and so it proved to be, under his careful management. The Annapolis firm of Wallace, Davidson, and Johnson raised money in Maryland to fund the opening of its London office. See Johnson (1979), pp. xi, xiv, and elsewhere.

For Carroll’s fortune and that of other well-to-do colonists, see Price (1980), pp. 169–70 n. 30. See also Price (1980), pp. 28–43; Doerflinger (1986), pp. 126–34; and Burnard (2002), pp. 245–7. The Marquis de Chastellux’s comment upon meeting Robert Morris in Philadelphia in December 1780 that he “possede une fortune de 8 million [livres tournois]” put him in another league altogether given that such a sum, the equivalent of some £340,000 sterling, made him the equal of the very richest of London merchants and West Indian nabobs. Chastellux (1786), volume 1, pp. 166–7. Nearly two decades later, Alexander Baring, the London banker, estimated the worth of William Bingham, Morris’s contemporary, at between £400,000 and £500,000 sterling. Alberts (1969), p. 283.

<sup>58</sup> See Raymond De Roover’s (1954) summary of the history of banking in Europe and the Atlantic World, 1300–1800, including several insightful comments on banking in the Thirteen Continental Colonies.

<sup>59</sup> The emergence of businessmen who specialized in brokerage is a sign of this development. See, for example, Philip Henry’s advertisement of his services in a variety of financial capacities in the *South-Carolina and American General Gazette*, March 25, 1774, p. 1, col. 3. Compare Table Eg404–419.

<sup>60</sup> For an example of the mobilization of and uses for locally generated business capital, see Johnson (1979). Compare Price (1980). For the role of colonial coffeehouses, see McCusker (2000c).

<sup>61</sup> Also see Soltow (1965). The meetings of merchants at Williamsburg every three months resembled in their purpose, organization, and operation nothing so much as the European financial fairs like those held at Piacenza (the Besançon fairs), Frankfurt am Main, and Lyons. The literature on this subject is broad and deep. Two useful starting points are Gioffrè (1960) and Schneider (1991). An important part of such meetings on both sides of the Atlantic was the negotiation of bills of exchange. See McCusker (1992). Compare McCusker and Gravesteijn (1991). For colonial exchange rate data, see Table Eg315–324.

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<sup>53</sup> Also see McCusker (1972b), as revised and updated in McCusker (1997), pp. 245–57; Rosenberg (1972); Hardy (1999), pp. 43–95; and Hardy (2001). McCusker and Menard (1991), p. 266, suggest that there may have been even greater improvements in the productivity of shipping — stemming from the adoption of technological improvements — than others have credited. “It was not necessary that colonial shipbuilders invent improvements in order for them to have had an impact; it was only necessary that shipbuilders incorporate such improvements of whatever origin into their designs.”

<sup>54</sup> McCusker (2000a), p. 200, with reference to the “Report, by the Commissioners of Excise in Scotland, to the Committee of the House of Commons, Appointed in the Year 1783, to Enquire into the Illicit Practices Then Used in Defrauding the Revenue . . .,” as printed in Great Britain, Parliament, House of Commons (1798), p. 401.

<sup>55</sup> See the summary of the literature on this subject in McCusker and Menard (1991), pp. 334–7.

<sup>56</sup> As was an adequate supply of money. See McCusker and Menard (1991), pp. 337–1, for an argument that the supply of money in the Thirteen Continental Colonies was adequate. For the colonial money supply, see Table Eg302–314.

<sup>57</sup> A seventeenth-century example of this process is at the root of the explanation offered for the shift from indentured servants to slaves by middling planters who had accumulated capital sufficient to make such an economically rational choice – however humanly horrid in its consequences (Rutman and Rutman 1984). For the growth of the slave trade, see Tables Eg201–216. For prices paid for slaves, see Table Eg300–301. Nearly a century later, Charles Carroll of Annapolis, one of the richest men of his era, pointedly chose to lend money locally rather than invest in England (Hoffman 2000), pp. 114, 122–3, 263–4. See the letter of Carroll to Clement Hill, December 24, 1761, Charles Carroll of Annapolis Letterbook, 1757–1761, p. 98, MS 214, Maryland Historical Society,

of the recent investigations link neatly with work being done on the American financial sector in the 1780s and after, allowing us, once again, to see more clearly the colonial origins of economic structures and institutions that were more fully realized in the early national period, in a United States now further distanced from Great Britain and its financial sector (Wright 1996, 2001; Rousseau and Sylla 1999).<sup>62</sup>

## Expansion

The consequences of the developing, increasingly prosperous economy exhibited themselves in many ways; their implications were enormous and sweeping, reaching all across the society and the polity. Consider something as basic as the decision about whether and when to get married and to start a family, perhaps the most elemental of human decisions. As the Registrar-General of Great Britain, George Graham, commented from his survey of the variations in the numbers of people married in England between 1756 and 1845: “the fluctuation in the marriages of a country expresses the views which the great body of the people take of their prospects in the world.”<sup>63</sup> At least in developing societies, given good prospects, people married earlier and had larger families. Conversely, when people’s prospects seemed bleaker, they delayed getting married, thereby limiting their number of children when it seemed less likely that they could provide for them adequately. We are discovering evidence that the state of the economy in early British America and age at first marriage and size of family are highly correlated.

