The Importance of Slavery and the Slave Trade to Industrializing Britain

DAVID ELTIS AND STANLEY L. ENGERMAN

John Stuart Mill's comment that the British Caribbean was really a part of the British domestic economy, because almost all its trade was with British buyers and sellers, is used to make a new assessment of the importance of the eighteenth-century slave systems to British industrialization. If the value added and strategic linkages of the sugar industry are compared to those of other British industries, it is apparent that sugar cultivation and the slave trade were not particularly large, nor did they have stronger growth-inducing ties with the rest of the British economy.

How important were the slave systems of the Americas to the economic development of Europe, and more specifically Britain? In 1788, after the initial attack on the British slave trade, Parliament held hearings on and collected information about all aspects of the trade in Africa, the West Indies, and Great Britain. Among those testifying or writing letters to Parliament were merchants in the trade, whose arguments against abolition included claims of overall importance to the British economy. James Penny, a principal owner of dozens of Liverpool slaving ventures, stated that "[s]hould this trade be abolished, it would not only affect the Commercial Interest, but also the Landed Property of the County of Lancaster, and more particularly the Town of Liverpool, whose fall, in that case, would be as rapid as its Rise has been astounding." The Committee of Merchants Trading to Africa added that "the effects of this trade to Great Britain are beneficial to an infinite Extent . . . [and] . . . there is hardly any Branch of Commerce in which this Nation is concerned that does not derive some advantage from it." Further, "were this country to agree that [the slave trade] shall be abolished, it would deprive us of the Benefit of fitting out annually, a great number of Ships, to a very great Detriment to our Manufacturers, and terminate in the Ruin of our British Settlements in the West Indies."[1]

The Journal of Economic History, Vol. 60, No. 1 (March 2000). © The Economic History Association. All rights reserved. ISSN 0022-0507.

David Eltis is Professor of History at Queen's University, Research Lecturer at the University of Hull, England, and Research Fellow at the W. E. B. Du Bois Institute at Harvard University. Email: eltisd@qsilver.queensu.ca. Stanley L. Engerman is John H. Munro Professor of Economics and Professor of History at the University of Rochester, and Research Associate at the National Bureau of Economic Research. Email: enge@troi.cc.rochester.edu.

We thank Ralph Austen, Seymour Drescher and David Richardson for comments on earlier drafts of this essay. Financial support was provided by the Social Sciences and Humanities Research Council of Canada.

[1] All quotes from United Kingdom, "Report," pp. 49, 72, 83.

These comments by contemporaries represent one of three possible positions on slavery's contribution to British development: that Britain would not have been able to industrialize in its absence. A second and opposite position is that Britain would have industrialized at roughly the same rate as it did without slavery—or, more pointedly, without knowledge of the Americas—until, say, 1800. A third position lies between these two extremes in quantitative, if not qualitative, terms. It holds that while the Atlantic slave systems were not necessary to the industrialization process, they nevertheless were more important to the British economy between 1750 and (say) 1830 than was any domestic sector or industry, and also more important than other foreign sectors.

There are few proponents today of the first extreme position.[2] Indeed, it may be argued that even Eric Williams avoided this stance. The second position has gained adherents in recent decades, yet the third position has probably received most support in the 1990s. The most comprehensive recent reformulation of the importance of slavery to British economic growth, Robin Blackburn's *The Making of New World Slavery* (1997), argues for the great importance of the slave systems to British growth without quite embracing the first position. It is really allied with the third position: after two long chapters examining the relevant sources, Blackburn states that "nor does our survey lead to the conclusion that New World slavery produced capitalism. What it does show is that exchanges with the slave plantations *helped* British capitalism to make a breakthrough to industrialism and global hegemony ahead of its rivals."[3] In the sense that the Atlantic slave system was just one of many sectors contributing to British economic growth, there is nothing in this statement that is inconsistent with the second position. It is difficult, however, to read the chapter preceding this quote, and his earlier chapter 10, without sensing that the thrust of his argument is that the Atlantic system helped *more* than did any other source, domestic or foreign. Blackburn writes that "the British path to industrialization had been smoothed by the aggressive and relentless application of force," but as the previous quote suggests, analytically slavery merely "helped" this process.[4]

The third position is often presented as a softer version of the first; but as it lacks any specific quantitative basis, it is very hard to evaluate. If one economic activity is judged more important than another, does this merely mean that it is larger, or does it mean that in its absence the whole economy would follow a different path? As few scholars today contend that industrial-

[2] For recent restatements of the Williams's thesis on the contribution of slavery to industrialization, see Darity, "British Industry," pp. 247–79; Bailey, "Slave(ry) Trade," pp. 205–46; and Inikori, "Slavery," pp. 79–101. For an earlier debate on this issue see Sheridan, "Wealth," pp. 292–311; and Thomas, "Sugar Colonies," pp. 30–45.

[3] Blackburn, *Making*, p. 572, emphasis added.

[4] Blackburn, *Making*, p. 573.

ization would not have happened without Atlantic slavery, we focus here on the analytically less interesting, but nevertheless widely held position that slave-produced sugar was more important than any other British product in the buildup to industrialization.

As Blackburn lucidly discusses, the literature lays out three ways in which the Atlantic slave systems could have been of greater importance to Britain's industrial headstart than other economic activities. The first was by providing markets for British goods, the second by generating profits to underwrite the capital stock of the early industrial economy, and the third by supplying cheap raw materials for growing industries (or cheaper food and drink for the workers in those industries). To these may be added a fourth connection, stated by Malthus, that slave-grown products— exotic goods in the context of seventeenth- and much of eighteenth-century Europe—helped stimulate consumerism, among the English in particular.[5] This in turn elicited a greater effort, and in effect a greater supply of labor on the part of the average worker, which offset the backward-bending labor supply curve. Thus the Atlantic slave systems meant bigger markets for British goods, larger profits to British investors, more and cheaper raw materials for emerging industrial sectors, and more incentives for British consumers than were offered by domestic industries or other foreign markets.

All scholars recognize the domestic market to have been much larger than that of the Caribbean, so that those who advocate the importance of the latter often stress not its sheer magnitude, but rather its strategic nature. Thus the slavery-based demand for British goods was not so much (or not only) large, but rather, presumably unlike domestic demand, focused on a particular type of product—such as iron—that was central to the British growth process. Likewise profits earned from slavery were not only large, they were particularly likely to be invested into banks, textile factories, or canals, all of which were of huge importance to the industrialization process. Plantation crops such as cotton, so the argument goes, were critical to growing industries even though, as we later demonstrate, raw cotton imports appeared too late in the British growth process to have possibly contributed much to the cheapening of British textiles.[6]

But before pursuing the question of the importance of the slave colonies to the British economy, we should note an even larger context. To some extent the question is linked to the longstanding debate on the standard of living of English workers. For some scholars exploitation of workers, specifically their separation from the means of production, permitted the accelerated capital formation which lay at the core of the Industrial Revolution. If the worker was exploited (or, in more neutral terminology, on the short end

[5] Malthus, *Principles*, p. 403; Austen and Smith, "Private Tooth Decay," pp. 183–203.
[6] On timing see Engerman, "Atlantic Economy," pp. 146–57.

of an increasingly unequal distribution of income and wealth), then the domestic market could not generate the burgeoning demand for cheap manufactures which the early industrialists needed. Overseas markets—and in the eighteenth century, markets in the plantation Americas were among those which expanded most rapidly—made good the deficiency. The issue of the importance of slavery to any European society is thus a derivative of the old debate on the relative importance of home and overseas demand to development.