There are two related observations in this regard. Mentioned previously were the longer-term periods of expansion and contraction in the colonial economy that climaxed in the later 1730s to early 1740s with the ending of a long period of contraction and the start of a major expansionary period. This expansion continued across the next several decades until the start of the Revolutionary War. Gloria Main has worked out the rates of population growth in colonial New England, almost all of which was through natural increase if only because, after the middle of the seventeenth century, few immigrants chose to settle in that region. She has established a two-phase pattern in the growth of population over time. She makes the point, first, that, after the initially very large family sizes associated with the founding generation of settlers in the early and middle seventeenth century, there was a decline in family size that started before the end of that century. She then tells us that, by the middle of the next century, the decrease in family size had been reversed and population growth in New England took off again (Main 1988, p. 124). The growing population sought opportunity farther to the west of the older, already established areas. The rate at which new towns were being founded in New England tripled in the years after the end of the French and Indian War (Main 1988, p. 124, citing Bailyn 1986, p. 133).<sup>64</sup> In other words, demographic and economic cycles coincided.<sup>65</sup>

<sup>62</sup> Compare Perkins (1994). Although I have serious reservations about this book, the simple fact is that there is nothing else of such scope.

<sup>63</sup> Great Britain, General Register Office (1849): *Eighth Annual Report*, p. 6. See also Southall and Gilbert (1996).

<sup>64</sup> See Table Eg194–200.

<sup>65</sup> Anthropomorphic evidence seems to substantiate these settlement patterns. For native-born white males born between 1700 and 1740, the average adult height either stayed flat or dropped a bit, depending on the study. After 1740

Gloria Main goes on to develop some intriguing inferences from her evidence. Westward migration, which some have seen as an act of desperation, as the “safety valve” releasing the pressures of overpopulation in the East, seems more accurately characterized in these decades at least as the pursuit of still better opportunities during a period of a rapidly expanding economy. Intriguingly, Main (1988, p. 127 n. 7) has found evidence that the residents of the older towns used their increasing incomes and wealth to help finance the movement westward of the settlers, many of whom were, after all, their own children.<sup>66</sup>

The implications of such insights need to be highlighted. Wealth levels grew during periods of population increase; population increased during periods of rising levels of wealth. Or, to say this yet another way, people chose to marry earlier and have more children when times seemed more prosperous, when their incomes were growing larger, when their prospects seemed brighter. Lest this seem obvious, contrast it with the older, opposing view that linked population growth with deepening destitution and suggested that the more children that families had, the greater the burden, the thinner they had to stretch scarce resources, and the poorer everyone became as a result – all of which may well have been true if income had remained static or declined. But it is evident now that this notion needs correction. To state the point as clearly as possible, the colonists of early British America, poor and rich, enjoyed an improving standard of living over the colonial era, increasingly so after the beginning of the second third of the eighteenth century. Now that prospects seemed more promising, they chose to respond to these changing circumstances in the most human of ways, not only buying more consumer goods but also by marrying earlier, starting families, and having more children (Main and Main 1988, 1999). As an earlier observer of the American economy and society, Benjamin Franklin, put it:

When Families can be easily supported, more Persons marry and earlier in Life . . . .

Land being thus plenty in America, and so cheap that a labouring Man, that understands Husbandry, can in a short Time save Money enough to purchase a Piece of new Land sufficient for a Plantation, whereon he may subsist a Family; such are not afraid to marry; for if they even look far enough forward to consider how their Children when grown up are to be provided for, they see that more Land is to be had at Rates equally easy, all Circumstances considered.

Hence Marriages in America are more general, and more generally early, than in Europe.

average adult height began to rise, suggesting better nutrition and better health care generally, thanks to the improving economy. See Steckel (1999).

<sup>66</sup> Compare Carr and Walsh (1994). See also Russo (1999, 2003). The latter is cited with the author’s permission.

Marc Egnal (1996, pp. 7–12), offers, in effect, two case studies of what Main has described in his analysis of the ways in which two different farm families were provided with land by parents who had produced surpluses for sale in the market to purchase that land, just as, presumably, they themselves were saving some of the profits from the sale of their own surpluses to provide for their own children. The one family resided in Chester County, Pennsylvania, the other in the parish of St. Ours in French Canada. Egnal estimates (pp. 8, 209–10) that the two farm families shipped for sale outside their communities about one fifth of the value of their produce, a proportion strikingly similar to the 17–19 percent of total GDP generated for the Thirteen Continental Colonies by their export sector. McCusker and Menard (1991), pp. 85–6.

It was no coincidence that Franklin wrote this in 1751, well into that several-decades-long period of economic expansion, during a time of increasing prosperity.<sup>67</sup> Note, especially, his premise: “a labouring Man . . . can in a short Time save Money enough to purchase a Piece of new Land.”

Recall in this context the point made earlier about people in the older settled eastern towns saving their surplus income and then using the accumulated savings for subsequent investment. Some employed their savings to invest in land, thereby helping their children get a start farther west, just as Benjamin Franklin argued. Choosing as their fortunes rose to save their marginal dollars rather than to spend them, they accumulated enough thereby to grubstake their children.<sup>68</sup> People who bought lands in the West as an investment, on a large scale or a small one, had accumulated the money that they invested by consciously deciding not to spend their next dollar but to save it and to invest it. That they had such extra dollars and such discretion in their allocation was one of the fruits of the growing, developing, prospering colonial economy.<sup>69</sup>

## Appendix A: General Discussion of the Tables, Data Sources, and Related Issues

The tables in this chapter present a variety of statistics for the United States during its colonial and pre-Federal periods through 1790. These tables describe statistically many characteristics of the life of the people who inhabited that part of early British America that afterward became the United States of America. They aim to cover all of the Thirteen Continental Colonies from Maine through Georgia across the entire period but, given the immense problems caused by incomplete data, rarely does any table come close to being complete either chronologically or geographically. Nevertheless, the data, for all their defects, do give us glimpses of the world that preceded the era of even more rapid development and,

<sup>67</sup> Franklin (1961), as quoted in McCusker and Menard (1991), p. 212. The Swedish botanist Pehr Kalm (1937, volume 1, p. 211), who visited the colonies in 1750, expressed strikingly similar sentiments: “It does not seem difficult to find out the reason why the people multiply faster here than in Europe. As soon as a person is old enough he may marry in these provinces without any fear of poverty. There is such an amount of good land yet uncultivated that a newly married man can, without difficulty, get a spot of ground where he may comfortably subsist with his wife and children. The taxes are very low, and he need not be under any concern on their account. The liberties he enjoys are so great that he considers himself a prince in his possessions.”

<sup>68</sup> Pruden (2001) makes the point that, at least in South Carolina, many of the investors in mortgages were women.

<sup>69</sup> Contemporaries far and wide seem to have appreciated these developments, at least to the degree that they identified the Thirteen Continental Colonies as the future seat of the British empire. See the advice offered by Colonel Samuel Martin, the doyen of Antigua sugar planters, to his son: “As it is highly probable that N[orth] America will be the seat of [the] British Empire in half a century, so I think it would be prudent in your eldest brother [Samuel], yourself, and me to make our [homes (?)] there.” Colonel Samuel Martin to Captain Henry Martin, September 22, 1767, Letter Book of Samuel Martin, 1765–1774, folio 56, Martin Papers, Add. MS 41350, BL. Josiah Martin, the last royal governor of North Carolina was also a son of Colonel Martin.

Compare the exchange between two sophisticated Europeans in the middle of the next decade. Ferdinando Galiani wrote from Naples: “We are seeing the total collapse of Europe: the time for emigration to America has come.” “Buy one [a house] in Philadelphia,” not Paris, was the essence of his recommendation. Louise Florence Pétronille Tardieu d’Esclavelles, marquise d’Épinay, replied from Paris: “I think you’re right.” As quoted in Steegmuller (1991), pp. 213–4.

of course, of considerably richer data, the subject of the other chapters in this book. It would have been possible to distribute these series grouped here among the other topical chapters, but all involved believe that a separate chapter especially organized to cover the earlier period would be more valuable in itself and would also provide a more suitable context for the statistics, many of which – though not all – are by their very nature less refined than those developed for the years after 1790.

Just as these considerations suggest, in the presentation and interpretation of the data for this chapter, there are many issues and concerns that involve more than one of the sets of tables presented in this chapter and that are, consequently, better discussed more fully here in this general introductory note (to which reference will be made, as appropriate, in the specific notes to each table). Gathering such thoughts here will also serve to diminish repeated references to a variety of primary and secondary sources.

In the past, statistics for the colonial and pre-Federal period were largely dependent on compilations made during the seventeenth and eighteenth centuries by writers such as Charles Whitworth (1776) and David Macpherson (1805) (see Palmer 1977 for an introduction). Even though Whitworth, Macpherson, and others like them are still a presence in what follows, current scholarship no longer relies solely on such authors. Increasingly over the last half century, economic historians have ferreted out statistical information and constructed statistical series from original records found in archives around the world.<sup>70</sup> Several of the series appear here for the first time; others represent substantial revision of earlier efforts. The compilers of each series are identified in the source citations. The two most important twentieth-century practitioners of this art were Lawrence A. Harper and Jacob M. Price, who were also, successively, the authors of this chapter in the two prior editions.<sup>71</sup>

The repository of documents drawn on most frequently for this chapter is the Public Record Office, The National Archives of the United Kingdom, in London (hereafter abbreviated PRO/TNA).<sup>72</sup> The PRO/TNA contains many collections that throw light on every aspect of the relationship between Great Britain and its colonies (and the newly established United States), but most particularly on the economic ties (commerce, agriculture, manufacturing) between them, especially when considered with reference to the mercantilist laws passed by the British Parliament.<sup>73</sup> Every archive has its own reference scheme, and the collections in the PRO/TNA

<sup>70</sup> For a discussion of these archives and libraries and the means of their use, see McCusker (1984), as revised and updated in McCusker (1997), pp. 1–21.

<sup>71</sup> *Historical Statistics of the United States* (1960); *Historical Statistics of the United States* (1975). Just as with tables in the other chapters in these volumes, those in this chapter accord “primary emphasis . . . [to] absolute rather than derived data.” *Historical Statistics of the United States* (1975), volume 1, p. xiii. Most attention has been given to the collection, evaluation, and compilation of contemporary data; only rarely does material in the tables attempt more than that and then only when we have tried to answer questions with these data that contemporaries never asked. Two exceptions are the tables that deal with estimates of GDP (Table Eg217–222) and estimates of private wealth (Table Eg223–246).

<sup>72</sup> Quotations from and reproductions of unpublished crown-copyright materials in the Public Record Office, The National Archives, London, appear with the permission of the Controller of Her Majesty’s Stationery Office.

<sup>73</sup> These laws are cited at various points in the text and footnotes by reference to the reigning monarch, the regnal year, and the chapter number – for example, Act of 5 Geo. II c. 22 (the fifth year of the reign of King George II, Chapter 22). For the text of these laws, see Great Britain, Laws and Statutes (1804–1869,

provide an apposite example of the mechanics of such references. Collections within the PRO/TNA are identified by title.<sup>74</sup> Chief among the collections used for this chapter are the Board of Trade Records (hereinafter abbreviated BT), the Colonial Office Records (CO), the Board of Customs and Excise Records (CUST), and the Treasury Office Records (T).<sup>75</sup> Citations to PRO/TNA materials involve several elements: first is a class code (for example, CO 5); within the class, volumes or boxes are specified by a piece number (for example, CO 5/65); internal references within pieces can be by page number, by folio number, or by date (for example, CO 5/65, folio 53r). There are, of course, numerous variations on this scheme.

Of special significance in detailing commercial contacts between the colonies and Great Britain are the compilations of trade data collected and organized under the direction of the Inspectors General of Imports and Exports responsible for Great Britain and for North America. These records of colonial trade are utilized throughout this chapter and contain enough traps for the unwary to require extra attention in this introduction. Given that much

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1810–1828, 1911, 1804–1869). Note that acts passed in a particular regnal year frequently came into force only in a subsequent year and that the popular name for an act more often than not referred to the year in which it became operational. See, for example, Table Eg420–424.