Whether the issue is the relative importance of overseas and domestic markets, or the strategic importance of any one activity (say, manufacturing iron or growing sugar), there are two broad approaches to making an evaluation. One is to assemble the opinions of contemporary observers, the other is to construct estimates of the output or value-added of the activity. Contemporary observers were often involved directly in the activities they described, but the anecdotal record is usually richest when those opposed to an activity or industry wished to draw attention to it. Indeed, when a business became the subject of dispute it was often in the interests of both sides to magnify its significance. Constructing estimates, on the other hand, sometimes involves going beyond what was available to observers at the time, or at least using modern methods to take full advantage of what was available, especially statistics on exports and imports. As we shall see, the British slave colonies and the British slave trade are quite rich in both statistics and anecdotes.

Generally, if we rely on the comments of the historical actors associated with a business, or indeed on the opinions of modern scholars who study it, that industry appears very important indeed.[7] As the opening paragraphs of this essay suggest, arguments tend to stress its great utility, indeed indispensability, such that its counterfactual absence is seen as disastrous. This can apply not only to industries, but to trade with specific geographic areas. For example, as early as 1625, in an early environmentalist twist to the indispensability concept, the "rapidly disappearing" forests of North America were cited as the beginning of the end of British naval strength.[8] Earlier, in the late sixteenth century, defenders of the Russia Company pointed to the Russian origin of the cordage and cables of the fleet that defeated the Armada and opened the East Indies, as evidence of the essential importance of their business.[9] Two centuries later, trade with Russia has been seen by some modern scholars to have been vital to the success of British industrialization. One scholar, indeed, has claimed that this trade was "more than just impor-

[7] "That the brewing industry is of the utmost importance to Great Britain is sufficiently evidenced by the very considerable portion of the public revenue thence arising, by its commercial advantages, as an article of trade, and by its essential utility to individuals. . . ." Richardson, *Philosophical Principles*, p. iii, cited in Mathias, *Industrial Revolution*, p. 209.

[8] Eburne, *Plaine Pathway*, p. 22.

[9] Willan, "Trade," p. 320.

tant . . . it was crucial. The enormous contributions to Great Britain's economic growth" stemmed from "multiplier effects" of the large trade in hemp and iron bars which "provided British entrepreneurs with a means of exploiting advances in productivity."[10] Immanuel Wallerstein has used similar arguments to sustain his broader hypothesis about the critical role of the periphery as a whole in the development of the core areas of western Europe.[11] In the eighteenth and nineteenth centuries, in a further extension of the geographic scope of the external-market argument, British exploitation of India—specifically, what has been called the westward "drain" of capital—has been cited as a key contribution to the Industrial Revolution (though many Marxists argued that the exploitation of the British worker was the major source of this accumulation).[12]

Yet while links between Britain and the lands to its east and north have been assigned key roles in the former's takeoff, it is the West Indies that have figured most frequently in arguments for the importance of external markets to the European metropoles; and this was as true in contemporary political debate as it has been in late-twentieth-century scholarship. In 1655 the planters of Barbados pressed for the removal of sugar duties on the grounds that they and "twenty thousand negroes" contributed greatly to "the national stock," and in support of this proposition they provided an estimate of the value of their activities broadly consistent with modern calculations.[13] In 1670 a pamphlet from the sugar colonies arguing for lower sugar duties stated that without their trade "this Nation must have long since totally sunck." At this point, the settlements in the Americas could not have been producing, in total, more than 0.5 percent of English national product.[14] Most of the wider impacts on the national economy to which the Barbadian planters drew attention should have been the same for any domestic activity as well.

Quite apart from the natural tendency of merchants and historians alike to exaggerate the importance of their projects, the dramatic eighteenth-century expansion of the English Caribbean would seem by itself to make a prima facie case for the significance of the West Indies to the English economy. In

[10] Kaplan, *Russian Overseas Commerce*, p. 269. For Kaplan the volume, timing, and composition of Russian trade were all crucial. See also Kahan, "Eighteenth-Century Russian-British Trade," pp. 181–89.

[11] Having established the importance of these activities on the periphery, Wallerstein nevertheless observes in a note that "[w]hen Napoleon's Continental System interfered with Russian exports to Great Britain, the British found . . . that all these imports were replaceable or secondary, except hemp" (*Modern World System*, 3: p. 142, n. 62).

[12] Maddison, *Class Structure*, pp. 63–65, and "Dutch Income."

[13] British Library, Add. Mss., 11,411, f. 9. The £200,000 estimate is consistent with that developed in Eltis, "New Estimates," pp. 631–48.

[14] Anon., *State of the Case*, f. 48. The case was made on the basis of the number of ships, seamen and traded commodities (including some for export), and the claim that any enhanced French growth in sugar production would impose heavy costs on Britain.

the second half of the seventeenth century the British West Indies meant effectively Barbados, and the analysis here is based on a comparison with England itself. The population of Barbados was about that of a small English county, or a larger town.[15] In England a county of this scale would have grown wheat and other staples to sell in market towns. No such crops could have borne the cost of transportation from Barbados. The island's ability to maintain trading links with England (and North America) hinged on two factors. The first was shipping technology; the second was the possibility of lowering labor costs by coercing peoples from another continent to labor with an intensity that would have been out of the question if the only source of labor had been England itself.[16] Slave labor, while relatively economical, was not free, but rather was obtained only at high costs of purchase and shipment. The basic point of this analogy is that, from an English perspective, the Barbadian economy before 1700 was about as significant as a prosperous but very small county. Most of the premium that sugar commanded at this time (relative to, say, wheat) went to pay for transportation: first of Africans to the Caribbean, then of sugar from the Caribbean to Europe. Moreover, any private profits were offset, at least in part, by the public expense of defending this new English territory, a cost which was many times higher than would have been the case if it had been part of the British Isles.

Until 1700 Barbados was the economic equivalent of a Rutland, hypothetically well endowed with coal; the Chesapeake was perhaps another Westmorland. This was enough, however, to make them far more significant than any other region of the Americas to the imperial power. The English who went forth and multiplied (temporarily in Barbados, and eventually more permanently in the Chesapeake) would probably not have been unemployed if they had stayed at home, though they might have been less productive. The Africans who were forced to relocate, on the other hand were, from an imperial perspective, providing some gains based on their surplus product relative to the price paid in Africa to acquire and to maintain them. Further, sailing the Atlantic was not costless. For the English who stayed behind, the Americas in the seventeenth century meant a very few more wealthy individuals in an already unequal society, marginally cheaper sugar and tobacco (items claiming a tiny share of household budgets at that time), and a few thousand extra jobs on those ships involved in long-distance trade.

The dramatic expansion of the slave system continued long after 1700, as did the expansion of most segments of the British economy. Did the relative

[15] See Mill, *Principles*, vol. 2, pp. 256–57, for a similar argument on the colonies. Mill wrote that "trade with the West Indies is . . . hardly to be considered external trade, but more resembles the traffic between town and country."