<sup>74</sup> For this and much else, including “the Catalogue” (formerly “PROCAT”), see the National Archives Internet site (accessed May 25, 2005).

<sup>75</sup> For the early Colonial Office Records there exists a relatively easy mode of access in an ongoing calendaring of that collection: Great Britain, Public Record Office (1860 to date). Up till now, 45 volumes (in 46 parts) have appeared. The newest volume, for the year 1739, appeared in 1994. Similar calendars have been prepared for the Treasury Records: Great Britain, Public Record Office (1868–1889, 1898–1903, 1904 to date). Equally helpful are the projects that transcribed or made photographic copies of documents for the study of colonial history organized on a state or local basis, sometimes with the help of government funds. The Virginia Colonial Records Project is a good example. Its “Survey Reports” are guides to the copies collected over the years. They can be used at the John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, Virginia; the Library of Virginia, Richmond; and the Alderman Library, University of Virginia, Charlottesville. See Boyd (1958) and Virginia Committee on Colonial Records (1960). A similar project copied many documents having to do with South Carolina. The original thirty-six volumes of transcripts have been indexed and microfilmed. See Carson (1973). Historians of early British America need to be cautious and careful in their use of both resources. Just as the compilers of calendars and indexes have had to be selective, so those who organized the copying of documents were forced to make compromises that can affect the ability of other historians to use what they have done. These calendars and collections cannot be approached uncritically. By definition, calendars are only synopses of documents, synopses that may not mention topics of concern to a particular researcher; they are aids to research, not substitutes for the documents themselves. Collections of transcripts of documents are selective and have not exhausted an archive. Even though the results are still very helpful, these projects left out a great deal by definition.

The careful historian, having found something in a calendar or a collection of transcripts, must check it in the original – and sometimes cite both sources. The careful historian, failing to find something in a calendar or a collection of copies, cannot assume that what he or she is seeking is not in the original document or elsewhere in the repository. Indeed, early printed calendars – and copying projects based on them – systematically omitted materials now considered significant to historians, especially economic historians (tabular and statistical material, for instance). See McCusker (1992), pp. 119–20 n 13. See also Andrews (1934–1938), volume 4, pp. 18 n. 2, and 139 n. 6; Carson (1973), pp. 6–7; and Smith (1981). Rupert Jarvis (1958, p. 215) found “the indexing . . . the fullness and [the] adequacy” of the various PRO calendars “most uneven.”

of British trade was with the colonies and vice versa, they are frequently two sides of the same coin: The Customs records of sailing vessels clearing inward and outward at ports of entry (hereinafter abbreviated POE) in Great Britain; and the Customs records of vessels clearing inward and outward at POE in British America.

The annually compiled English and Scottish Inspector’s General ledgers are reasonably conveniently arranged for statistical purposes, but they are so voluminous that the process of drawing data from them is immensely laborious.<sup>76</sup> Helping with that task are innumerable contemporary extracts from them and commentaries on them available in a wide range of other government documents. The volumes of data for England and Wales, compiled into the annual series of Ledgers of Imports and Exports of England, 1696–1780, are known as CUST 2/1–10, CUST 3/1–82, PRO/TNA; the Ledgers of Imports and Exports, Scotland, 1755–1827, are CUST 14, PRO/TNA. Many of the tables in this chapter draw heavily on these accounts. See especially Tables Eg429–460.

It is crucial to an adequately informed use of the trade data presented in these tables to understand how, why, and by what agency they were prepared. The data in the ledgers of imports and exports of England, Wales, and Scotland were gathered day by day from the clearances inward and outward of vessels and cargoes at each of the POE of Great Britain.<sup>77</sup> These data were then transferred to the office of the Inspector General of Imports and Exports of England and Wales, in London, and Inspector General of Imports and Exports of Scotland, in Edinburgh, where they were tabulated, assigned a valuation, and transcribed into the annual ledgers. It should be emphasized that the yearly volumes record the quantities and values of goods imported into and exported from Great Britain and therefore not the quantities and values of goods exported from any given overseas point of origin or imported into any given overseas destination. However transparent this may seem in the abstract, all too frequently writers have reported the amount of tobacco or sugar imported into Great Britain from the Chesapeake Bay colonies or, say, Barbados, as the amount of these commodities exported from them – or, even worse, produced by them. The distinction is fundamental because it is obvious that Barbados produced more sugar than it exported and that it exported sugar, quite legally, to places other than Great Britain – notably to the other British colonies on the North American continent.

Probably no more confusing statement can be made about these volumes than that they do not record the actual, current value of the trade of England and Wales (and Scotland). As was stated earlier, as part of their tabulation of the data, the clerks in the Inspector General’s office multiplied the quantities imported and exported by a price to arrive at the values of each commodity transcribed into the ledgers. Summed up for imports and for exports for each of the nation’s trading partners, the totals were meant to indicate England’s balance of trade. In doing the calculations, the

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<sup>76</sup> To extract and compile the data in John J. McCusker (1989), volume 2, pp. 879–997, took fifteen weeks during the winter and spring of 1966–1967 and then several weeks more cross-checking the resulting tables against various contemporary and modern compilations.

<sup>77</sup> For these ledgers and their creation, see Price (1975); McCusker (1985), pp. 15–16; and McCusker (1971), as revised and updated in McCusker (1997), pp. 222–44. In addition to the works already cited (and the sources cited in them), one should consult Clark (1938), which provides a valuable history and analysis of the basic statistics and a useful appendix that has a chronological list of statistical material for 1663–1783 and specifies where the data may be found. Compare Palmer (1977).

clerks did not use current commodity prices, however, but instead resorted to a set price for each commodity that had been established for this purpose early in the eighteenth century. Thus, the numbers to be found in the ledgers are not the actual values of the goods traded but their nominal value – not a current value series but a constant value series. The situation continued to exist and to cause considerable confusion well into the nineteenth century. However aware or not contemporaries were of this anomaly, historians have come to terms with it less than perfectly.<sup>78</sup>

There are other difficulties with these records (in addition to those mentioned in individual tables in this chapter). The accounts in the Inspector General's ledgers are divided into two categories, London and the "Outports" – that is, all of the other English and Welsh POE combined, an unfortunate grouping for those interested in, say, the sugar trade with Bristol or the slave trade of Liverpool. The listing of places to and from which goods were traded, which no doubt reflected the reporting of clearances inward and outward as recorded by the Customs officials in the various POE, is far from optimal for historians of the Thirteen Continental Colonies. Thus, for instance, "New England" combines British trade with many colonies, which economic historians find unfortunate because they would prefer to distinguish the trade of each colony. Even more problematic is the omission of New Jersey as a separate entry – a matter that causes more than one conundrum. The imports and exports of eastern New Jersey passed through POE New York just as those of western New Jersey passed through POE Philadelphia – at least as recorded in the Ledgers of Imports and Exports of England. As a consequence, not only do we have no record of New Jersey's trade with England, but we are also saddled with an overstatement of the trade figures of New York and Pennsylvania. Even more significant, because it involved the extremely important tobacco trade, is the failure of the English ledgers to separate Virginia and Maryland – although the annual ledgers produced in the office of the Inspector General of Scotland did so (see Table Eg443–460).

The parallel accounts – the other side of the bureaucratic coin – are the records created in each of the colonial POE by the chief administrative clerk of the port. Called somewhat confusingly the "naval officer" – there was no connection with the Royal Navy – he was essentially the port's chief statistical officer, a position the origins of which can be traced to as early as the mid-1630s (see Beer 1908, p. 207 n. 2). Although the naval officers functioned originally as part of the local, colonial bureaucracy, they eventually became one component of the Royal Customs administration.<sup>79</sup> The articulation of these offices and the establishment of their jurisdictions evolved into a settled system of POE and port officials. By the time of the American Revolution, there were more than 60 POE in British America, 44 of them in British North America, 35 of which were in colonies that joined the revolt and eventually became the United States. Those 35 divided up the coastline from Maine (still then politically part of Massachusetts) to Georgia. One can best visualize the limits of the POE by consulting the excellent maps in Cappon, Petchenik, and Long (1976), pp. 40, 119–20. These maps illustrate nicely a key point: Just as in Great Britain, colonial POE were not harbors but jurisdictions. For instance, the entirety of the colony of New York was served by POE New York in the same way

that POE Philadelphia was coterminous with the whole colony of Pennsylvania. Nor were such boundaries inviolable. As indicated earlier, much of the shipping and trade of western New Jersey cleared by happenstance through POE Philadelphia and much of the shipping and trade of eastern New Jersey cleared through POE New York–New Jersey, the keg tapped at both ends.<sup>80</sup> Note, too, that a goodly portion of the trade of northern Massachusetts cleared officially through POE Piscataqua (New Hampshire). (See Table Eg674–685.)

The reports the naval officers produced are referred to as the colonial naval office shipping lists (hereinafter abbreviated NOSL). The NOSL recorded the clearances inward and outward for every vessel that visited each colonial port, stating the full particulars of the vessel and the details of its cargo. They naval officers submitted their returns quarterly, but frustrating for the modern economic historian is the near-random pattern to their survival. The NOSL can be found only incompletely for each POE, and there is not one year for which we have all the NOSL for all POE. Returns for less than a full four quarters have some value but are far less useful because of the seasonal nature of what they include and what they omit. Obviously one cannot simply assume that returns for three quarters of a year contain a record of three quarters of the trade and shipping that cleared the port.

Nevertheless, all such trade did clear port. Certainly in the eighteenth century, even in the seventeenth century, vessels and their cargoes clearing inward and outward were regularly and consistently recorded in the books of the naval officers. Although there are flaws in the NOSL, the accounts are as internally complete and reliable as we can expect them to be. The singular, indeed notorious, anomaly involved the import trade in sugar, molasses, and rum from the mid-1730s onward. But everyone knew about the problem, and both contemporary officials and modern writers have taken it into account when discussing issues affected by that trade.<sup>81</sup> Lawrence A. Harper (1939, p. 263), the leading twentieth-century authority on such matters, settled the issue once and for all: "Although the lurid accounts of frauds contained in administrative reports and court records make interesting reading, they must not be allowed to confuse us as to the extent of illegal activities"; "illicit trade constituted only a small fraction of the legitimate commerce" of the Thirteen Continental Colonies (see also Dickerson 1951; McCusker forthcoming). The point is that the NOSL and contemporary accounts based on them afford us a reasonably accurate picture of the shipping and trade of the Thirteen Continental Colonies. As a consequence, eighteenth-century writers and later historians have found in the NOSL a rich and reliable store of data with which to interpret the overseas shipping and trade of the colonies.

That rich store of data gathered by the naval officers survives in three forms. Scattered extant NOSL can be found in many repositories, but the largest collection is, again, in the PRO/TNA. Extracts from them abound, made by contemporaries, organized for this or that port, drawn for longer and shorter periods. Some of these accounts were published in colonial newspapers such as the *Pennsylvania Gazette* and the *South-Carolina Gazette* (see, for example, Table Eg674–685). The only complete contemporary

<sup>78</sup> McCusker (1971), as revised and updated in McCusker (1997), attempts to construct a current value series using these data.

<sup>79</sup> The discussion of all this by Andrews (1934–1938, volume 4, pp. 178–221) may be considered definitive.