[16] For the argument that gang-labor using slaves developed first in early English sugar estates, see Eltis, *Rise*, pp. 193–223.

position of the Caribbean in the British economy change over the course of the eighteenth century? The usual approach to this question is to compare the sugar sector in 1700 with the same sector at some later date. The benchmark years are often chosen to coincide with political events such as abolition, or the dates of one of the frequent wars of the period, which in the British case no doubt distorted output and profits, or, at times, brought new territory on stream.

After adjusting for these impacts, the expansion of slave-grown sugar in the Americas after 1700 (and of the slave trade which underpinned it) appears impressive. But a different picture emerges if we compare the British and non-British slave trades and plantation sectors in the eighteenth century, and also when we compare sugar against some other important British industries, particularly those on the threshold of industrialization. The thrust of recent revisions of British national income trends in the eighteenth century has been to eliminate the pattern of dramatic bursts of growth that characterized earlier interpretations. The value of British Caribbean plantation produce approximately doubled between 1700 and 1770, a growth rate of about 1 percent per annum,[17] while British national income expanded by about two-thirds over the same period, at about 0.7 percent a year.[18]

Historical interest in the slave trade rests on its obvious immorality, not its economic importance. The business formed a relatively small share of the Atlantic trade of any European power. Its direct contribution to the economic growth of any nation was trivial. The largest number of slave ships to leave Britain in any five-year period was between 1798 and 1802—long after the beginning of the structural changes in the British economy that have been termed the Industrial Revolution. The busiest single year was 1792, when 204 vessels with a total capacity of 38,099 tons, or about four slave ships each week on average, left England to carry slaves from Africa to the Americas. Each voyage lasted just over a year. In 1792 there were 14,334 vessels registered in Britain, totaling 1.44 million tons.[19] The slave trade thus accounted for less than 1.5 percent of British ships, and less than 3 percent of British shipping tonnage. Shares of cargoes carried and of earnings from freight were in the same low range. Quarter-century comparisons suggest that British ships carried about the

[17] The value of exports from Barbados, Jamaica, and the Leewards in 1700 is estimated at £800,000 (Eltis, *Rise*, p. 197), and the value of plantation output in the British Caribbean is estimated at £1,553,000 in 1770 (Eltis, "Slave Economies," p. 113). Both values are expressed in current prices.

[18] Crafts, "Industrial Revolution," p. 47. Despite the more rapid growth in plantation than in national income between 1700 and 1760, the increase in plantation output accounted for only about 1 percent of British national income at the latter date. The excess increase in plantation output above the increase in national income was only 0.6 percent of national income.

[19] Eltis et al., *Transatlantic Slave Trade*; general shipping data are from Mitchell, *British Historical Statistics*, p. 539.

same number of slaves across the Atlantic between 1751 and 1776 as they did between 1783 and 1807. Therefore the slave trade was rather more important in relative terms in the third quarter of the eighteenth century than in the fourth. In neither period, however, does it appear large when compared to other branches of long-distance trade.

If economic activity on so modest a scale could contribute significantly to industrialization, then we might expect Europe's first industrial economy to have been Portugal, not Britain. Though Portugal had less than one-third the population of Britain in the late eighteenth century, and a total national income which was no doubt still lesser, the country's nationals nevertheless managed to carry nearly two-thirds again as many slaves across the Atlantic than did the British over the course of the slave-trade era. While the British probably carried 30 percent more slaves than the Portuguese during the eighteenth century, the relative size of their two economies (even if we include Brazil) always meant that the slave sector formed a far larger share of the Portuguese economy than did its British counterpart. Strikingly, the Portuguese were responsible for far more slaves leaving Africa in the first half of the nineteenth century than were the British in any 50-year period. While most Portuguese slave traders were based in Brazil, they maintained close links with Portugal and many returned there when suppression finally became effective in the early 1850s. Few would argue, however, that the per capita income of either Brazil or Portugal converged upon Britain's in this period.[20]

In recent literature the trigger for metropolitan economic development is seen as the overall slave system, rather than the slave trade to which Williams had initially paid such attention.[21] But, here too, there is no systematic connection between the size of the plantation system—defined in either absolute or relative terms—and the development of the metropolitan economy. Despite the impressive performance of the British Caribbean in the seventeenth and early eighteenth centuries, it was the French plantation sector that expanded most rapidly from 1714 to 1791. By 1770 the French Caribbean was producing 17 percent more sugar, nine times more coffee, and 30 times more indigo than its British counterpart. Overall, as contemporaries fully appreciated, France's Caribbean plantations produced 43 percent more crops by value than did Britain's on the eve of the American

[20] Eltis et al., *Atlantic Slave Trade*. On the apparent asymmetry of the impact of British and Portuguese slavery and slave trading see Drescher, "*Capitalism and Slavery*," pp. 213–14. It should also be noted that most of the goods that the Portuguese exchanged for slaves on the African Coast, including roll tobacco and *cachaça*, were produced within the Portuguese Empire. These were not, however, industries of the type which the Williams thesis might lead us to expect. A nascent textile industry did briefly appear in Portugal in the 1780s and 1790s.

[21] Williams, *Capitalism and Slavery*.

Revolution.[22] The phenomenal expansion of St. Domingue between 1770 and 1791 meant that the French planters widened the gap dramatically.

The British Caribbean recovered strongly once the St. Domingue revolution effectively removed French competition, but the effects of British abolition in 1807 and 1834 meant that other areas overtook it in the production of plantation crops: flows of slave-grown commodities such as Cuban sugar, North American cotton, and Brazilian coffee each became much greater in terms of both volume and value of production than the British system had ever been. Indeed, from the broad perspective, British domination of the American plantation sector was limited to the years from 1665 to 1730 and from 1792 to 1820. Despite the rapid growth of the French Caribbean, it seems that only C. L. R. James and one or two French economic historians attribute France's industrialization to the plantation sector. Nor do scholars look for links between the economic development of Portugal and the Brazilian slave system.[23] Such comparisons, or rather the lack of them, indicate that the causal links posited between British slavery and industrialization cannot be the basis of an overarching historical generalization.

The French economy was, of course, much larger than Britain's in aggregate terms throughout the eighteenth century. But even if we turn from absolute to relative contributions of slavery to European industrialization, there are still better candidates than Britain. The Brazilian slave system (before the 1790s, the sugar and gold sectors specifically) comprised a far larger share of a notional Portugese-Brazilian transatlantic economy than did plantation produce for the British-Caribbean equivalent. Any reasonable estimate of the value of sugar produced, goods imported, or profits earned in mid-nineteenth-century Cuba amounts to a far larger fraction of Spanish national income than any equivalent estimates would for Britain's Caribbean colonies in the eighteenth century.[24] But neither the Spanish nor the Portuguese took off into sustained industrial growth until long after abolition.

[22] Eltis, "Slave Economies," p. 113. Including Virginia and South Carolina in the British account would narrow the gap somewhat, but would not come close to eliminating it. Contemporaries argued that the French were more efficient producers of sugar than were the British, and that sugar from the British colonies maintained its place in the home market thanks only to tariff protection.

[23] James, *Black Jacobins*, ch. 2. Sée, *Modern Capitalism*, argues that the "enormous profits" of the slave trade aided both French and British industrialization; but he also quotes an anonymous early-eighteenth-century English author to the effect that the production of East Indian textiles with cheap labor "is a very likely way of forcing Men upon the invention of Arts and Engines, by which other things may also be done with less and cheaper labor and therefore may abate the price of Manufactures, tho' the Wages of Men shou'd not be abated" (pp. 42, 117).