<sup>80</sup> There are some naval office shipping lists from the three New Jersey POE. See Levitt (1981).

<sup>81</sup> This is a constant theme in McCusker (1989).

compilation from the NOSL is the Ledger of Imports and Exports, British North America, 1768–1772, CUST 16/1, PRO/TNA. A modern attempt to gather and assemble as much of the extant NOSL data as possible was established in the 1930s under the supervision of Lawrence A. Harper. He did this as part of a New Deal Works Progress Administration project conducted at the University of California, Berkeley, titled “Trade and Commerce of the English Colonies in America.”<sup>82</sup> The work of Harper and his associates formed the basis of many of the tables presented in the prior editions of *Historical Statistics of the United States*, most especially the 1975 edition.<sup>83</sup> Other, later authors have attempted similar projects on a smaller scale.<sup>84</sup> Insofar as was possible, all such compilations used for this chapter, both eighteenth-century and twentieth-century, have been rechecked and many revised and corrected.

The extensive, pervasive use in this chapter of the Customs Ledger of Imports and Exports, British North America, 1768–1772, the volume referred to earlier (CUST 16/1, PRO/TNA), underscores just how rich the NOSL are as a source for historians of colonial shipping and trade. The one-volume ledger is, in effect, a (nearly) complete compilation of the shipping lists for what were, arguably, the five most important years in pre-Revolutionary War American commerce. Organized by Thomas Irving, Inspector General of Imports and Exports of North America and Register of Shipping, this immensely valuable resource is the exception that proves some of the rules just enunciated. In May 1768, newly arrived as part of the American Board of Customs, operating out of his office in the Custom House, Boston, Irving ordered the Customs officials in each POE of British North America to send him their quarterly accounts rather than post them to London as they had done in the past.<sup>85</sup> He and his clerks then checked and rechecked every entry before assembling the annual accounts and, eventually, gathering them into a single volume that survives. Despite some flaws, the ledger presents a summation of all of the quarterly reports from all colonial POE. It constitutes a point of departure and a point of comparison for all discussions of colonial shipping and colonial trade and is the basis of many of the tables in this chapter. Irving, who had probably honed his skills as a minor functionary in the Office of the Scottish Inspector General before being posted to Boston, later went on to become the Inspector General of Import and Export of Great Britain in London. His son, William Irving, held that office after his father’s death in 1800 until his own demise in 1855, a remarkable longevity and continuity in a key governmental position, the history of which has yet to be written.<sup>86</sup>

What follows are discussions of several other general points about the information found in these records and the data generated from them that are presented in the tables in this chapter: units of time; varieties of money; forms of weights and measures generally;

<sup>82</sup> Records of the project constitute part of the Lawrence A. Harper Papers, Accession number D-271, General Library, Department of Special Collections, University of California, Davis. For some early evidence of the project, see Cox (1939) and Harper and Cox (1942).

<sup>83</sup> *Historical Statistics of the United States* (1975), volume 2, pp. 1152–1200 (series Z1–615). Compare *Historical Statistics of the United States* (1960), pp. 743–74.

<sup>84</sup> The most recent and most impressive of such ventures is Hardy (1999).

<sup>85</sup> Irving’s jurisdiction, and thus the coverage of the ledger, extended from Newfoundland to Florida and included Bermuda and the Bahama Islands.

<sup>86</sup> For Irving, the collection of these data, and the compiling of the ledger, see McCusker (1979), as revised and updated in McCusker (1997), pp. 190–221.

the measurement of a ship’s tonnage; modes of calculation; and designations of place. The theme of all such discussions may well be that nothing about this early modern period can be assumed to be as simple as it seems.

### Time

Reference was made earlier to the four quarters of the year. The British government worked with an administrative year divided into four parts that corresponded, roughly, to the four seasons. In principle, all governmental accounts – including the NOSL – were kept according to these quarters. The starting and ending dates of the quarters were set but Great Britain’s latter-day adoption of calendar reform in 1752, which eliminated eleven days from that year, shifted the dates to accommodate the change and to make up for the “lost” days. The beginning dates of the four quarters, before and after the calendar reform, were as follows:<sup>87</sup>

Quarter Day	Prior to 1752 reform	After 1752 reform
Christmas	December 25	January 5
Ladyday	March 25	April 5
Midsummer	June 24	July 5
Michaelmas	September 29	October 9

In practice, although initially there was some confusion, matters quickly sorted themselves out. Thus, sometimes despite appearances, quarterly accounts such as the colonial NOSL and annual accounts, such as the CUST 3 ledgers, conformed reasonably quickly to the new dating. The confusion arises largely with regard to the CUST 3 ledgers because the clerks who prepared the annual volumes retained the old wording even though the Customs officers who gathered the raw data were using the new system (see McCusker 1971, pp. 226–7). Thus, with exceptions specified in individual tables in this chapter, before 1752 the reporting years for the Customs accounts on both sides of the Atlantic Ocean ran from December 25 through December 24; for 1752 and after, they ran from January 5 through January 4.

In conformity with the convention adopted by most historians of the early modern period, dates are reproduced herein as they were recorded by each individual with two exceptions: The new year is considered to have begun on January 1; and documents through 1752 that were dated between January 1 and March 24 are set down here with the double dating of the year to reflect both the “Old Style” Julian Calendar and the “New Style” Gregorian Calendar (for example, February 22, 1731/32).

### Money

All of the British empire shared the same twelve-based notational scheme for money – 1 pound equaled 20 shillings; 1 shilling equaled 12 pence (abbreviated £, s, d; for example, £3 6s 11d) – but every part of the British empire valued its money of account differently. Thus, the British pound sterling was worth more than the Irish pound, which differed in worth from the Massachusetts pound, the New York pound, the Barbados pound, and so forth. (The modern

<sup>87</sup> For these calendar changes generally, see McCusker and Gravestijn (1991), pp. 445–9. Compare McCusker (1997), pp. xix–xx. For a discussion of the impact of these changes in Great Britain and, most particularly, on the Customs and Excise, see Jarvis (1964). See also Smith (1998).

analogue is the dollar, which has a different worth in the United States, Canada, Australia, Hong Kong, and so forth.) The tables in this chapter usually report values in the original money of account. The series in Table Eg315–324 offer the ability to reduce one money of account to another. In many of the tables presented later, amounts originally stated in pounds, shillings, and pence have been converted to a decimalized format in order to make them easier to use in calculations (for example £3.35).

By the end of the colonial period, the dollar had been introduced into more than one colony as a parallel money of account. By the 1780s, use of the dollar as a money of account had become much more widespread. Although some citizens of the United States continued to price goods and services in older money units, before the end of the Revolutionary War, the relationships between pound local currency and the dollar had become fixed and unvarying – as the Euro has to the former national currencies of the participating member states of the European Union. At par, one pound sterling (£1) equaled \$4.44 (McCusker 2001a).

### Weights and Measures

Although most of the issues created by the many different units of weight and measure employed in the period are sorted through in specific tables, one or two generic points can be made. In general, the British Americans employed the same systems used in Great Britain. Thus, for instance, the foot as a unit of length, the acre as the unit of area, and the avoirdupois pound (abbreviated “lb”) as a unit of weight were standard across the British empire. The liquid gallon (abbreviated “gal”) was the one then common to both Great Britain and the colonies (“Queen Anne’s gallon,” 231 cubic inches); it continues to be used in the United States today but as of May 1, 1825, it was replaced in Great Britain and the British empire (including Canada and the British West Indies) by the imperial gallon (277.42 cubic inches) (Act of 5 George IV, c. 74, 1824).<sup>88</sup> In most instances, the original units have been retained in the following tables. The only conversions made here have been the contraction of different subsets of a measure to one larger unit (thus, pounds, quarters, hundredweight, and tons are added together and expressed as tons). Frequently, such totals have been converted to the largest unit and a decimalized expression of the fraction (for example, 18.5 long tons). Once again, this has been done to make subsequent calculations easier.

A fair example of the considerable potential for confusion caused by the various schemes of weights and measures in use in the Thirteen Continental Colonies is to be found in Tables Eg329–355. The size of the fleet of fishing vessels was measured by the ships’ tonnage, stated in tons (for which see the following discussion). The size of the fleets’ catch of cod was measured in terms of hundredweight of fish, the hundredweight measuring 100 pounds avoirdupois, twenty of which equaled a short ton (2,000 pounds).<sup>89</sup> Whale oil was sold by the barrel measuring 31.5 gallons, eight of which equaled a tun (252 gallons), usually spelled “ton.” All three were fundamentally different units of measure even though all three bore the same name.

<sup>88</sup> Most of this is addressed in Klopfer (1936); in McCusker (1989), volume 2, pp. 768–878; and in McCusker (1973), as revised and updated in McCusker (1997), pp. 76–101. See also McCusker (1981), as revised and updated in McCusker (1997), Table 3.5, pp. 70–5.

<sup>89</sup> McCusker (1973), as revised and updated in McCusker (1997), p. 86 n. 12. The long hundredweight measured 112 pounds and the long ton, 2,240 pounds.

Obviously, then, great difficulty occurs when seemingly the same “measure” was used for different commodities or in separate places to mean different amounts, even different things altogether. The chief offender was, of course, the hundredweight (abbreviated “cwt.,” otherwise known as the quintal, which itself was spelled in a variety of ways) and the ton, equal to twenty hundredweight. The hundredweight weighed 100 pounds (the short hundredweight) in some circumstances and 112 pounds (the long hundredweight) in others – and it is not always obvious just which was the case. The only real way to know is to consult merchant accounts and the records of trade. In each particular instance in the tables in this chapter, the one that applied will be specified but mentioning the matter in advance serves to point out that caution is necessary when confronting colonial counting.<sup>90</sup>

A parallel concern involves the capacity of containers, which frequently served as surrogate measures of quantity. People bought, sold, and shipped commodities one barrel or one hogshead at a time. Not only did the wooden cask (the only generic word for such things) differ in size by commodity, but some of them, in some trades, changed in size over time. Thus, the hogshead – despite what statute law and mercantile treatises might otherwise imply – was not a standard-sized unit.<sup>91</sup> The text for Tables Eg275–284 and Eg299 discusses this issue particularly with regard to rice and tobacco; for sugar casks, see McCusker (1989), volume 2, pp. 768–878.

All who attempt to compare commodity prices from this early period with later periods and other places need to be alert to anomalies such as the following. In 1789, the state of Pennsylvania legislated a change in the size of the barrel of beef or pork. The law set November 1 as the effective date of this change, but in practice merchants adopted it in March of that year. Some wines that were shipped in casks that ranged in size from 110 to 140 gallons were priced per nominal cask of 60 gallons. As of July 13, 1824, by mutual agreement among the merchants of Pennsylvania, the long hundredweight of 112 pounds replaced the short hundredweight of 100 pounds (Bezanson, Gray, and Hussey 1936–1937, volume 1, pp. 336–8).

### Tonnage

The shipping industry of the period referred to a vessel’s capacity in three different ways. The first of these was *measured tonnage*, which, just as its name implies, was computed by a set formula known and applied reasonably consistently in the British empire during the seventeenth and eighteenth centuries down into the mid-1780s. Alternatively, when referring to the quantity of goods a vessel could carry, people talked about the vessel’s *cargo tonnage*. The tonnage recorded for purposes of registration with colonial and imperial governments – analogous to modern motor vehicle registration – was called its *registered tonnage*. All three were different; they existed in roughly the ratio of 2:3:4, that is, two tons registered tonnage to three tons measured tonnage to four tons

<sup>90</sup> The work that has sorted these issues out most carefully for the colonial period is Klopfer (1936). For a discussion of these issues with references to the wider literature on the subject, see McCusker (1973), as revised and updated in McCusker (1997), pp. 76–101.