[24] See Eltis, "Slave Economies," pp. 117–19, for estimates of values of plantation output in 1850. Some might counter that in the nineteenth century the effective metropolitan center for Cuba was the United States, not Spain. But there can be little doubt that more rapid economic growth in the United States was well established before it came to occupy a central role in the Spanish colony. See Moreno Fraginal's comparison of data for Cuban trade with the United States and data on Cuban trade with Spain (*El Ingenio*, 3: pp. 67–87).

The core of the case for the causal linking of the slave systems of the Americas with accelerated European growth lies, first, in the supposedly higher profits that the systems generated relative to the domestic European sector, and second, in sugar's supposedly strong linkages with the rest of the British economy.[25] This argument is based partly on the size that the sugar sector had reached by the second half of the eighteenth century, and partly on its demand for imported inputs.[26] A different perspective on these arguments is possible if the sugar sector is imagined to have been part of the British domestic economy, and its value added (the difference between what the industry paid for the products it purchased and the revenue it received from selling its output), or contribution to national income, is compared with those of other British industries. Table 1 presents some very rough estimates for seven established British industries at the beginning of the nineteenth century, a time when the British slave trade and sugar sector were close to their peaks. The industries have been selected partly on the basis of data availability, but also because of their representativeness. Four industries larger than sugar are included—iron (defined broadly to include ore mining and metal trades), two textile industries, and sheep farming—and three industries which, during the early phases of industrialization, were smaller: coal, linen, and paper.

Table 1 indicates that the business of producing muscovado sugar was one of the more prominent activities in the British-Caribbean economy. Its growth during the nearly two centuries after 1640, thousands of miles distant from its main markets, was extremely impressive. As late as the early nineteenth century the industry was producing more (by value) than the British coal industry. During this period, and for a long time thereafter, the British consumed more sugar than any other people in the world, and still were able to reexport about 20 percent of the sugar imported into the country. Yet sugar claimed only a small part of the British consumer's budget. Several other food staples generated more income and employment than did Caribbean sugar. Based on Phyllis Deane and W. A. Cole's estimates of income, the value added by the Caribbean sugar sector was less than 2.5 percent of British national income, meaning that more than 97.5 percent of income was generated by domestic and other foreign markets. As a share of the U.K. labor force Caribbean sugar comes out slightly higher, at 3.7 percent (see sources to Table 1). Even if we include British refining enterprises in the calculations, sugar production was no more important than were several

[25] The clearest statement of this position is that of Barbara Solow ("Caribbean Slavery," pp. 99–115), who argues that a small sector can have a large impact on growth. This implies that important economic preconditions were in place that permitted such an impact. For a recent summary of the literature on comparative rates of profit see Morgan, "Atlantic Trade," pp. 14–33.

[26] For the best exposition of this impact see Richardson, "Slave Trade." In staples-thesis parlance, these are the products of backward and final-demand linkage.

other industries.[27] Within agriculture, the value added by wheat and cattle farming, taken separately, and barley, hops, and brewing taken together were probably greater than that for either sheep farming or sugar (see Table 1). Outside agriculture, and indeed outside the main manufacturing industries, there was a range of construction and service activities the value added of which rivaled sugar's. The English shipping industry, for example, had a larger workforce and higher revenues than did the sugar sector, and wooden ships, a major input, were cheap to produce.[28]

In both economic and demographic terms, the British Caribbean colonies grew relative to Britain between 1700 and 1800. But such relative growth was less than, say, that of Cuba relative to Spain between 1790 and 1860. If in 1700 the British Caribbean colonies were together equivalent to one of the smaller English counties, by 1801 they had grown to parity with one of the larger counties. With an estimated population of 760,000 in 1801, the British Caribbean was smaller than Middlesex or Yorkshire, but larger than Lancashire.[29]

But Caribbean sugar was not the only peripheral sector to grow disproportionately in the century-and-a-half before 1800. The Irish and Scottish flax and linen industries expanded from insignificance to revenues greater than, and value-added comparable to, sugar's. Scottish output alone increased sixfold in the second and third quarters of the eighteenth century, and the value of output rose even faster. In the Irish linen industry especially, English merchants dominated the export trade.[30] Profits in this era of expansion were no doubt healthy, and a portion of them were certainly spent on infrastructure and industrial activity in England. Yet few scholars have argued that such dramatic growth could explain the expansion of the English economy in the later eighteenth century. Historians have little difficulty in envisioning England's industrialization if Scotland and Ulster had remained outside its political or economic orbit. Why is the same not true of the British Caribbean?

[27] The value-added of sugar refining is not known, but it cannot have been great. Apart from the unrefined sugar that was reexported, in 1870 U.S. sugar refiners had sales of $108.9 million and spent $96.9 million on materials (United States, *Statistics*, p. 626). This suggests a value-added of 12.3 percent of materials purchased, well over half of which were sugar products. Strictly construed, our exercise of counting the West Indies as part of the British economy requires the inclusion of refined sugar in our estimates. Its absence, however, does nothing to distort our overall conclusions.

[28] There were nearly 1.8 million tons of shipping registered in 1801. On the reasonable assumption that one crew member was required for every ten tons, such shipping would have employed 180,000 seamen.

[29] Population projected backwards from the estimate of population for 1807 by Higman (*Slave Populations*, p. 417), on the basis of slave arrivals in the British Caribbean 1802 through 1807, from Eltis et al., *Transatlantic Slave Trade*. The slave population is assumed to have been 88 percent of total population in 1801. For populations of English counties in 1801 see Wrigley and Schofield, *Population History*, p. 622.

[30] Gill, *Rise*, pp. 3–128; Campbell, *Scotland*, pp. 54–63; Smout, *History*, p. 244.

TABLE 1
VALUE ADDED AND LABOR FORCES OF SELECT SECTORS OF THE UNITED KINGDOM–BRITISH CARIBBEAN ECONOMY IN 1805

Sector	Value of Output (£ millions)	Value of Inputs (£ millions)	Value Added (£ millions)	Labor Force (thousands)
Iron (broad definition)	16.2	1.5	14.7	—
Woollen textiles	22	9.2	12.8	—
Cotton textiles	18	7.5	10.5	274
Sheep farming[1]	7.8	<0.2	~7.6	—
West Indian sugar[2]	6	~0.6	5.4	176
Coal	5.1	0.5	4.6	70
Linen textiles[3]	7.2	2.9	4.3	—
Paper	1.7	0.8	0.8	6

[1] 1800. [2] 1800–1804. [3] 1803.

Notes and Sources:

Sheep Farming: Wool output from Allen, "Agriculture," p. 102. Wool prices (for 1801) from Mitchell, *British Historical Statistics*, p. 766. Mutton volumes and prices from Holderness, "Prices," pp. 110, 155, 171–74.

Sugar: Includes rum and molasses. The returns to labor and capital on sugar plantations are included in the value added. The sugar industry usually attracts more attention than other industries in the table because of the role of the slave labor force. The basic assessment procedures are the same for all industries in the table, once it is understood that slave-labor costs included food, clothing, and shelter. Values for Jamaica from Higman (*Slave Population*, p. 213), converted to pounds sterling, adjusted for rum and molasses output (26 percent of sugar output), and expressed in terms of sugar prices in Jamaica, which averaged 57.2 percent of London prices, 1800–1804 (Ryden, "Does Decline?"). Totals for the British Caribbean were derived according to Drescher's observation that Jamaica produced 52 percent of all British Caribbean sugar between 1801 and 1805 (*Econocide*, pp. 79, 80). Precise estimates of inputs into the sugar industry are not possible. Only one major input is calculated here: purchases from cattle pens. Jamaican plantations (sugar and nonsugar) bought all the output of that island's cattle pens. The ratio of cattle-pen revenue to sugar-estate revenues in 1832 (Higman, *Slave Population*, pp. 17, 25–26), less purchases by nonsugar estates (based on the crop distribution of the slave labor force described below) is applied to the value of total output. There were obviously other inputs which we have not included. Accordingly the true value added for sugar is less than suggested above. As the thrust of our argument is that sugar's value added was not exceptionally high compared to other industries in early nineteenth-century Britain, our estimate's upward bias works against our contention. Estimates of the labor force in sugar are derived from Higman (*Slave Populations*), who gives 56.8 percent of the slave labor force on sugar estates in 1810 and 60.1 percent in 1820. The ratio for 1800–1804 is taken as 55 percent. The slave population was 765,350 in 1810 which, after allowing for new arrivals (calculated for 1801–1807 at 180,700 from Eltis et al, *Transatlantic Slave Trade*) and for deaths, suggests a slave population of about 700,000 in 1800. Further adjustments were made for age and sex structures of the sugar-estate population and for nonsugar activities (domestic service, provision-growing, etc) on those estates. Worksheets available from David Eltis.

Coal: Flinn, *History*, vol. 2, pp. 292–93, 365, 451; Mitchell, *British Historical Statistics*, p. 252.

Paper: Coleman, *British Paper Industry*, pp. 88, 105, 169, 203, 289, 346.

All others: Deane and Cole, *British Economic Growth*, pp. 204, 212, 223.

Was there anything unusual about the production of sugar, beyond the share of economic resources it utilized, that could have given it a special role in stimulating economic development? Was it, in any sense, what development economists used to call a "strategic" industry? Compared to most industries, including those listed in Table 1, it provided relatively limited inputs to other industries. Unlike iron or coal, or even textiles, sugar had a limited role as an intermediate product. The sugar refining industry was probably somewhat smaller than the paper manufacturing industry shown in Table 1. The sugar sector did generate purchases of a range of consumer products, but it was scarcely the only industry to do so. Moreover its most important complements, tea and coffee, were produced overseas. Perhaps the reasons why sugar has attracted so much attention is that it was produced by a slave labor force not used anywhere else in the British economy, and that, unlike most other activities, its output was recorded in British trade statistics. Given the absence of official data for most other sectors, products bought by sugar plantations were much more visible. If records had survived for the consumer and capital goods entering all English agricultural and industrial sectors, as they have survived for the slave trade and the Caribbean, then perhaps the sugar sector would not so frequently be regarded as vital to British economic development. Sugar was just one of hundreds of industries in a complex economy; and while sugar was one of the larger industries, its linkages with the rest of the economy and its role as an "engine" of economic growth compare poorly with textiles, coal, iron ore, and those British agricultural activities which provided significant inputs to industry. Raw cotton, it should be noted, did not become a significant import until the turn of the century.

Table 1 does not provide estimates of profits. Profits, in either the slave trade or plantation sugar production, are sometimes seen as making the vital contribution to the pool of savings funding the British Industrial Revolution. However, there were numerous other industries with the potential to produce comparable profits, and many, many others that could have done so in combination with related activities. Suppose that all the profits of the slave trade and sugar were dedicated to industrial capital formation, that slave- and slave-shipowners together refused to expand their own activities or to spend profits on consumption. Under these extreme (and improbable) assumptions, sugar and slavery would have been a major contributor to British gross fixed capital formation. Using Engerman's estimates, Barbara Solow has pointed out that profits from the slave trade alone could have formed "one half of 1 percent of national income, nearly 8 percent of total investment, and 39 percent of commercial and industrial investment." Such ratios she rightly describes as "enormous."[31] But what could have been true for the slave trade or sugar could, under the same extreme assumptions, also have been the case for many other economic activities, both at home and abroad.[32] Banking, insurance, horse-breeding, canals, hospitality, construction, wheat farming, fishing, and the manufacture of wooden implements are just a few possible industries that could have yielded the profits to fund the Industrial Revolution. It is not clear that the profits from slave trading, or

[31] Engerman, "Slave Trade," pp. 430–43; Solow, "Caribbean Slavery"; see also Darity, "British Industry"; and more recently Blackburn, *Making*, pp. 540–43.

[32] Solow, "Caribbean Slavery," pp. 105–06.

from the sugar sector at large, were more oriented toward industrial investment than were those from other lines of business, which also had spokespersons making strong claims for their contributions to the national economy.

Was the profit rate for sugar higher than in other industries? British owners of West Indian sugar estates had the option of investing in a range of British agricultural activities, as well as in coal, iron, and the burgeoning transportation sector, among the economic opportunities of which landed aristocrats availed themselves. If the risk-adjusted rate of return had been higher for Caribbean sugar than for these other activities, it would have been possible for these investors to switch their investments. In the process, the rate of return in the sugar sector would certainly have declined to match the returns available from, say, textile factories, canals, and coal mines. Sugar's contribution to the pool of capital available for investment purposes was thus unlikely to have been greater than that of other sectors. The British could have funded government war debts, or built canals and textile mills, or fed a rapidly growing population, in the absence of Africa and the Americas. It is much less certain that there would have been a slave trade and capital-intensive plantations in the Americas without the credit and mortgage financing that flowed out from the European metropolitan centers and made long-distance labor flows possible.[33] The Caribbean itself may have generated much of the capital it needed, but the direction of the net transatlantic capital flow remains unclear.[34]

Even if we allow that sugar played a major role in English economic development, it is not clear that sugar was exactly coterminous with slavery. Much recent literature on the early modern Atlantic world has argued that without the African slave trade there would have been few or no plantations operating in the Americas, a greatly reduced level of transatlantic commerce,[35] and presumably no Industrial Revolution, either in England or in North America. Of the superior economic efficiency of slave labor from Africa, there can be no doubt. Yet to assume that in its absence there would have been nothing but subsistence agriculture in the Americas seems unrealistic.[36] The dichotomy between free and slave labor was not as sharp in seventeenth-century English society as it was to become later. Coerced labor came in many forms, and while there are no modern instances of any groups reducing members of their own societies to outright chattel slavery, some other form of coerced labor would have been possible in the absence of Africans. Sixteenth-century Iberians exported many commodities from the

[33] See the discussion of these issues in Engerman, "Atlantic Economy," pp. 146–57.
[34] Pares, "Economic Factors," pp. 119–44.
[35] See for example Solow, "Capitalism and Slavery," p. 71.
[36] For the argument that free-labor plantations in the Americas were possible see Blackburn, *Making*, pp. 360–61.