<sup>91</sup> Therein lies the fatal flaw in much of the otherwise admirable work of Zupko (1968, 1977, 1985). As Klopfer (1936) demonstrates, the only way to know the capacity of a cask in lieu of weighing or measuring its contents ourselves is to examine the ledgers and accounts of merchants engaged in the trades.

cargo tonnage. This means that any given vessel was registered at roughly two thirds its measured tonnage and that the cargo it carried, in terms of cargo tonnage, was roughly twice its registered tonnage (see, for example, Table Eg634–673). None of this necessarily involved subterfuge or deception; there were simply three different ways of referring to the size of the same vessel – all, again frightfully confusingly, employing the same words (see McCusker 1981, as revised and updated in McCusker 1997, pp. 43–75).

It is worth noting also that both Great Britain and the United States changed the legal mode of calculating measured tonnage during the 1780s, making comparisons spanning this decade more difficult (McCusker 1981, as revised and updated in McCusker 1997, p. 58).

### Calculations

Given the incomplete data from this early period, some procedures have been adopted to minimize potential distortions introduced by what has simply chanced to survive. Of special note is one that applies to all tables that deal with prices. Monthly averages were calculated as the mean of the averages for each third of the month (days 1–10, 11–20, and 21–31). The annual averages were then calculated by first computing the average of each quarter, and then averaging each of the four quarters. In some instances, short-term gaps in the data have been filled by estimates calculated as straight-line interpolations based on neighboring data. Such estimates have been indicated in the text for the relevant tables (see McCusker 1992, pp. 23–4). As mentioned earlier, the subunits of the pound and weights and measures have been decimalized in aid of calculations. In addition, numbers are frequently rounded one or more places to the left of the decimal point to avoid any implication of precision in data that are far from precise (for example, £5,000 rather than £5,027); compare Table Eg60–64.

### Places

For the geographical parameters of the Thirteen Continental Colonies and the immediate post-Revolutionary United States, see Map Eg-A (also consult the maps in Cappon, Petchenik, and Long 1976). Although references to the Thirteen Continental Colonies are understandable enough, it should be made explicit that “British America” in the era before the American Revolution included many more than thirteen colonies in a long string extending from Newfoundland in the north to Barbados in the south. As the map makes clear, this chapter covers much less territory than Great Britain laid claim to, especially after 1763, simply because such territory was not part of either what was then the Continental Colonies or what was later to be the United States. (Florida is an exception, having been part of British North America from 1763 to 1783 and becoming part of the United States after 1819.) The tables in this chapter can be presumed to account for the Thirteen Continental Colonies and the subsequent United States in the limited form that they were known prior to 1790. Exceptions to that coverage will be made explicit in the titles or text accompanying the tables. None of these discussions include territory under the jurisdiction of other powers (for example, France, Spain, or the Native American Indians).

One source used repeatedly in the following tables involved particular geographical issues. The Ledger of Imports and Exports, British North America, 1768–1772, the volume referred to earlier (CUST 16/1, PRO/TNA), a product of the Royal Customs

administration, gathered data from ports of entry throughout its jurisdiction. What constituted a “port of entry” was discussed earlier. The jurisdiction of the American Board of Customs, just like its predecessors, extended all along the coast from Newfoundland through to Georgia and, after 1763, included East Florida and West Florida. It also included the Bermuda and Bahama Islands. When data from the ledger are used in this chapter, care is taken to distinguish among potentially confusing territorial limits.

It is usual when dealing in sequence with all of the Thirteen Continental Colonies to do so in geographical order, north to south. On occasion, one also groups them by region. The four conventional regions have reference to political (rather than geographical) boundaries: New England consisted of the colonies and later states of Maine (part of Massachusetts until 1820), New Hampshire, Massachusetts, Rhode Island, and Connecticut; the Middle Atlantic region consisted of New York, New Jersey, Pennsylvania, and Delaware; the Upper South was Maryland and Virginia; and the Lower South consisted of North Carolina, South Carolina, and Georgia.<sup>92</sup>

## Appendix B: Abbreviations Used in This Chapter

Act of . . .	in Great Britain, Laws and Statutes, <i>The Statutes of the Realm</i> (for the years prior to 1714, with the exception of 1642–1660); <i>Acts and Ordinances of the Interregnum</i> , (for 1642–1660); <i>The Statutes at Large . . . of Great Britain</i> (for the period from 1714 to 1806); or <i>The Statutes of the United Kingdom of Great Britain and Ireland</i> (for the years after 1806) <sup>93</sup>
Add. MSS	Additional Manuscripts, in the British Library (BL)
AO	Audit Department Records, in the Public Record Office (PRO/TNA)
BL	British Library (formerly British Museum Library), London
BT	Board of Trade Records, in the Public Record Office (PRO/TNA)
CO	Colonial Office Records, in the Public Record Office (PRO/TNA)
CUST	Board of Customs and Excise Records, in the Public Record Office (PRO/TNA)
HLRO	House of Lords Record Office, London
LC	Library of Congress, Washington, D.C.
NOSL	Naval Office Shipping List(s)
POE	Port(s) of Entry
PRO/TNA	Public Record Office, The National Archives, London
T	Treasury Office Records, in the Public Record Office (PRO/TNA)

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<sup>92</sup> For a discussion of the strengths and weaknesses of these divisions, see McCusker and Menard (1991), pp. 86–8.

<sup>93</sup> See Great Britain, Laws and Statutes (1762–1807, 1804–1869, 1810–1828, and 1911).

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