Americas, including sugar, using primarily coerced Native American, not African, labor.[37] The absence of Africans in the seventeenth-century British Americas would have increased prices for sugar, tobacco, cotton, and indigo. For early modern consumers, the absence of African slavery would have meant more expensive sugar down to the beginning of the nineteenth century and the more rapid (and possibly earlier) development of beet sugar thereafter. Any estimate of the counterfactual implications of withdrawing slave labor from the production of sugar, and more broadly its effects on the development of the English economy in general, hinges on analytical considerations that cannot be addressed here. But only some rather strong assumptions would support an argument that there would have been almost no production of sugar in the Americas and no trading links with Africa.

Recently the debate on the importance of slavery has become subsumed in the broader issue of the importance of transatlantic trade to the British growth process, particularly in the late eighteenth century.[38] At certain points the Caribbean, and American markets generally, became much more important than hitherto.[39] The basic argument is that overseas demand augmented domestic demand at critical junctures and triggered permanent structural changes in the British economy. But the most rapid growth of markets in the plantation Americas came very late in the century—after the onset of accelerated industrial growth around 1780.[40] The share of the British West Indies in British exports increased only after the middle of the eighteenth century, and reached sustained heights only in and after the 1790s. Much of this pattern was clearly due to the exigencies of war. Between 1756 and 1800, the most expansive export markets were sometimes in Europe, sometimes in Asia, and sometimes in the Americas. None of these markets enjoyed continuous primacy, and British merchants and manufacturers were clearly able to switch flexibly from one to another as the political and military situation dictated.

After suppression of the slave trade in 1807, the importance of Britain's slave colonies as markets for its goods and as sources of raw materials and profits relapsed in relative terms, and the slack was not picked up by the non-British slave economies. A striking feature of the markets for British goods between 1775 and 1850 is their wide geographic range, suggesting an ability to sell in whatever markets happened to become available.[41] This in turn indicates that the late expansion of the British plantation sector and the

[37] Lockhart and Schwartz, *Early Latin America*.

[38] The argument that the acceleration of economic growth could be dependent on changes in only one sector is not consistent with most recent historical interpretations.

[39] Deane and Cole, *British Economic Growth*. This position has recently been forcefully argued by O'Brien, "Inseparable Connections"; and Cuenca Esteban, "Rising Share," pp. 879–906.

[40] Crafts, "Industrial Revolution," p. 47.

[41] Engerman, "Atlantic Economy," pp. 165–68; and Fisher, "Commerce," pp. 459–79.

subsequent strengthening of connections between the British economy and the world outside its empire are more plausibly seen as results of industrialization than as causes. In short, export expansion should be seen as the result of an outward shift in supply as well as a growth of demand. Generalized war and the sudden collapse of St. Domingue certainly helped restore British slave colonies to their former dominance, but the single most important factor in the expansion of both markets for finished goods and sources of raw materials was the British Industrial Revolution itself. Thus, prices of basic textiles and iron on the African coast fell precipitously between the 1780s and the 1830s, as a result of rising productivity in British manufacturing and transportation.[42] Slave-produced raw materials generally formed a small share of the price of a finished good, in this case textiles. After 1790 the British exported their Industrial Revolution on the back of more efficient manufacturing techniques which allowed them to undercut foreign competition. The geographical location of the market, or indeed whether that market was supported by rising profits from intensive exploitation of slave labor (or indeed was expanding at all) was of no great significance.

This is not to say that slavery, and the overseas markets to which it gave rise, did not have an impact on Europe and, more specifically, on England at the time of the Industrial Revolution. The central question, implicit in the work of Williams and James, is whether in the absence of slavery, industrialization would have happened at all. The comparison of sugar with other economic activities presented here suggests that there were several vital industries, each with a big impact. In the end none were indispensable in the strict sense.

It is important to remember that the intellectual interest in Williams's argument reflects his ability to relate events in the West Indies with those in Britain at many different levels. To Williams, these links were not only economic, but also political, cultural, and ideological. The rise and the fall of slavery in the West Indies were both cause and consequence of the dramatic eighteenth- and nineteenth-century changes within the metropole. While Williams may not have had the specific mechanisms correct, few subsequent writers have regarded these events as completely independent and unrelated. Recent treatments of the emergence of the antislavery movement have pointed to a quite different set of linkages between slave labor

[42] Curtin, *Economic Change*, pp. 95–112. The major source of price declines was rising industrial productivity, and not declining prices for slave-produced raw materials (as argued by Blackburn, *Making*, p. 555; compare Hobsbawm, *Industry and Empire*, p. 76). Ellison's price series (*Cotton Trade*, p. 61) shows that raw cotton prices fell from 2 shillings to 0.645 pence between 1784 and 1830, while the price of cotton yarn over the same period fell from 10.9 to 1.2 shillings. Thus the trend in raw cotton prices accounted for just 14 percent of the fall in the price of cotton yarn. Apart from the composition of the price trend there is also the point that most of this decline in prices occurred *after* what is usually taken to be the start of the British Industrial Revolution (and after the supposed decline of the British slave colonies).

and free labor than those posited by Williams. While Williams argued that the politics of abolition was driven by the economic motives of English industrialists, others argue that the relationship was more ideological, with artisans and skilled labor in the new industries providing the basis of the initial late-eighteenth-century onslaught on West Indian slavery. Even if there had been no generalized increase in the extent of free labor in England just prior to the rise of antislavery, and even if leaders of intellectual and moral opinion had expressed only mild interest in the advantages of free labor, the new developments in particular segments of the labor market provided a key basis for the attack on the slave trade, and apparently did so on grounds that were more ideological than economic. Understanding the extent to which this crusade drew upon direct comparisons of free and slave labor, and the role played by increased knowledge of the slave's status in the late eighteenth century, will provide further insight into the broader role of slavery in shaping the modern world. In this sense the impact of the Caribbean on eighteenth-century England was ideological rather than, as Williams stressed, economic.[43]

When Europe expanded eastwards, the "second serfdom" was part of the process. When Europe expanded westwards, reliance on forced labor by indigenous Americans, and then by African chattel slaves, was a seemingly inevitable consequence. Where Amerindian bondsmen were not available and African slaves were too expensive, as in the early British and French settlements, indentured servitude occurred; but it was seldom if ever the *only* form of labor available to sugar planters. Is it reasonable to assume, as we have done here, that in the absence of slavery, planter use of white labor would have been limited to free whites or indentured servants? In general, Europeans imposed serfdom whenever the land-labor ratios were high, but labor was available from *within* their own societies. Slavery was the labor regime of choice for Europeans whenever in these circumstances the labor that might be available was from *outside* their own society. A second serfdom, after all, evolved in the Scottish coal mines after 1606 and endured to the end of the eighteenth century. If, in the absence of African slavery, some form of labor regime had evolved for whites in the Americas, with degrees of coercion lying perhaps between indentured servitude and slavery (though well short of the latter), and if that system had been as extensive in the western as it was in the eastern branch of European expansion, then the social and ideological consequences for Western Europe would have been large indeed. Europeans, and the English in particular, did not need slavery to help define their freedom, as Orlando Patterson has argued for the ancient world,

[43] Note, though, that despite Williams's general position of economic determinism, such a link was more than hinted at in his famous comment that "British historians wrote almost as if Britain had introduced Negro slavery solely for the satisfaction of abolishing it" (*British Historians*, p. 233).

but they could hardly have built as coherent and powerful an ideology around free labor if large numbers of their fellows (and descendants) in the Americas had worked under the conditions experienced by Lanarkshire coal miners.[44] It was Western, not Eastern, Europe that became a birthplace of modern neoliberal economics. As long as the enslaved remained outsiders, either African (by descent at least) or Native American, then Europeans could continue to evolve a free labor ideology, and largely ignore the problem of the need to coerce people from the fifteenth to late eighteenth centuries. In effect, the growth of the slave system in the second half of the seventeenth century being well outside England itself (though within English political and legal jurisdiction) permitted the continuing celebration of English liberties at home. English commentators, and the élite for whom they wrote, did not have to cope with the apparent difficulties of hiring free labor in a land-abundant environment until the British abolished slavery in their parts of the Americas (and Asia) in the first half of the nineteenth century.[45]

In the long run, of course, the issue could not continue to be ignored. Shifts in worker attitudes were among the societal changes that helped to make slave and wage systems incompatible, and ultimately to quash the former. Higher productivity and the development of a modern industrial sector were associated with the emergence of a free labor market, where employers and employees were considered legally (if not materially) equal. Possessive individualism and the market system were compatible with both wage and slave labor before the middle of the eighteenth century. But by 1800 belief in the legitimacy of the market and individualism had become ideologically more closely linked with wage than slave labor.[46]

In summary, the West Indian sugar economy may have been large, but no more so than many industries operating within Britain's domestic economy. The connections between sugar and the larger British economy were exceptional only in that they seem weaker and less "strategic" than those of other industries such as textiles, iron, and coal. And unlike these latter sectors, plantations were sustained by an altogether more vicious labor system. But precisely because that labor was African, and therefore not part of the recognized social system in European eyes, Britons could describe their own social systems as totally "free" both in terms of the way employers and

[44] Patterson, *Freedom*.

[45] Perhaps this is why the ideological tensions between slavery and freedom in revolutionary America have received more attention than the same phenomenon in late-seventeenth-century England. For John Locke's association with the slave trade and the governance of slave colonies see Pagden, "Struggle," p. 42; compare also Davis, *Slavery*, pp. 63–77.

[46] Steinfeld (*Invention*, pp. 138–72) argues that abolitionism and a rising awareness of slavery helped create the modern concept of a free labor force. This was undoubtedly true, but it might be noted that the changing nature and apparent success of free labor (free in the modern sense) helped create and shape anti-slavery. For possessive individualism see Macpherson, *Political Theory*; an argument for the persuasiveness of the free-labor ideology is in Temperley, "Capitalism," pp. 94–118.

employees dealt with each other, and more broadly, in the way governments and citizens interacted. Thus in the seventeenth and eighteenth centuries the British could develop their free labor system and construct an ideology of freedom on the foundations it provided without paying attention to the fact that what was happening in the Caribbean was at odds with what was happening at home. Of course, while early modern European conceptions of freedom made slavery possible, they also in the end helped fuel its demise. The European idea of freedom had first been consistent with slavery in the Americas, but later brought about its abolition. The very fact that slavery in the Americas was limited to persons of African descent permitted an ideology of freedom (and ultimately of abolition) to evolve. African slavery thus had a vital role in the evolution of the modern West, but while slavery had important long-run economic implications, it did not by itself cause the British Industrial Revolution. It certainly "helped" that Revolution along, but its role was no greater than that of many other economic activities, and in the absence of any one of these it is hard to believe that the Industrial Revolution would not have occurred anyway.

REFERENCES

Allen, Robert. "Agriculture During the Industrial Revolution." In *The Economic History of Britain since 1700*, 3 volumes, edited by Roderick Floud and D. N. McCloskey, Vol. 1: 96–123. Cambridge: Cambridge University Press, 1994.

Anon. *The State of the Case for the Sugar Plantations*. London, n.p., n.d.

Austen, Ralph A., and Woodruff D. Smith. "Private Tooth Decay as Public Economic Virtue: The Slave-Sugar Triangle, Consumerism, and European Industrialization." In *The Atlantic Slave Trade: Effects on Economies, Societies, and Peoples in Africa, the Americas, and Europe*, edited by Joseph E. Inikori and Stanley L. Engerman, 183–203. Durham, NC: Duke University Press, 1992.

Bailey, Ronald. "The Slave(ry) Trade and the Development of Capitalism in the United States: The Textile Industry in New England." In *The Atlantic Slave Trade*, edited by Joseph E. Inikori and Stanley L. Engerman, 205–46. Durham, NC: Duke University Press, 1992.

Blackburn, Robin. *The Making of New World Slavery: From the Baroque to the Modern, 1492–1800*. London: Verso, 1997.

British Library. Additional Manuscripts, 11,411.

Campbell, R. H. *Scotland since 1707: The Rise of an Industrial Society*. London: J. Donald, 1965.

Coleman, D. C. *The British Paper Industry, 1495–1860: A Study in Industrial Growth*. Oxford: Oxford University Press, 1958.

Crafts, Nick. "The Industrial Revolution." In *Economic History of Britain Since 1700*, 2nd ed., 3 vols., edited by Roderick Floud and D.N. McCloskey, vol. 1: 44–59. Cambridge: Cambridge University Press, 1994.

Curtin, Philip D. *Economic Change in Pre-Colonial Africa: Supplementary Evidence*. Madison, WI: University of Wisconsin Press, 1975.

Cuenca Esteban, Javier. "The Rising Share of British Industrial Exports in Industrial Output, 1700–1851." This JOURNAL 57 (1997): 879–906.

Darity, William A. "British Industry and the West Indies Plantations." In *The Atlantic Slave Trade*, edited by Joseph E. Inikori and Stanley L. Engerman, 247–79. Durham, NC: Duke University Press, 1992.

Davis, David Brion. *Slavery and Human Progress*. New York: Oxford University Press, 1984.

Deane, Phyllis, and W. A. Cole. *British Economic Growth, 1688–1959*. Cambridge: Cambridge University Press, 1962.

Drescher, Seymour. *Econocide: British Slavery in the Era of Abolition*. Pittsburgh: University of Pittsburgh Press, 1977.

______. "*Capitalism and Slavery* After Fifty Years." *Slavery and Abolition* 18, no. 3 (1997): 212–27.

Eburne, Richard. *Plaine Pathway to Plantations*. London: John Marriot, 1624.

Ellison, Thomas. *The Cotton Trade of Great Britain*. London: Cass, 1968. (Reprint of 1886 edition).

Eltis, David. *The Rise of African Slavery in the Americas*. Cambridge: Cambridge University Press, 2000.

______. "The Slave Economies of the Caribbean: Structure, Performance, Evolution and Significance." In *The UNESCO General History of the Caribbean*, vol 3, *The Slave Societies of the Caribbean*, edited by Franklin Knight, 104–37. London: Macmillan, 1997.

______. "New Estimates of Exports from Barbados and Jamaica, 1665–1701." *William and Mary Quarterly*, 52, no. 4 (1995): 631–48.

Eltis, David, Stephen D. Behrendt, and David Richardson. *The Atlantic Slave Trade: A New Census*. Cambridge: Cambridge University Press, forthcoming.

Eltis, David, Stephen D. Behrendt, David Richardson, and Herbert S. Klein. *The Transatlantic Slave Trade: A Database on CD-ROM*. Cambridge: Cambridge University Press, 1999.

Engerman, Stanley L. "The Slave Trade and British Capital Formation in the Eighteenth Century: A Comment on the Williams Thesis." *Business History Review* 46, no. 4 (1972): 430–43.

______. "The Atlantic Economy of the Eighteenth Century: Some Speculations on Economic Development in Britain, America, Africa and Elsewhere." *Journal of European Economic History* 24, no. 1 (1995): 146–75.

Fisher, John R. "Commerce and Imperial Decline: Spanish Trade with Spanish America, 1797–1820." *Journal of Latin American Studies* 30, no. 3 (1998): 459–79.

Flinn, Michael W. *History of the British Coal Industry*. 5 volumes. Vol. 2. Oxford: Oxford University Press, 1984.

Gill, Conrad, *The Rise of the Irish Linen Industry*. Oxford: Oxford University Press,1924.

Higman, Barry W. *Slave Population and Economy in Jamaica, 1807–1834*. Cambridge: Cambridge University Press, 1976.

______. *Slave Populations of the British Caribbean, 1807–1834*. Baltimore: Johns Hopkins University Press, 1984.

Hobsbawm, Eric. *Industry and Empire: From 1750 to the Present Day*. Harmondsworth: Penguin, 1981.

Holderness, B. A. "Prices, Productivity and Output." In *The Agrarian History of England and Wales*, vol 6, *1750–1850*, edited by G.E. Mingay, 84–189. Cambridge: Cambridge University Press, 1989.

Inikori, Joseph E. "Slavery and the Development of Industrial Capitalism in England." In *British Capitalism and Caribbean Slavery: The Legacy of Eric Williams*, edited by Barbara Solow and Stanley L. Engerman, 79–101. Cambridge: Cambridge University Press, 1987.

James, C. L. R. *The Black Jacobins*. New York: Random House, 1963.

Kahan, Arcadius. "Eighteenth-Century Russian-British Trade: Russia's Contribution to the Industrial Revolution in Great Britain." In *Great Britain and Russia in the Eighteenth Century: Contacts and Comparisons*, edited by A.G. Cross, 181–89. Newtonville, MA: Oriental Research Partners, 1979.

Lockhart, James, and Stuart B. Schwartz. *Early Latin America: A History of Colonial Spanish America and Brazil*. Cambridge: Cambridge University Press, 1983.

Kaplan, Herbert H. *Russian Overseas Commerce with Great Britain During the Reign of Catherine II*. Philadelphia: American Philosophical Society, 1995.

Macpherson, C. B. *The Political Theory of Possessive Individualism*. Oxford: Oxford University Press, 1962.

Maddison, Angus. *Class Structure and Economic Growth: India and Pakistan since the Moghuls*. London: Allen and Unwin, 1971.

______. "Dutch Income in and From Indonesia." In *Economic Growth in Indonesia, 1920–1940*, edited by Angus Maddison and Gé Prince. Dordrecht: Foris, 1989.

Malthus, Thomas. *Principles of Political Economy*. 2nd ed. New York: A. M. Kelly, 1964. (Reprint of 1836 edition).

Mathias, Peter. "An Industrial Revolution in Brewing, 1700–1830." *Explorations in Entrepreneurial History* 5, no. 2 (1953): 209–24.

Mill, John Stuart. *Principles of Political Economy with Some of their Applications to Social Philosophy*. 2 volumes. London: Routledge, 1895.

Mitchell, B. R. *British Historical Statistics*. 2nd ed. Cambridge: Cambridge University Press, 1988.

Moreno Fraginals, Manuel. *El Ingenio: Complejo económico social cubano del azúcar*. 3 volumes. Havana: Comisión Nacional Cubano de la UNESCO, 1978.

Morgan, Kenneth. "Atlantic Trade and British Economic Growth in the Eighteenth Century." In *International Trade and British Economic Growth from the Eighteenth Century to the Present Day*, edited by Peter Mathias and John A. Davis, 14–33. Oxford: Oxford University Press, 1996

O'Brien, Patrick. "Inseparable Connections: Trade, Economy, Fiscal State, and the Expansion of Empire, 1688–1815." In *The Oxford History of the British Empire*, vol. 2, *The Eighteenth Century*, edited by P.J. Marshall, 53–77. Oxford: Oxford University Press, 1998.

Pagden, Anthony. "The Struggle for Legitimacy and the Image of Empire in the Atlantic to c. 1700." In *The Oxford History of the British Empire*, vol. 1, *The Origins of Empire*, edited by Nicholas Canny, 34–54. Oxford: Oxford University Press, 1998.

Pares, Richard. "The Economic Factors in the History of the Empire." *Economic History Review* 7, no. 1 (1937): 119–44.

Patterson, Orlando. *Freedom*. 3 vols. New York, 1991.

Richardson, David. "The Slave Trade, Sugar, and British Economic Growth, 1748–1776." In *British Capitalism and Caribbean Slavery*, edited by Barbara Solow and Stanley Engerman, 103–33. Cambridge: Cambridge University Press, 1987.

Ryden, David Beck. "Does Decline Make Sense?" Paper presented to the Social Sciences History Association Meetings in Washington, November 1997.

Sée, Henri. *Modern Capitalism*. New York: Adelphi, 1928.

Sheridan, Richard B. "The Wealth of Jamaica in the Eighteenth Century." *Economic History Review* 18, no. 2 (1965): 292–311.

Smout, T. C. *A History of the Scottish People, 1560–1830*. New York: Scribner, 1969.

Solow, Barbara. "Capitalism and Slavery in the Exceedingly Long Run." In *British Capitalism and Caribbean Slavery: The Legacy of Eric Williams*, edited by Barbara Solow and Stanley L. Engerman, 51–77. Cambridge: Cambridge University Press, 1987.

______. "Caribbean Slavery and British Growth: The Eric Williams Hypothesis." *Journal of Developmental Economics* 17, nos. 1–2 (1985): 99–115.

Steinfeld, Robert. *The Invention of Free Labor: The Employment Relation in English and American Law and Culture, 1350–1870*. Chapel Hill, NC: University of North Carolina Press, 1991.

Temperley, Howard. "Capitalism, Slavery and Ideology." *Past and Present* 75 (1977): 94–118.

Thomas, R. P. "The Sugar Colonies of the Old Empire: Profit or Loss for Great Britain?" *Economic History Review* 21, no. 1 (1968): 30–45.

United Kingdom. House of Lords. "Report of the Lords Committee of Council appointed for the Consideration of all Matters Relating to Trade and Foreign Plantations" *Sessional Papers*, 1789, 26 (646a).

United States. Bureau of the Census. *Ninth Decennial Census: Final Reports*, Volume 3, *The Statistics of the Wealth and Industry of the United States*. Washington, DC, 1872.

Wallerstein, Immanuel. *The Modern World System*, vol. 3, *The Second Era of Great Expansion of the Capitalist World-Economy*. New York: Academic Press, 1989.

Willan, T. S. "Trade Between England and Russia in the Second Half of the Sixteenth Century." *English Historical Review* 63, no. 248 (1948): 307–21.

Williams, Eric. *British Historians and the West Indies*. London: Deutsch, 1966.

______. *Capitalism and Slavery*. Chapel Hill, NC: University of North Carolina Press, 1944.

Wrigley, E. A., and R. S. Schofield. *The Population History of England, 1541–1871: A Reconstruction*. London: E. Arnold, 1981.